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Employment creation potential, labor skills requirements, and skill gaps for young people

Ghana case study

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Abstract

The issue of jobless growth and the poor performance of manufacturing have become major concerns in Africa. A new growth trajectory has emerged in the region with services as the driver of growth, contrary to the expectations of manufacturing export-led transformation with the capacity to absorb low to medium-skilled workers as previously observed in East Asia and other newly industrialized countries. It has become imperative for African countries, such as Ghana, to redirect attention towards identifying and supporting sectors with more significant employment potentials, in the quest to provide decent employment for a rapidly growing population, especially the youth. Indeed, the challenge of jobless growth in Ghana has brought to fore the need to diversify the economy away from mineral dependence through industrial transformation, mindful of the new technological developments. In this report, 'industries without smokestacks' (IWOSS) the Ghana case study identified agro-processing and tourism as two of the sectors that could be relied on to potentially address the country's jobless growth issue and enhance the competitiveness and productivity of small and medium-sized firms.

The report has demonstrated that both the agro-processing and tourism sectors have several characteristics that make them unique to the situation of Ghana: (1) there is an improved regulatory environment for both sectors, and this is supported by various public policies to improve related infrastructure and unearth the potential in the two sectors; (2) both sectors offer critical employment avenues for the youth with at least secondary education, and this pool can be found among the relatively large unemployed individuals; (3) both sectors have a huge export capacity, and this is critical in enhancing competition; (4) the technologies used in both sectors are labor intensive, and this has prospect in addressing the country's unemployment challenge, and (5) there has been some effort to address various constraints in the value chains of both sectors.

Projecting into the future, we find agro-processing and tourism (hotels and restaurants) will experience a much higher annual employment growth than manufacturing and other non-IWOSS sectors by 2035. Although skill transformation of the workforce will mainly take place in non-IWOSS sectors, our projections to 2035 suggest that the IWOSS sectors in Ghana would generate more high-skilled jobs in an economy that will continue to be dominated by low-skilled workers.

Overall, constraints identified in agro-processing and tourism sub-sectors include the lack of adequately skilled labor, lack of access to credit facilities, inadequate infrastructure, cost of electricity, limited capacity to export and restrictive/cumbersome regulatory environment. Specific constraints identified in the limited survey conducted on selected firms within the IWOSS sector highlight the lack of skills that are critical to the operations of IWOSS sectors (agro-processing and tourism) with the specific skills being systems skills, technical skills, and problem-solving skills. Based on this, it is recommended that a deliberate effort is made to address these various challenges to enhance the potential of the two sectors.

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List of abbreviations and acronyms

1D1F	One District, One Factory Project
BECE	Basic Education Certificate Examination
FAO	Food and Agriculture Organization
FCUBE	Free Compulsory Universal Basic Education
GDP	Gross Domestic Product
GLSS	Ghana Living Standards Survey
GoG	Government of Ghana
GSS	Ghana Statistical Service
GTA	Ghana Tourism Authority
GYEEDA	Ghana Youth Employment and Entrepreneurial Development Agency
IBES	Integrated Business Establishment Survey
ICT	Information and Communication Technologies
ILO	International Labour Organization
IMF	International Monetary Fund
IWOSS	Industries Without Smokestacks
JHS	Junior High School
MoFA	Ministry of Food and Agriculture
MOTI	Ministry of Trade and Industry
NYEP	National Youth Employment Program
SDG	Sustainable Development Goals
SGER	State of the Ghanaian Economy Report
SHS	Senior High School
SSA	Sub-Saharan Africa
SSS	Senior High School
STEP	Skill Training and Employment Program
WASSCE	West Africa Senior Secondary School Certificate Examination
WBES	World Bank Enterprise Survey
WDI	World Development Indicators

1. Introduction

1.1 Background

Countries in sub-Saharan Africa (SSA) have had some of the fastest economic growth rates in the world in recent times, second only to East and South Asia. It has subsequently become imperative for many African countries to find other ways to boost employment to improve the livelihoods of people, especially given the youthful nature of the region's population and the over 122 million young people that are expected to join the continent's labor force by 2022 (ILO, 2014). Notably, a new pattern of growth is emerging in the region, however, with higher growth rates in the services sector, contrary to the manufacturing export-led transformation previously observed in East Asia, and with the capacity to absorb low to medium-skilled workers.

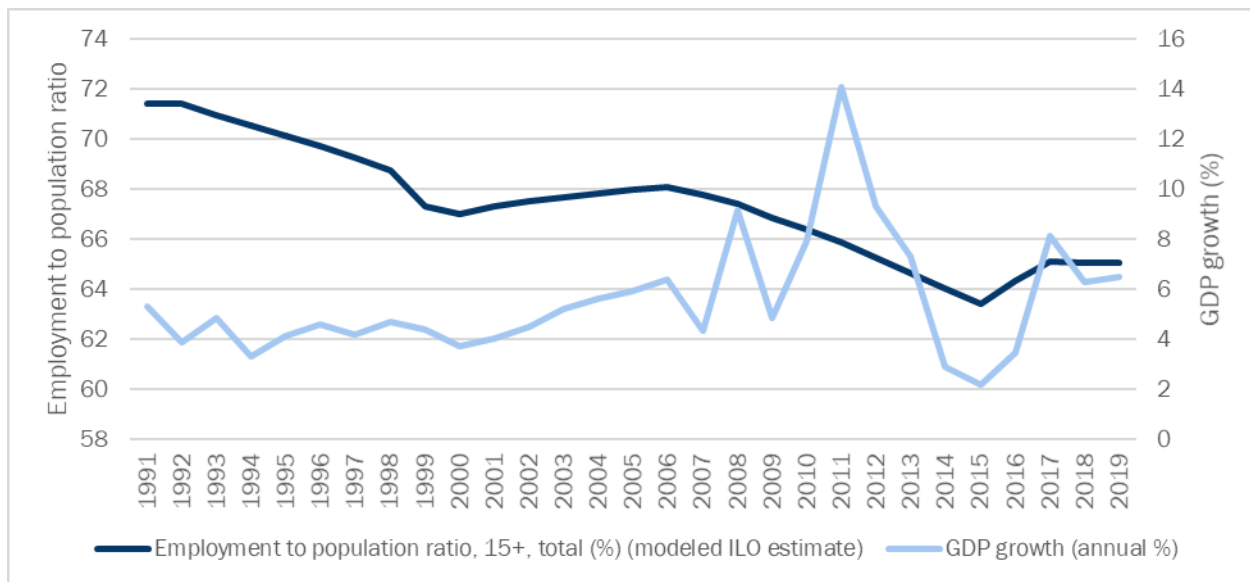
Ghana is not an exception when it comes to the regional trend of relatively significant growth over a long period not yet reflecting in employment and improvements in employment conditions for many, especially young people. Ghana has traditionally relied on primary commodities for exports, with gold and cocoa as principal export items until significant oil finds made Ghana a petroleum exporter in 2010. This resource dependence has, however, exposed the country even more to international commodity price fluctuations, making the need for structural transformation more urgent.

The issue of jobless growth in Ghana has become a major concern against the backdrop of the relatively significant growth observed over time, with a rate of 6.3 percent in 2018, substantially above the sub-Saharan average of 3 percent. This growth notwithstanding, precarious and vulnerable employment persists in the country, particularly among young people. With an average national unemployment rate of about 6 percent, unemployment among the youth is much higher according to estimates from Ghana Statistical Service. Specifically, about 59.6 percent of the youth (persons aged 15-35) are employed, while 12.1 percent are unemployed, with the remaining 28.3 percent out of the labor force. Also, at least one in three young persons (31.8 percent) are found in self-employment in the non-agriculture sector as own-account workers. Moreover, most employment opportunities for youth are in vulnerable/informal and part-time/temporary jobs (GoG, 2014).

Challenges with job creation in the country are attributable to both demand and supply factors. On the supply side, as in other African countries, a high fertility rate, improved healthcare, and increased educational attainment have led to a significant expansion in the working-age population. On the demand side, mineral exports, mainly the commencement of commercial oil production in 2010, continue to be the drivers of growth. These activities are not typical of the labor-intensive ones that the country needs in order to absorb the masses of youth seeking employment.

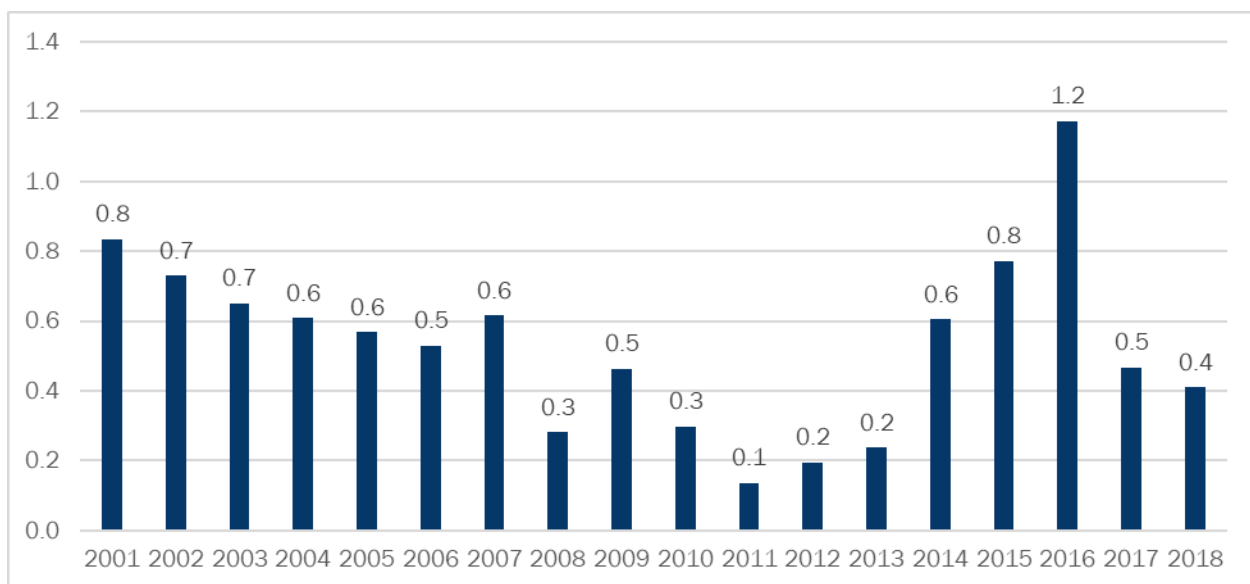
As shown in Figure 1 below, a disconnect between GDP growth and employment in Ghana has persisted for a little over the last two decades. Moreover, Figure 2, which displays the elasticity of employment with respect to GDP growth, indicates a generally weak relationship between GDP growth and employment with an average elasticity of 0.5 over the last two decades.

Figure 1: GDP growth and employment in Ghana



Source: Authors' illustration based on data from WDI.

Figure 2: Elasticity of employment



Source: Authors' illustration based on data from WDI.

1.2 Statement of the problem

The jobless growth trajectory observed in Ghana and the poor performance of its manufacturing sector have made it necessary for policymakers to redirect attention towards identifying and supporting sectors with greater employment potential in the quest to provide decent employment for the masses. Ghana needs to chart a course to explore alternative development strategies rather than rely on a structural transformation model based solely on “traditional” manufacturing activity. Page (2019) has observed that many African economies are turning to “industries without smokestacks” (IWOSS) to

lead structural change. This trend, to a large extent, is being driven by the dominance of the services sector and the fact that services can be tradable. This notwithstanding, it is important to note that, the sustainability of any employment strategy that is based on IWOSS depends on the employment prospect of IWOSS, especially the generation of much-needed jobs for the youth.

The advent of new technologies and the continuous integration of the global economy brought to fore the enormous growth potential of some sectors in the development of many African countries. Such sectors, termed “industries without smokestacks” (IWOSS), display characteristics of traditional manufacturing in that they have tradable output, maintain higher-than-average value-added per worker, exhibit capacity for technological change and productivity growth, and display evidence of agglomeration economies. According to Newfarmer, Page, and Tarp (2018), IWOSS include agro-industries and horticulture, tourism, business services, and transportation and logistics. This project consequently identifies agro-processing and tourism sub-sectors as the IWOSS with significant potential to lead in the diversification of the Ghanaian economy, to generate jobs, particularly for the youth.

The agro-processing and tourism sectors are already strategically targeted under the government's flagship industrial transformation program and are dominated by many micro and small firms.¹ Although the sectors are still emerging, the intention of government is to develop Ghana's industrial landscape around their products to reverse the poor performance and diversify away from cocoa and mineral exports. Consequently, the government expects that these sectors will be instrumental in addressing the challenges of job creation, promote import substitution, increase revenues from exports and boost the generation of rural incomes. More importantly, an incentive scheme has been developed to support the growth of these sectors. In addition, both sectors have been found in the literature to have high employment generation potential and high demand for low to moderate skills; a feature that is consistent with the characteristics of the Ghanaian labor market. Finally, the prospects for both sectors in Ghana are high. The agro-processing industry is dominated by micro and small firms involved in value-addition along the agricultural value-chain in horticultural products, vegetables, roots and tubers, and palm oil for both domestic and foreign markets. In the area of tourism, Ghana has several natural, cultural, and heritage resources (historical forts and castles), national parks, a beautiful coastline, unique art, and cultural traditions that can be a source of attraction to the international community.

1.3 Research questions

This study addresses several critical questions, including the following:

- 1 What are the IWOSS sectors best poised for economic growth and job creation in Ghana?
- 2 What is the employment potential of IWOSS sectors for the youth in Ghana?
- 3 What type of labor skills are used in the IWOSS sectors? Are there abundant skills in the unemployed pool that can be used in the IWOSS sectors?
- 4 What types of technologies are adopted by the IWOSS sectors? To what extent are firms in the IWOSS sectors innovative? What types of innovations are the IWOSS sectors adopting—labor-saving or capital saving?
- 5 What is the current industrial policy for the IWOSS sectors?
- 6 Have IWOSS sectors contributed to export growth in a way similar to non-IWOSS sectors?

¹ The total proportion of micro and small firms in the country is approximately 98 percent (GSS, 2017).

- 7 What are the constraints to the development of IWOSS in Ghana? Which government policies promote the IWOSS sectors and/or alleviate the IWOSS sectors of their binding constraints?

1.4 Methodology

In order to address the above research questions, two main approaches are adopted here: (1) a desk review of policies and interventions in the agro-processing and horticultural sub-sectors of the manufacturing sector and tourism, and (2) the use of secondary data to compare IWOSS and non-IWOSS sectors. The latter is complemented by a survey (case study) of selected agro-processing and tourism firms.

- *Desk review:* The desk review is used to solicit information about policy interventions in the IWOSS sectors and any future policy proposals.
- *Secondary data:* We rely on the World Bank Enterprise Survey (WBES) and the 2015 r4D Enterprise Survey for Ghana. The WBES and r4D datasets contain information on firms in agro-processing and horticulture, as well as hotel and restaurants (classified as tourism) sub-sectors. The instrument used to obtain the data contains several questions relating to the general characteristics of the firms, their use of infrastructure and services, employment, degree of competition, sales, management practices, innovation, and business environment.
- *Structured survey:* The structured survey asks detailed questions that were not captured in the WBES but relevant in answering the research questions. For instance, we sought precise information on the potential for job creation by IWOSS firms; the type of skills required by the specified IWOSS; the technology being utilized; and the constraints such firms face. Membership of the Association of Ghana Industries (AGI) was used as the sampling frame, and sample selection was purposive and restricted to firms in agro-processing and tourism (hotels and restaurants). Overall, we studied 25 firms consisting of small, medium, and large firms across the selected sectors. Based on restrictions on movement because of the COVID-19 pandemic at the time of data collection, only firms that were in active operation were interviewed.
- *Analysis and results:* The results, mainly from the WBES, 2015 r4D Enterprise Survey for Ghana, and the field survey, are presented in a form directly linked to the main research questions of this study. However, emphasis is placed on identifying the skills gaps and requirements for the IWOSS sectors, mapping out potential or existing value chains to explore its employment prospects, as well as emphasizing the needed policies to drive growth in the IWOSS sectors.

2. Country context and background

2.1 Recent growth performance (including key sectors)

Ghana's growth performance since 2014 has been relatively high except for 2014 to 2016 when real GDP growth was about 5 percent. Growth for 2017 was 8.1 percent, 6.3 percent in 2018, and has been estimated at 7.0 percent in 2019, significantly exceeding the average sub-Saharan African (SSA) growth of 3.5 percent and among some of the fastest-growing economies in the world over the last three years.

Ghana's recent growth has been driven mainly by oil production. Non-oil growth has, however, picked up over the last three years, growing faster in 2016 and 2018 than the country's overall growth. Most

of this non-oil GDP growth has been driven by the services sector, particularly in information and communication technologies, trade, and health and social work. The steady rise and higher growth in non-oil sectors than overall GDP is a positive signal and reinforces the need for greater diversification of the Ghanaian economy into higher value addition. Indeed as shown in Table 1, the performance of agricultural and industrial sectors from 2017 accounts for the growth in GDP in recent times. Consequently, at the end of 2019, Ghana projected a higher growth in non-oil sectors over the period 2020-2022.

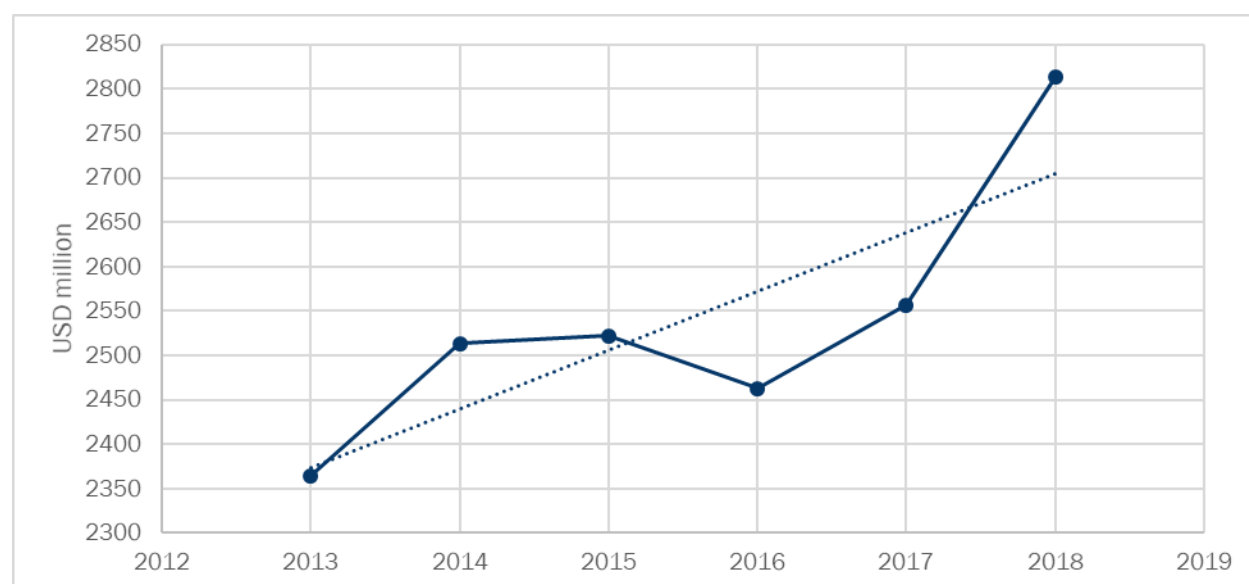
Table 1: Real GDP and sectoral growth rates (%), 2014-2022

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022
Overall	2.9	2.2	3.4	8.1	6.3	7.0	6.8	4.9	4.6
Non-oil	2.7	2.2	4.6	4.6	6.5	5.9	6.7	5.9	5.5
Agriculture	0.9	2.3	2.9	6.1	4.8	6.4	5.1	5.8	5.3
Industry	1.1	1.1	4.3	15.7	10.6	8.8	8.6	3.3	3.3
Services	5.4	3.0	2.8	3.3	2.7	5.4	5.8	6.0	6.9

Source: Ghana Statistical Service (2020); and Government of Ghana 2020 Budget Statement and Economic Policy.

Figure 3 shows the trend in the value of total non-traditional exports in Ghana. Evidently non-traditional exports—which include agricultural products, handicrafts, and processed/semi-processed goods—have increased steadily in recent times. This increase largely stems from metal and metal products, wood and wood products, furniture, pharmaceuticals, and cosmetics and related products. The exports of raw materials from the country constitutes about 51 percent of Ghana’s exports, while intermediate goods constitute 43 percent (World Bank, 2020). This success has inspired calls for the country to diversify its export basket, since there are several potential areas that are yet to be fully exploited.

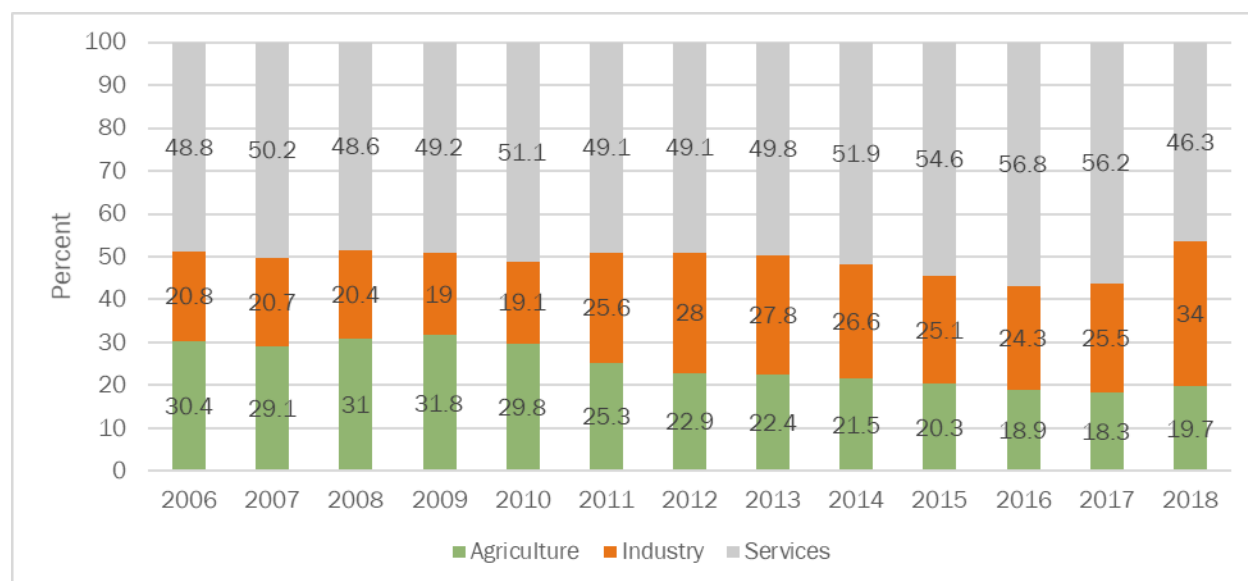
Figure 3: Trends in total non-traditional exports, 2013-2018



Source: ISSER, The State of the Ghanaian Economy, 2018.

The recent growth performance has been driven mainly by industry and agriculture sectors, the latter particularly reflecting the effect of policy interventions in the sector, most notably the “planting for food and jobs” intervention by government. This has resulted in an increase in Agric sector growth from 2.9 percent in 2016 to 6.8 percent by 2018 and a projected 6.4 percent in 2019. Similarly, Industry growth increased from 4.3 percent in 2016 to 15.7 percent in 2017, 10.6 percent in 2018 and was projected to grow at 8.8 percent in 2019. Although growth in the service sector lagged behind Agric and Industry, the sector’s growth was expected to almost double from 2.8 percent in 2016 to a projected 5.4 percent in 2019.

Figure 4: Sectoral contribution to GDP in Ghana (2006-2017)



Source: Ghana Statistical Service (2020).

Ghana continues to rely on primary commodities for exports with oil, gold, and cocoa as its principal export items. Although the performance of agriculture and industry have improved since 2016, as shown in Figure 4, the service sector remains the largest contributor to GDP. As expected with structural change, the share of agriculture to GDP has declined steadily from 30.4 percent in 2006 to 19.7 percent in 2018. The decline in the contribution of agriculture has, however, not reflected the contribution of industry with manufacturing as a sub-sector as predicted by “empirical regularity” with regards to growth literature. The services sector, which has seen a steady rise in its contribution to GDP in the last decade has become the leading sector in terms of sectoral contribution.

Although the above pattern is consistent with trends in other parts of Africa, it is inconsistent with the traditional narrative of structural transformation. As Page (2018) notes, between 1998 and 2015, services exports grew more than six times faster than merchandise exports across Africa, indicating the relevance of the sector in recent times.

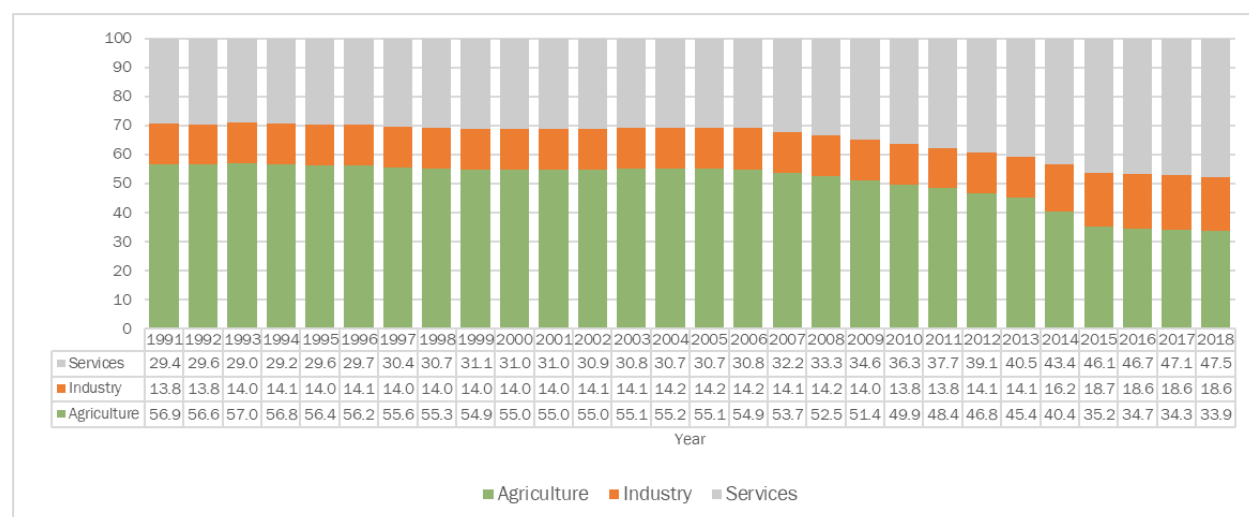
2.2 Employment patterns and salient features: Levels and trends; demographics

In general, despite the Ghanaian economy’s impressive performance of late, employment patterns have not changed much. The legal working-age group in Ghana includes all persons 15 years (usually, after the completion of primary education) and older with 65 years as the mandatory retirement age for individuals in the formal sector. According to the latest labor force survey (2015), 67.9 percent of

the working-age population is actively employed. Moreover, 71.4 percent of males are employed and 64.7 percent of females. This trend is consistent across all regions of the country.

Figure 5 shows the pattern of employment by sector between 1990 and 2018. Notably, the service sector has been the country's leading employer since 2014, followed by agriculture and industry, respectively.

Figure 5: Sectoral contribution to employment (% of total employment)



Source: Authors illustration based on data from World Development Indicators.

The distribution of employment by specific sectors in Ghana shown in Table 2 indicates a pattern consistent with the path of structural transformation in most African countries as employment transitions from agriculture into services over time. With a contribution of 64.2 percent to total employment in 1992, agriculture, as of 2017, employed only 38.6 percent of the total workforce. Over that same time period, the contribution of the services sector to employment grew from 25.1 percent of the total workforce to 44 percent.

Table 2: Employment distribution by industry for 15 years and older in Ghana

Industry	GLSS1 (1993)	GLSS4 (1998)	Census (2000)	GLSS5 (2004/5)	Census (2010)	GLSS6 (2013)	GLSS7 (2017)
Agriculture, fishing and forestry	64.6	55.8	51.2	55.7	40.1	46.4	38.6
Manufacturing	8.0	11.0	11.2	11	12.7	9.2	11.6
Construction	1.4	1.7	3.2	1.9	2.9	3.3	4.3
Mining, electricity, water and gas	0.9	1.0	1.8	1.0	2.3	1.7	1.6
Services	25.1	30.6	32.7	30.5	42.1	39.5	44.0
Total	100.0	100.0	100.0	100	100.0	100	100

Source: Calculations from Household and Population Census data by the Ghana Statistical Service

Employment generation within the services sector often comes with many challenges. Indeed, most jobs in the services sector often encompass low productivity activities with little or no connection to international markets. In addition, most employment in the services sector is informal and precarious. As Rodrik (2015) notes, then, a weak structural transformation dynamic and premature levelling-off of manufacturing is confining African economies to low-productivity sectors that are ultimately altering Africa's capacity to generate decent jobs.

Table 3 provides a breakdown of employment by sectors across IWOSS and non-IWOSS between 2013 and 2017. Notably, agro-processing and tourism (both IWOSS) are among the sectors that experienced significant increases in employment and growth rates between 2013 and 2017. Within the non-IWOSS sectors, i.e. other agriculture, forestry and fishing and wholesale and retail, we observe significant changes in employment across the two periods. These changes indicate the potential of the IWOSS sectors of agro-processing and tourism in employment generation in the country.

Table 3: Employment by sector: IWOSS vs non-IWOSS

	Employment		Employment shares		Absolute change	Share of change (%)	Annual growth (%)
	2012/13	2016/17	2012/13	2016/17			
Total	10,915	21,781	100.00	100.00	10,866	100.0	16.6
Total IWOSS	2,215	4,846	20.29	22.25	2,631	24.2	19.8
Agro-processing	1,259	1,720	11.53	7.90	461	9.9	6.1
Tourism	638	1,711	5.85	7.86	1,073	9.9	28.0
Construction	222	996	2.03	4.57	774	7.1	58.1
Financial & insurance activities	16	242	0.15	1.11	226	2.1	235.4
ICT	33	67	0.30	0.31	34	0.3	17.2
Professional, scientific and technical services	47	111	0.43	0.51	64	0.6	22.7
Total non-IWOSS	8,700	16,935	79.71	77.75	8,235	75.8	15.8
Other agriculture, forestry and fishing	3,634	7,322	33.29	33.62	3,688	33.9	16.9
Mining and quarrying/ electricity & water	190	377	1.74	1.73	187	1.7	16.4
Manufacturing	1,609	2,709	14.74	12.44	1,100	10.1	11.4
Wholesale and retail trade	2,661	4,999	24.38	22.95	2,338	21.5	14.6
Real estate activities	4	36	0.04	0.17	32	0.3	133.3
Administrative and support services	100	122	0.92	0.56	22	0.2	3.7
Public administration and defense	10	26	0.09	0.12	16	0.1	26.7
Education	95	474	0.87	2.18	379	3.5	66.5

Human health and social work activities	50	90	0.46	0.41	40	0.4	13.3
Other service activities	221	687	2.02	3.15	466	4.3	35.1
Activities of households as employers	126	94	1.15	0.43	-32	-0.3	-4.2

Source: Authors' calculations based on GLSS 6 and 7 Surveys from the Ghana Statistical Service.

Following the methodology outline in McMillan and Rodrik (2011), we calculate the correlation between the natural log of relative productivity (average earnings per worker) and the change in employment by industry between 2012/13 and 2016/17 (Figure 6). The size of the bubble represents the sector's share of change in employment between 2012/13 and 2016/17. The slope of the linear regression line indicates whether structural transformation has been growth-inducing (positively sloped) or non-growth-inducing (negatively sloped). As expected with structural transformation, the desired change over time would be a decrease in low-productivity sector employment (lower left quadrant) and an increase in employment in high-productivity sectors (the top right quadrant).

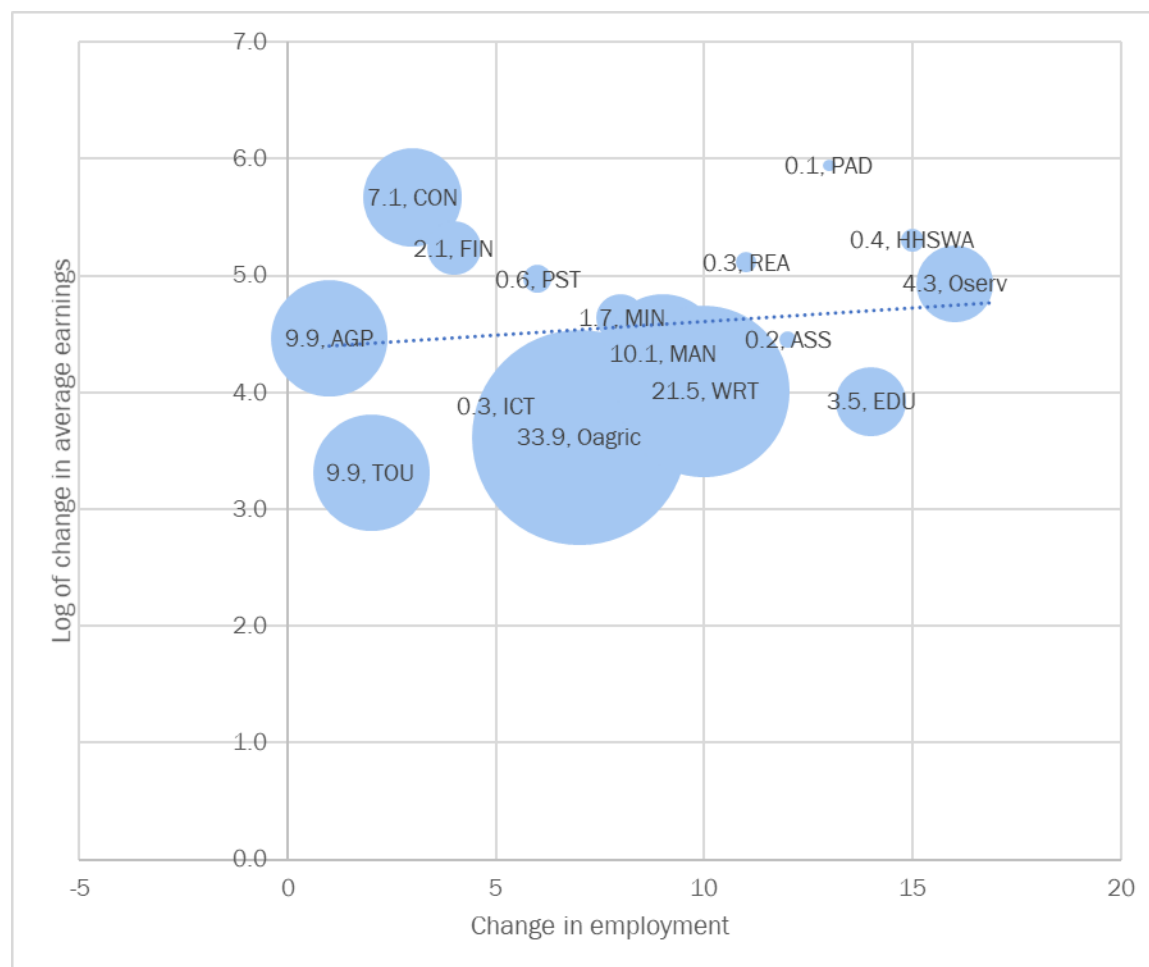
From Figure 6, although a positive association is observed between the change in employment and productivity (average earnings per worker), this association is however statistically insignificant, providing no evidence of growth-inducing structural transformation. Labor resources are still concentrated in low-productivity sectors such as other agriculture, forestry and fishing, and wholesale and retail trade—as well as traditional manufacturing. It is, however, important to note that typical IWOSS sectors such as agro-processing, tourism and construction are still absorbing a significant share of the change in employment.

Unemployment remains a major socio-economic problem in Ghana, although evidence of the extent of the unemployment situation downplays the enormity of the problem. As indicated by Baah-Boateng (2013), the use of the ILO definition of unemployment² for assessing employment in Ghana is problematic because of the peculiar nature of the Ghanaian labor market. A considerable number of job seekers who are available for work fail to register at the employment centers because these centers are rare in most areas of the country, meaning that the unemployed are instead categorized technically as discouraged workers and so excluded from unemployment statistics generated by these centers making employment data in the country often unreliable.³ In addition, the existence of the large informal sector in Ghana continues to serve as an avenue that offers a means of survival (self-employment) for many job seekers who, although are available to work, engage in a day or two of self-employment activity within the reference period and, thus, per the ILO definition, are not unemployed. In reality, in the absence of unemployment insurance scheme in the country, people are too poor not to work. As a result, most people, particularly the youth, occupy themselves with menial jobs for sustenance in the informal sector.

² According to the International Labour Organization (2007), "the unemployed" are those who are currently not working but are willing and able to work for pay, currently available to work, and have actively searched for work within the prior four weeks.

³ Unemployment data is obtained from various household surveys (Ghana Living Standards Surveys in 1991/1992, 1989/99, 2005/2006) and the Population and Housing Census in 2000 and 2010.

Figure 6: Correlation between sectoral productivity and changes in employment (2012/13-2016/17)



Source: Authors' calculation based on data from Ghana Statistical Service: Note: AGP=Agro-processing; TOU=Tourism; CON=Construction; FIN=Financial & Insurance activities; ICT=ICT; PST=Professional, Scientific and Technical Services; Oagric=Other-Agriculture, Forestry and Fishing; MIN=Mining and quarrying/ Electricity & Water, MAN=Manufacturing; WRT=Wholesale and Retail Trade; REA=Real Estate Activities, ASS=Administrative and Support Services; PAD=Public Administration and Defence; EDU=Education; HHSWA=Human Health and Social Work Activities; Oserv=Other Service; AHE=Activities of Households as employers.

Table 4 presents data on unemployment trends in the country by gender, location, and age cohort based on existing household surveys and population census in Ghana. In general, the rate of unemployment has risen marginally in the country over the years. Women have a higher unemployment rate than men, while the unemployment rate among urban dwellers is higher (7.8 percent in 2018) than rural dwellers. Also, as expected, the unemployment rate among young people is higher compared to their older counterparts.

In recent times, attempts through industrial policy interventions to enable the manufacturing sector to generate the needed jobs for young people in the country have not been successful. As Ackah et al. (2014) note, Ghana's industrial policy⁴ was designed to promote increased competitiveness and

⁴ This was set within the context of Ghana's long-term strategic vision of achieving middle-income status by 2020, through the transformation of the economy into an industry-driven one.

enhanced industrial production with increased employment and prosperity. It was also designed to provide a broader range of fair-priced, better quality products for the domestic and international markets.

Table 4: Trends in unemployment in Ghana (1992-2017)

Category	% of labor force						
	GLSS 3	GLSS 4	GLSS 5	GLSS 6	GLSS 7	Population census	Population census
	1992	1999	2006	2013	2017	2000	2010
Total unemployment	2.3	2.7	3.1	5.2	5.1	10.4	5.8
Male unemployment	2.2	3.4	3.2	4.8	4.5	10.1	5.4
Female unemployment	2.4	2.2	3.0	5.5	5.7	10.7	6.3
Urban unemployment	6.7	5.8	6.1	6.5	7.8	12.8	8.0
Rural unemployment	0.5	1.2	1.3	3.9	3.5	8.6	3.5
Youth unemployment (15-24)	5.2	5.0	6.6	10.9	7.1	16.7	12.9
Adult unemployment (25+)	1.4	2.1	1.9	3.4	4.1	8.6	4.0

Source: Calculations from Source: GLSS 3, 4, 5, 6 & 7 and Population & Housing Census 2000 & 2010.

Table 5 shows industrial sub-sector growth rates in recent times. A key feature of this table is that industrial sub-sector growth rates are highly volatile, reflecting the fact that the sector continues to be event sensitive. Overall, the contribution of the manufacturing sub-sector has been poor, declining from its highest level of 13 percent in 2010 to 3.7 percent in 2017. Among the five sub-sectors of industry, mining and quarrying and the construction sub-sectors observed stronger growth within the period.

Table 5: Growth rate of industry and its sub-sectors (2008-2018)

Year	Industry	Industry sub-sectors				
		Manufacturing	Mining & quarrying	Electricity	Water & sewerage	Construction
2008	15.1	3.7	2.4	19.4	0.8	39.0
2009	4.5	-1.3	6.8	7.5	7.7	9.3
2010	6.9	7.6	18.8	12.3	5.3	2.5
2011	41.1	13.0	206.5	-0.8	2.9	20.0
2012	11.0	2.0	16.4	11.0	2.2	16.4
2013	6.6	-0.5	11.6	16.3	-1.6	8.6
2014	0.8	-0.8	3.2	0.3	-1.1	0.0
2015	-0.3	2.2	-6.1	-10.2	20.0	2.2
2016	-0.5	2.7	-7.6	11.7	-3.2	2.9
2017	16.7	3.7	46.7	6.3	6.8	4.6

Note: Growth rates at 1993 Constant Prices. All others at 2006 Constant Prices.

Source: SGER and 2010) and Ghana Statistical Service (2012).

3. Patterns of growth: The role of IWOSS

3.1 What is IWOSS?

“Industries without smokestacks” (IWOSS) are newly emerging sectors that have similar characteristics to manufacturing and are beginning to play a role similar as manufacturing, especially in terms of employment numbers. In addition to the description provided earlier, Page (2019) provides an important working definition of IWOSS as activities that are tradable, have high value-added per worker—relative to average economy-wide productivity; exhibit the capacity for technological change and productivity growth; and show some evidence of the scale and/or agglomeration economies. Examples of sectors exhibiting these characteristics include horticulture and high-value agri-business, tourism, ICT-based services, business services and other tradable services (such as transport and logistics). Relating this definition to the case of Ghana, we have identified two IWOSS sectors for this paper: agro-industry and tourism.

3.2 Overview of trends in agro-industry and tourism

3.2.1 Agro-industry

According to the FAO (1997), agro-processing (the main activity of agro-industry) is the transformation of products originating from agriculture, forestry, and fisheries. For the purpose of this study, agro-industry refers to value addition originating from agriculture, forestry and fisheries and includes simple preservation operations such as drying products to more complex processing such as upstream processing (initial processing of agricultural commodities into intermediate products) and downstream processing (complex processing of intermediate agricultural products to finished products).

The increasing global demand for high-value-added commodities (mainly due to marked increases in global per capita incomes and higher urbanization) over the last two decades has offered unprecedented opportunities for diversification and value addition in agriculture for developing countries. As noted by the FAO (1997), this trend has created incentives for increased attention to agro-industry development within the context of economic growth, food security, and poverty reduction.

The agro-processing industry in Ghana is dominated by micro-enterprises/firms involved in value-addition of horticultural products (fruit cuts and fruit juices, vegetables, roots and tubers, nuts and palm oil) as well as rice and flour milling, fish canning and smoking, cotton ginning, textiles and garments, bakeries, beverages (both alcoholic and non-alcoholic and medicaments), dairy products, footwear, paper, etc. Afful-Koomson et al. (2014) indicate, in a study on food crop agro-processing firms in Ghana, that 85 percent of all agro-processing firms in Ghana are micro-enterprises, 12 percent small firms, and only 3 percent are medium or large agro-processing firms. The dominance of micro and small firms within the agro-processing industry is confirmed by the Integrated Business Establishments Survey (IBES) published by the Ghana Statistical Service, which indicates that 9 out of 10 firms in the industrial sector are into manufacturing, the majority of which are agro-processors of food (GSS, 2017).

Table 6 shows the distribution of firms within the agriculture and manufacturing subsectors⁵ in 2015 (IBES, 2017). Majority of the firms (80.7 percent) within agriculture and manufacturing are micro firms, while small firms constitute 17.5 percent. Medium to large firms makes up about 2 percent of the 102,268 firms that are in agriculture and manufacturing. In addition, the agro-processing industry in Ghana is largely dominated by local-to-local patterns (production of locally produced commodities for domestic consumption) and are mainly involved in informal-sector activities (Owoo and Lambon-Quayefio, 2017). Although the formal agro-processing sector has been in existence since the early years of Ghana's independence, its current state can be described as a young budding sector yet to realize its potential.

According to Quartey and Darkwah (2015), agro-processing is the most important sub-sector of the manufacturing sector in terms of output and employment, with food and beverages representing the largest component of processed commodities. The agro-industry sub-sector is dominated by Ghanaians who own about 99 percent of all manufacturing firms in the country. Of this number, over half are agro-processing firms. While about 9 percent of large firms in Ghana are owned by foreign owners, less than 2 percent of micro to medium-sized firms are owned by foreigners (GSS, 2017).

Table 6: Distribution of firms in agriculture and manufacturing (2015)

Firm size	Agriculture ⁶ (%)	Manufacturing (%)	Total (%)
Micro (1-4 employees)	59.3	89.3	80.7
Small (5-19 employees)	26.1	17.2	17.5
Medium (20-49 employees)	6.9	1.0	1.1
Large (50+ employees)	7.7	0.5	0.7
Total (%)	100.0	100.0	100.0
Total number of firms	2,831	99,437	102,268

Source: Computed from GSS (2017) Integrated Business Establishment Surveys, 2015. Database was accessed on May 18, 2020.

Regarding direct employment, data from the IBES (2017) indicate that, in 2015, about 450,000 persons were engaged in agro-processing and related activities. Of these, 24,494 were engaged in the manufacture of beverages, 96,405 persons in food manufacturing and over 50,000 engaged in firms operating within crop and animal production, forestry and logging and fish and aquaculture activities.

While most of the micro, domestic/household processors normally rely on informal contracts or spot exchange transactions for the procurement of inputs, especially agricultural products, medium- to large-scale processors often resort to backward integration for the procurement of inputs and forward integration for the distribution of the processed products. Multinational agro-processors⁷ are increasingly making use of contract relations in the procurement of agricultural inputs where they can specify the quality and quantity of such inputs.

⁵ We refer to the firm distribution in agriculture and manufacturing subsectors to discuss the distribution for agro-processing in the absence of census data on agro-processing. Fortunately, because agro-processing firms make up the majority of firms in these two sub-sectors.

⁶ Includes forestry and fishing.

⁷ Examples of such multinationals in Ghana are Nestle Ghana, Promasidor, Guinness Ghana, Accra Brewery, Cadbury and Unilever Ghana limited.

Despite the limited value addition in agro-processing, there are some notable value chains in the country. Such chains include palm oil, grains (rice, maize, and sorghum), cassava, fruits, cocoa, cashew nut, and rubber (MoFA, 2015).

Out of Ghana's total exports, the share of agro-processing has consistently been below 10 percent, leading Sutton and Kpentey (2012) to describe agro-processing as a sector in its nascent stage with very little value addition. Table 7 shows export values for five typical agro-processing subsectors: meat and meat preparations; dairy products and birds' eggs; fish, crustaceans, mollusks, and preparations thereof; vegetables and fruits; and coffee, tea, cocoa, spices, and manufactures thereof. Evidence from Table 7 shows that the value of exports for these products has been increasing steadily from \$6.5 million in 2001 to about \$20.9 million in 2019.

Table 7: Trends in Ghana's agro-processing exports (2001-2018), percentage of total commodity exports

	Meat and meat preparations	Dairy products and birds' eggs	Fish, crustaceans, mollusks, and preparations thereof	Vegetables and fruits	Coffee, tea, cocoa, spices, and manufactures thereof	Total commodity exports (USD)
2001	0.14	0.62	0.64	0.05	0.34	6,584,526,265
2002	0.16	0.59	0.62	0.05	0.34	6,912,252,273
2003	0.13	0.59	0.59	0.05	0.35	8,053,854,722
2004	0.12	0.57	0.54	0.05	0.31	9,747,245,815
2005	0.12	0.58	0.52	0.05	0.30	11,042,620,314
2006	0.11	0.53	0.49	0.04	0.30	12,734,192,352
2007	0.11	0.53	0.45	0.04	0.30	14,772,223,442
2008	0.11	0.58	0.42	0.04	0.29	17,120,608,033
2009	0.13	0.66	0.52	0.05	0.37	13,382,099,487
2010	0.11	0.60	0.50	0.04	0.35	16,254,318,388
2011	0.11	0.60	0.49	0.05	0.32	19,515,564,030
2012	0.11	0.59	0.48	0.05	0.30	19,834,328,801
2013	0.11	0.61	0.51	0.05	0.32	20,397,442,678
2014	0.12	0.64	0.55	0.05	0.33	20,430,815,396
2015	0.12	0.64	0.57	0.05	0.37	17,792,591,694
2016	0.12	0.65	0.63	0.05	0.40	17,298,881,813
2017	0.12	0.65	0.62	0.05	0.40	19,088,285,396
2018	0.11	0.61	0.60	0.05	0.36	20,883,497,958

Source: UN Comtrade data.

3.2.2 Tourism

Tourism in Ghana has generally not been a mainstream economic activity. However, the sector has recently seen increased attention due to the growing view that it can become an effective tool for job creation. To that effect, the sector's importance in the country's diversification drive is gradually increasing, having contributed 5.5 percent to GDP in 2018 largely as a result of several policies initiated by the government. The importance of the sector to the country is further demonstrated by the government's intention to renovate and improve various tourist sites. Ghana has several natural,

cultural and heritage resources (historical forts and castles), national parks, a beautiful coastline, unique arts, and cultural traditions that can be a source of attraction to the international community. The country can leverage these sites to address the tractable problems of unemployment and poverty.

The tourism sector is labor-intensive, mainly made up of the accommodation and food service subsectors and the arts, entertainment, and recreation subsector. The nature of economic activities within the sector supports a diverse and versatile labor market, by providing micro- and small-scale employment opportunities, such as travel and tours, handicrafts, music and dance, Ghanaian cuisine etc. The major activities under the tourism sector in Ghana include the hospitality (i.e., accommodation and food services/catering), culture and folklore of Ghana, theater arts, museums and monuments, touring, music, arts and crafts, etc. The major players in the sector are the Ghana Tourism Authority, hotels and resorts, restaurants and nightclubs, travel agent and tour operators, theater arts operators, music industry players, creative arts, and producers of arts, crafts, and handicrafts, etc.

Firms operating within the tourism sector are mainly micro and small firms. Typically, these firms include hotels and other accommodation providers, travel agents, transport owners, and firms providing various forms of arts, culture, and entertainment recreation. As shown in Table 8, less than 2 percent of firms in tourism are at least medium-sized firms, indicating that the sector provides crucial employment opportunities at the micro and small-scale level.

Table 8: Distribution of firms in tourism (2015)

Firm size	Accommodation & food service (%)	Arts, culture, entertainment & recreation (%)	Total (%)
Micro (1-4 employees)	85.9	91.9	86.5
Small (5-19 employees)	12.7	5.9	12.1
Medium (20-49 employees)	1.0	1.4	1.0
Large (50+ employees)	0.3	0.8	0.4
Total (%)	100.0	100.0	100.0
Total number of firms	56,352	5,845	62,197

Source: Computed from GSS (2017) Integrated Business Establishment Surveys, 2015. Database was accessed on May 18, 2020.

The tourism sector generates both direct and indirect employment through many activities. Over the past decade, employment in the sector has grown over 10 percent annually (see Table 9), mainly in the form of direct employment in accommodation and food services; creative arts and entertainment; libraries, archives, museums and other cultural activities; gambling and betting (mainly sports betting); as well as sports, amusement, and recreation activities. Indeed, between 2005 and 2015, employment in tourism more than doubled, from 172,823 to 393,000, representing an increase of about 127 percent, mainly on account of an expansion in accommodation and food and beverage service activities.

Regarding direct employment, in 2015, accommodation and food service activities accounted for 92.6 percent of the jobs in the tourism sector with the rest (i.e., 6.7 percent) engaged in arts, entertainment, and recreation activities and less than 1 percent engaged in a travel agency, tour operators, and reservation services. For every four persons employed within the tourism sector, three are engaged in the food and beverage service activities (Table 10).

Table 9: Total direct and indirect employment in tourism

Year	Total employment	Growth rate
2005	172,823	-
2006	183,192	6.00%
2007	206,091	12.50%
2008	234,679	13.90%
2009	263,157	12.10%
2010	291,202	10.70%
2011	324,000	11.30%
2012	359,000	10.80%
2015	393,000	9.50%

Source: National Tourism Development Plan, 2015.

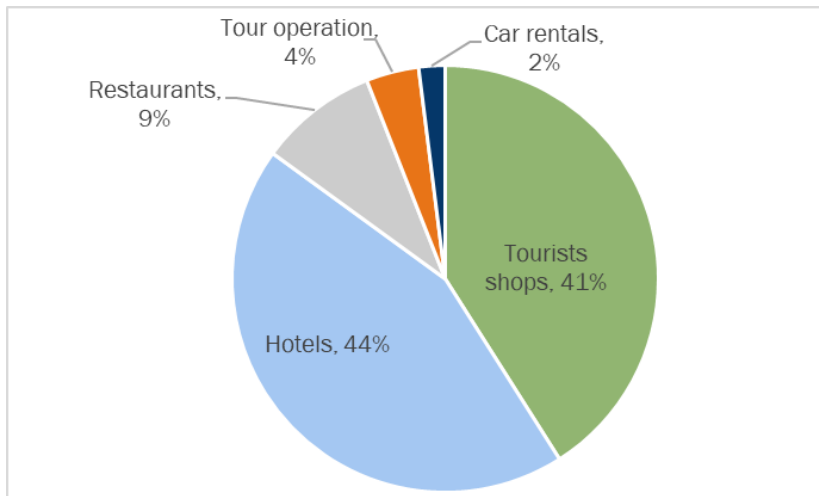
Table 10: Employment shares of sub-sectors in tourism (2015)

	Number of establishments	Number of persons engaged	Share of employment
Accommodation and food service activities	44,654	227,588	92.6%
Accommodation	3,969	44,308	18.0%
Food and beverage service activities	40,686	183,280	74.6%
Arts, entertainment, and recreation	4,657	16,385	6.7%
Creative, arts and entertainment activities	351	3,752	1.5%
Libraries, archives, museums and other cultural activities	71	838	0.3%
Gambling and betting activities	3,575	8,577	3.5%
Sports activities and amusement and recreation activities	661	3,218	1.3%
Travel agency, tour operators, reservation services	301	1,825	0.7%
Total tourism	49,612	245,798	100.0%

Source: GSS (2017). Integrated Business Establishment Surveys, 2015.

Regarding accommodation and food service and touring activities, the IBES data in 2015 shows that employment is mainly concentrated in hotels and tourist shops. As indicated in Figure 7, hotels and tourist shops employed 85 percent of those engaged in accommodation and food service activities, restaurants accounted for 9 percent, while tour operations and car rentals accounted for 6 percent of jobs.

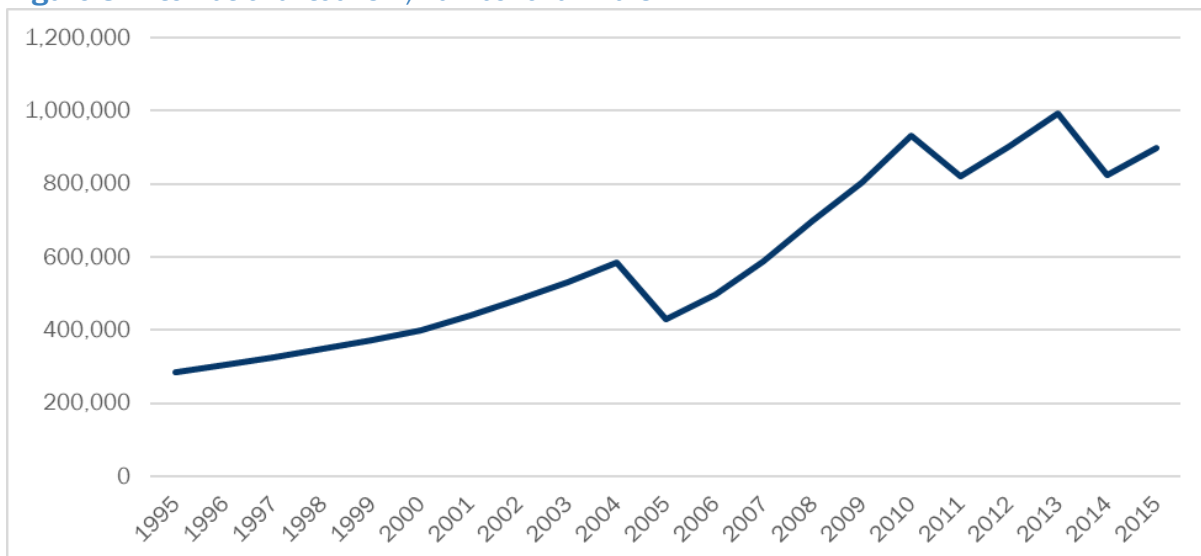
Figure 7: Breakdown in employment among tourism activities (2015)



Source: GSS (2017); Integrated Business Establishment Surveys, 2017.

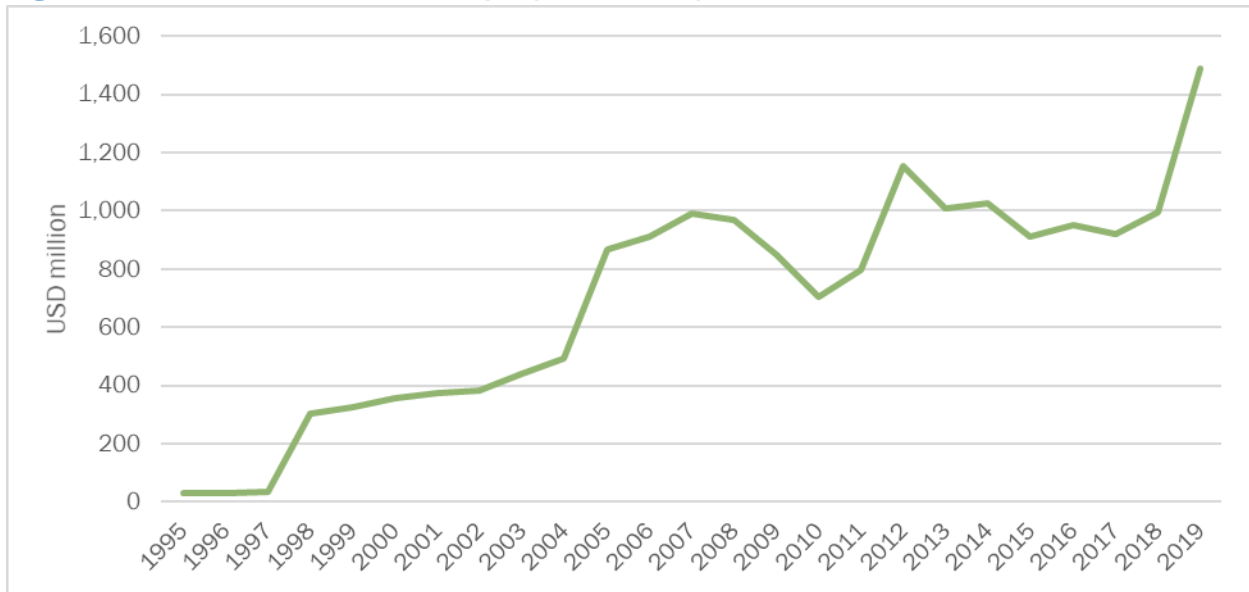
Available statistics suggest the number of tourist arrivals (Figure 8) and receipts (Figure 9) in the country have increased, although the sector's contribution to both GDP growth and total exports receipts have decreased (Figures 10 and 11). Several possible factors account for the decline, including a slowdown in economic growth between 2014 and 2016, inadequate support from the government and the Ebola virus outbreak in some West African countries that created lingering consequences for neighboring countries. Other factors include the lack of adequate professionalism at various tourist sites and a difficult working climate for enterprises within the tourism sector. This is basically related to the poor skills set in the sector, the average educational attainment for the majority being secondary education. Indeed, the government of Ghana has recognized this limitation as a challenge and is taking steps to implement various policies to increase the skills content in the tourism sector.

Figure 8: International tourism, number of arrivals



Source: World Development Indicators, 2019.

Figure 9: International tourism, receipts (current USD)



Source: World Development Indicators, 2019.

Figure 10: Travel and tourism contribution to GDP



Source: World Development Indicators, 2019.

Figure 11: International tourism in Ghana (receipts and expenditures)



Source: World Bank, 2019.

Given the dominance of firms that provide accommodation and food services in the tourism sector, the sector is sensitive to factors that could lead to the decline in the number of tourist arrivals in the country, especially international ones. For instance, the tourism sector has been severely affected by the COVID-19 pandemic as it was affected by the Ebola epidemic a few years earlier. Under the COVID-19 pandemic, the effects have been much pronounced due to the restrictions on international travel.

Although the tourism sector's contribution to both GDP growth and total exports receipts has decreased in recent years, information from the Ghana Tourism Authority (GTA) suggests the number of licensed hotel rooms (including star-rated hotels) and licensed travel agents and tour operators have also increased, suggesting the existing opportunities for employment generation within the tourism sector. In terms of employment, total jobs created in both formal and informal tourism enterprises increased from 438,000 in 2016 to 506,967 in 2018. Number of domestic tourism at tourist sites also increased from 1,353,253 visitors in 2016 to 1,420,915 in 2017 with corresponding receipts from GHS3,210,565 (\$583,739.57) in 2016 to GHS3,531,622 (\$642,113.09) in 2017 (MOTAC, 2020).

In the effort to revitalize tourism and take advantage of the country's historical sites, the government launched the "Year of Return" campaign in 2019 to commemorate 400 years of the arrival of the first enslaved Africans in Jamestown, Virginia in the United States. The objective of the campaign was to position Ghana as a key travel destination for African Americans and the African diaspora wishing to trace their ancestry and make a pilgrimage to their country of origin—marketing Ghana as a tourism destination with Trans-Atlantic trade appeal. The success of the "Year of Return" program in boosting tourism activities in the country—preliminary estimates point about 200,000 additional international arrivals with 1.5 million total number of visitors in 2019—resulted in the development a follow-up program, named "Beyond the Return," which is further expected to boost tourism activities. Evidently, prospects for tourism in the country are enormous with important employment generation implications (See Appendix A).

3.3 Sectoral decomposition in employment and productivity: IWOSS in comparative perspective with non-IWOSS over the last decade

The pattern of employment in Ghana generally reflects the changes that have taken place in the structure of the economy in favor of the services sector. Data from the Integrated Business Establishment Survey of 2015 suggests that employment in non-IWOSS sectors tended to be greater than in IWOSS. As shown in Table 11 below, within the non-IWOSS sectors, most jobs could be found in wholesale and retail (43 percent) and the least in electricity, gas, steam, and air conditioning supply (1 percent).

Table 11: Employment: IWOSS vs non-IWOSS sectors in 2015

	Employment	%
All sectors - national	3,027,744	100
IWOSS	1,195,186	39.5
Agro-processing and allied activities	449,881	37.6
Construction	71,567	6.0
Transportation and storage	41,292	3.5
Information and communication	29,733	2.5
Financial and insurance activities	223,389	18.7
Real estate activities	7,408	0.6
Professional, scientific and technical activities	39,921	3.3
Administrative and support service activities	88,022	7.4
Tourism (accommodation & food service, arts, entertainment etc.)	243,973	20.4
Non-IWOSS	1,832,558	60.5
Agriculture, forestry and fishing	54,267	3.0
Mining and quarrying	48,977	2.7
Manufacturing (exception of food, beverage, textiles, wood etc.)	120,445	6.6
Electricity, gas, steam, and air conditioning supply	18,063	1.0
Water supply; sewerage, waste management	25,407	1.4
Wholesale & retail trade, repair of motor vehicles & motorcycles	778,587	42.5
Education	308,944	16.9
Other service activities	477,868	26.1

Source: GSS, 2017a.

Within IWOSS sectors, however, most employment positions are in agro-processing and allied activities (40 percent), tourism (20.4 percent), and financial and insurance activities (18.7 percent). The IWOSS sector with the lowest proportion of employment is real estate (1 percent).

Data from the Ghana Living Standards Survey confirm that employment in both agro-processing and tourism increased between 2013 and 2017. More importantly, these two IWOSS sectors (agro-processing and tourism) witnessed significant changes in employment compared to the non-IWOSS sectors (Table 12).

Table 12: Trends in employment: IWOSS vs non-IWOSS sectors

	Employment		Employment share	
	2012/13	2016/17	2012/13	2016/17
Total	10,915	21,781	100	100
Total IWOSS	2,215	4,846	20	22

Agro-processing	1,259	1,720	57	35
Tourism	638	1,711	29	35
Construction	222	996	10	21
Financial & insurance activities	16	242	1	5
ICT	33	67	1	1
Professional, scientific, and technical services	47	111	2	2
Real estate activities	4	36	0	0
Total non-IWOSS	8,700	16,935	80	78
Other-agriculture, forestry and fishing	3,634	7,322	42	43
Mining and quarrying/ electricity & water	190	377	2	2
Manufacturing	1,609	2,709	18	16
Wholesale and retail trade	2,661	4,999	31	30
Administrative and support services	100	122	1	1
Public administration and defense	10	26	0	0
Education	95	474	1	3
Human health and social work activities	50	90	1	1
Other service activities	221	687	3	4
Activities of households as employers	126	94	1	1

Source: GLSS 6 & 7.

In terms of labor productivity, on average, IWOSS sectors seem to outperform non-IWOSS sectors (see Table 13). The main IWOSS sectors driving this high productivity include construction, financial and insurance activities as well as information and communications. The sectors accounting for high productivity in non-IWOSS sectors include mining and quarrying and electricity, gas, steam and air conditioning supply. Interestingly most of the high productive sectors are more capital intensive. The prolific employment sectors are the agro-processing and tourism sub-sectors with annual productivity of GHS49,996.30 and GHS34,614.90, respectively (Table 13).

Table 13: Labor productivity: IWOSS vs non-IWOSS sectors

	Number of persons engaged	Revenue (GHS)	Labor Productivity (GHS)
All sectors - national	3,027,745	456,995,817,643	150,936.0
IWOSS	1,195,186	198,718,951,521	166,266
Agro-processing and allied activities	449,881	22,492,384,346.00	49,996.3
Construction	71,567	53,776,382,976	751,413.1
Transportation and storage	41,292	8,418,963,880	203,888.5
Information and communication	29,733	9,129,162,501	307,038.1
Financial and insurance activities	223,389	90,796,340,643	406,449.5
Real estate activities	7,408	1,890,315,619	255,172.2
Professional, scientific and technical activities	39,921	2,354,192,944	58,971.3
Administrative and support service activities	88,022	1,416,097,902	16,088.0
Tourism	243,973	8,445,110,710	34,614.9
NON-IWOSS	1,832,558	252,243,433,986	137,645.5
Agriculture, forestry and fishing	54,267	5,478,752,350	100,959.2
Mining and quarrying	48,977	26,587,745,050	542,861.9

Manufacturing (exception of agro-processing.)	120,445	22,504,489,325	186,844.5
Electricity, gas, steam and air conditioning supply	18,063	6,651,300,697	368,227.9
Water supply; sewerage, waste management	25,407	1,131,153,296	44,521.3
Wholesale & retail trade, repair of motor vehicles/cycles	778,587	175,098,102,358	224,892.1
Education	308,944	6,424,096,188	20,793.7
Other service activities	477,868	8,367,794,722	17,510.7

Source: IBES, 2017.

Further disaggregation of labor productivity of manufacturing firms surveyed for the Integrated Business Establishment Surveys of 2015 by the Ghana Statistical Service (see Appendix Table B2), showed that the manufacturing of beverages and food were the most productive and the least is the manufacturing of apparel. For the non-IWOSS sector, the most productive sector is the manufacture of petroleum coke and refined petroleum sectors, and the least is the manufacture of motor vehicles, trailers and semi-trailers. While the non-IWOSS sectors generally seem to be more productive than the IWOSS sectors, there are at least two IWOSS sectors that tend to stand out and are more productive than the large majority of the non-IWOSS sector; i.e., the manufacture of beverage and food products (the two main activities in agro-processing).

The World Bank Enterprise survey of 2013 indicates a similar pattern in firm productivity similar to the Integrated Business Establishment Surveys of 2015 (see Table 14). Focusing on the typical IWOSS, the food sector is the most productive and the least is the leather sector. By firm size, small firms tend to be more productive in IWOSS sectors. Comparatively, the chemicals and basic metals are other sectors that tend to be more productive than the IWOSS sectors; in these two sectors, firm size is positively correlated with productivity.

Table 14 : Labor productivity (GHS)

Sub-sector	All firms	Small	Medium	Large
Food	196,005.10	199,999.90	185,184.80	189,461.00
Textiles	10,065.48	6,277.78	21,428.57	--
Garments	15,295.08	16,608.45	4,131.43	--
Leather	7,155.84	7,155.84	--	--
Wood	21,369.06	25,052.36	3,805.73	3,805.73
Paper	34,381.84	2,746.88	--	97,651.78
Furniture	29,954.82	27,360.24	39,900.71	--
Chemicals	136,322.60	16,612.62	140,336.10	428,573.70
Plastics & rubber	35,082.81	15,617.31	20,771.18	55,438.07
Non-metallic mineral products	36,125.12	21,976.22	146,341.50	81,546.66
Basic metals	99,297.82	76,018.52	71,831.75	279,000.00
Fabricated metal products	88,303.74	16,105.90	747,358.40	96,580.52
Electronics	20,667.27	17,892.16	42,857.14	6,802.72

Note: Labor productivity = Annual sales/total number of employees (full time + part-time).

Source: World Bank (2013).

In the area of skills, the WBES of 2013 showed that the food sector was the most productive with over 50 percent of its production workforce being skilled. This is, however, low compared to garments, but greater than textile and close to the average for both IWOSS and Non-IWOSS (Table 15).

Table 15: Distribution of skilled workers across IWOSS and Non-IWOSS sectors

Product sectors	The proportion of production workforce that are skilled	The ratio of skilled to unskilled	Number of years of experience of top manager
IWOSS	53.5	1.7	15.5
Food processing	50.2	1.0	15.3
Textile	31.6	0.5	12.4
Garments	78.6	3.7	18.9
Publishing	54.9	1.2	20.0
Wood	58.7	1.4	20.8
Paper	62.1	1.6	14.0
Leather	65.2	1.9	23.0
Transport	45.0	0.8	7.5
Non-IWOSS	53.3	1.3	15.7
Recycling	26.7	0.4	11.5
Refined petroleum	43.6	0.8	13.3
Chemicals	47.8	0.9	15.5
Basic metal	49.1	1.0	14.2
Non-metallic	56.5	1.3	13.1
Furniture	58.7	1.4	17.0
Electronics	59.8	1.5	14.8
Fabricated metal	62.2	1.6	15.4
Plastics & rubber	62.7	1.7	19.2

Source: World Bank Enterprise Survey, 2013.

The average number of years of experience for a top manager in the food sector is 15 years—a similar value for other sectors that are not IWOSS. However, that number is lower for other IWOSS sectors that are classified under agro-processing such as garments, leather, and wood with 18 years of average experience. This confirms our selection of agro-processing as a typical IWOSS in Ghana due to the level of productivity observed, proxied by food processing.

3.4 Policies to promote IWOSS sectors in Ghana

3.4.1 Policies to promote agro-industry

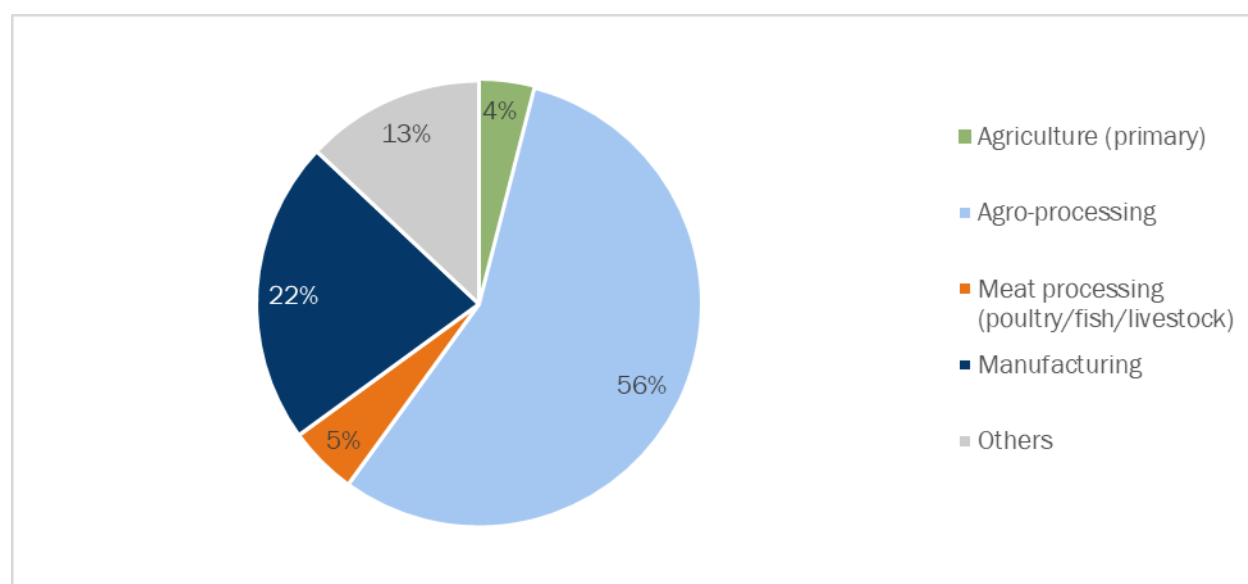
Recently, the government of Ghana launched a 10-point agenda as its central policy for industrialization in the country. This agenda prominently features agro-processing in the following strategic actions: National Industrial Revitalization Programme; One District One Factory; Strategic Anchor Industries; Industrial Parks and Special Economic Zones; Development of Small and Medium-Scale Enterprises (SMEs); Export Development Programme; Enhancing Domestic Retail Infrastructure; Business Regulatory Reforms; Industrial sub-contracting exchange; and Improving Public-Private Sector Dialogue. The first four are currently being pursued.

The main actions under the National Industrial Revitalization Programme is the provision of a stimulus package to economically viable but financially distressed companies through quickly disbursing a stimulus fund of up to \$200 million, revamping and providing technical assistance to distressed but viable companies, provide business development services and facilitate access to markets. So far, the National Industrial Revitalisation Programme has selected 80 distressed local industries for stimulus packages, which should be used to augment the expansion of these businesses, enabling them to create jobs and compete globally.

The “One District One Factory” (1D1F) initiative seeks to identify and create business opportunities in local districts and harness strengths and resources of locals through the use of efficient technology and demand-driven value chain processes. Intertwined with the “National Industrial Revitalization Programme,” it is designed as a comprehensive program for rural industrialization, driven by the private sector and involving the setting up of at least one medium- or large-scale factory in each of the administrative districts of Ghana—that’s factories in all 265 districts across the country in the medium term. The main objective is to create massive employment, particularly for the youth in rural and peri-urban communities, thereby improving levels and standards of living, as well as reducing rural-urban migration. The focus mainly on higher value addition mainly in agro-processing for import substitution and exports as well as tourism.

The 1D1F flagship program, based on government estimates, is expected to create 7,000 to 15,000 jobs per district—and 1.5 million to 3.2 million nationwide by the end of 2021. By the end of 2019, 181 factories had been established, 129 were new companies established under the 1D1F, while 52 of them were already in existence, and an estimated over 14,000 direct jobs and over 100,000 indirect jobs had been created (MOTI, 2019). The sectoral distribution of firms already established indicates that 56 percent of the firms are/will be engaged in agro-processing, 22 percent in other manufacturing and 5 percent in poultry/fish/livestock processing (see Figure 12).

Figure 12: The distribution of 1D1F projects as of 2019



Source: Ministry of Trade and Industry (2020).

As of June 2020, the government of Ghana’s mid-year budget review indicated that there were 232 projects (initiatives) at various stages of implementation. Among these, 76 were completed and

operational, while the remainder, including five medium-size agro-processing factories, were under construction. Twelve of these companies received approval for import duty exemptions to the tune of GHS34 million (\$9.7 million). According to the One-District-Factory secretariat, a total of 154 districts out of the 260 have benefitted from the program so far, and it is expected that, by the end of 2020, the construction of 58 small-scale processing factories will commence under the *Enable Youth 1D1F* projects, while in August 2020 the construction of 36 out of the remaining 1D1F projects will commence in 36 Districts (Government of Ghana, 2020).⁸

The National Industrial Revitalization Programme is intended to revamp Ghana's industrialization efforts, which, during the first two decades of the 2000s, saw the setting up of special economic/export processing zones. As shown in Table 16, over the period from 1997 to 2003, the number of firms operating within the special economic zones increased from 8 to 37 and then steadily declined to 14 by 2014. The energy crisis that occurred in Ghana between 2013 and 2015, as well as the high cost of doing business in Ghana, also affected the firms operating within the special economic zones. Most of the firms that folded could not remain profitable after the 10-year tax-free holiday ended because of the high cost of operations in Ghana. Noticeably, though, employment within the special economic zones did not decline substantially.

Table 16: Special economic zones in Ghana

	Number of companies	Number of total employees	Production (USD millions)	Export (USD millions)	Investment (USD millions)
1996/97	8	3,483	1.4	-	-
1998	11	3,968	158.5	145.4	117.18
1999	6	5,523	162.2	184.08	80.63
2000	11	6,895	134.4	165.07	43.82
2001	14	7,445	103.6	291.03	163.52
2002	25	9,459	222.5	174.3	41.51
2003	37	14,071	286.5	414.01	160.54
2004	23	23,928	348.7	627.4	131.32
2005	21	28,334	602.9	509.99	185.9
2006	29	25,773	506.6	522.81	151.83
2007	28	28,880	478.6	779.9	114.03
2008	26	28,595	1,116.0	1,286.91	315.84
2009	7	28,936	821.0	1,667.57	214.83
2010	20	29,798	1,329.0	1,690.70	212.33
2011	25	30,080	1,195.67	1,966.72	224.64
2012	17	30,383	1,069.11	1,830.30	247.51
2013	30	31,005	1,126.31	1,268.18	279.45
2014	14	30,271	2,200.18	2,360.22	167.47

Source: GFZB Annual Reports, various issues.

The Ministry of Trade and Industry, the Ghana Free Zones Authority, and Ghana Investment Promotion Centre are supporting private investors in the establishment of industrial park infrastructure and special economic zones particularly to support the strategic anchor industries pillar. The basic role of these government institutions is to facilitate access to land, provide off-site infrastructural facilities, and promote the parks to potential anchor tenants and industries from around the world. The

⁸ We need to emphasize that there has been no independent verification and assessment of the program yet.

government also intends to explore public-private partnership investments to develop select industrial park projects, including a proposed new Greater Kumasi Industrial City and Special Economic Zone, which covers 5,000 acres and will incorporate the Inland Port at Boankra. The government expects the special economic zones to offer additional opportunities for creating jobs.

Under the Strategic Anchor Industries initiative, the government intends to position Ghana's industrial landscaping around certain industrial products and activities, particularly agro-processing, pharmaceutical industry, integrated aluminum industry, iron and steel industry, automobile and vehicle assembly, textiles, garments and apparel sector, industrial salt, petrochemicals, manufacturing of machines and machinery components, industrial starch and palm oil industry. More specifically, under the Oil palm Strategic Anchor Initiative, the Ministry of Agriculture envisaged that it will help boost production to address the current deficit of 50,000 and create additional employments to the already employed 300,000 workers of the sector. Currently, although Ghana is one of the leading palm oil-producing countries—ranked second in Africa and eighth in the world—it is still a net importer of palm oil. Again, the government expects this initiative to generate jobs, but there is currently no independent assessment of the job creation capacity.

The project is expected to be private sector-driven with support from the Government of Ghana and other investment promotion agencies to facilitate the process in the area of land acquisition, land registration, provision of necessary infrastructure (soft and hard) such as water, electricity, fiber optics, roads, and rail lines, among others, so that the private sector can build and operate vibrant industrial parks or special economic zones in the country.

There are several factors that make the agro-processing sector viable in Ghana, including the country's diverse agro-ecological zone that supports various agricultural products that can be processed, a well-endowed network of water bodies that can support agriculture especially during the lean seasons, and the numerous incentives already in place to promote agro-processing in the country (Owoo and Lambon-Quayefio, 2017). Indeed, a technical, financial, and commercial viability analysis was conducted for firms that submitted proposals for the government's flagship "One District, One Factory" initiative and out of 462 proposals that were received, 191 were found to be viable (MoF, 2018) demonstrating the economic viability of the agro-processing sector in the country.

The government is also supporting the agro-processing sector through various initiatives that seek to create clusters to facilitate the transfer of technology, knowledge, and innovation. For example, under the Ghana Trade and Investment Gateway Project, Ghana, with the support of the World Bank established industrial parks under the Ghana Free Zones Board as export processing zones (EPZs) (Ackah, Agyire-Tettey and Turkson, 2020). More recently and under "One Region, One Park," the government seeks to promote the development of additional parks and special economic zones for manufacturing industries. Some specific projects under current development include the Dawa Industrial Zone, the West Park, and the Appolonia Business Park (all of which are located in Southern Ghana). There are some other feasibility studies being explored in Central Ghana (Boankra) as well as Northern Ghana.

3.4.2 Policies to promote tourism

The overall policy directives for the tourism sector are detailed in the National Tourism Development Plan (2013-2027). The Ghana Tourism Development Project is a World Bank-funded project that seeks to improve the performance of tourism in targeted destinations in Ghana. The project is worth \$40

million, and it is a direct response to a series of critical challenges confronting Ghana's tourism industry, despite the country's potential assets and demand for tourism activities.

As part of the National Tourism Development Plan, the government of Ghana recently introduced a four-year tourism development program to improve the performance of tourism in targeted destinations in the country. The program seeks to strengthen the tourism enabling environment; develop tourism sites and destinations; and provide support to tourism enterprises. This program is supported by projects such as the Marine Drive Tourism Investment Project, a program to commemorate 400 years of slavery (Year of Return) and the "See Ghana, Eat Ghana, Wear Ghana, Feel Ghana" campaign.

The Marine Drive Tourism Investment Project is a government initiative aimed at developing sections of the coastline of Ghana's capital city into a state-of-the-art tourism and hospitality enclave including hotels, shopping malls, casinos, water theme parks, office complexes, conference and exhibition centers, a playground and a beach soccer pitch, among other things. It will cover over 240 acres of land near the Arts Centre in down-town Accra. According to the Ministry of Tourism, when completed, Marine Drive Ghana will attract more investment in trade and improve tourism in addition to generating revenue and employment as well as increase foreign exchange earnings.

Furthermore, the country also launched the Creative Arts Industry Bill (December 2020) to ensure the economic viability of the Creative Arts Sector in the economy.

This four-year tourism development program was preceded by the Strategic Tourism Action Plan (2003–2007), the National Tourism Development Plan for Ghana (1996–2010), the Medium-Term National Tourism Development Plan for Ghana (1993–1995) and the 15 Year National Tourism Development Plan (1975–1990). The Ghana Shared Growth and Development Agenda also includes strategies for promoting the tourism sector, such as: diversify and expand the tourism industry for economic development, intensify the promotion of domestic tourism, promote sustainable tourism to preserve historical, cultural and natural heritage, develop a competitive creative arts industry, and harness culture for national development.

The "Year of Return" program in 2019 marked 400 years since the first enslaved Africans arrived in Jamestown, Virginia in the United States. Ghana used this campaign to market the country as a tourism destination with Trans-Atlantic trade appeal. The year-long event was designed to incentivize diaspora returnees by waiving some visa requirements and permitting people of African origin the right to apply for indefinite stay, all in the bid to boost tourism. Preliminary estimates from the Ministry of Tourism, Arts and Culture show that there were about 200,000 extra international arrivals out of the 1.5 million total number of visitors for 2019 with an additional \$1.9 billion in revenue realized—indicating the potential that exists in tourism for the country.

Tourism Development Project

The World Bank in 2017 undertook a diagnostic study of Ghana's tourism sector, after it was rated uncompetitive because of coordination failures, the high costs of doing business, relatively high transaction costs, low diversification, weak links to the local economy, low capacities, difficult access to finance, and a high-risk perception for investing in the sector. Some other critical challenges identified in the tourism sector include the near absence of public sector interventions and resources, a multiplicity of government regulations on tourism, and the lack of appropriate incentive packages for SMEs directly involved in the sector. The project seeks to remove constraints and sustain improvements in the tourism sector by enhancing the sector's offerings, diversifying its impact, and

enabling broader participation in the tourism value chain, especially by SMEs. The project has four key components:

Component 1: Strengthening the tourism enabling environment

- Strengthening tourism skills development, aviation and visa policy through the following tasks:
 - Identify and implement a suitable business model for tourism training facility(ies) that guarantees experienced management and sustainable funding; provide support for the development of the necessary curriculum, standards, assessments, accreditation processes for tourism, and other public goods, and the training and upskilling of tourism and hospitality teachers and trainers
 - Support the government of Ghana in attracting domestic and international air travel operators; develop and implement streamlined competitive visa systems that are conducive to the development of leisure and business tourism, including a review and cost-benefit analysis of aviation and entry visa policies
 - Develop and implement a comprehensive national marketing, promotion, and branding strategy and action plan that will include an innovative and cost-effective digital component, and clearly identified tactics for key segments and product packages—for example, weekend getaways, cultural tours, and safaris; support the implementation and monitoring of the strategy.

Component 2: Developing tourism sites and destinations

- Identify and screen priority destination areas and develop detailed destination and management plans with stakeholder consultation and awareness campaigns, establish a site upgrades program (all selected sites will be required to receive training on-site management and maintenance and will undergo an assessment of their ownership structures, management interest, safeguards screening, and other requirements)

Component 3: Tourism enterprise support program

- Provide tourism SMEs with the opportunity to improve their business planning, formalize their businesses, and apply for matching grants to upgrade their tourism products and services.
- Finance the costs of tourism enterprise matching grants and business development services training.
- This program will also target women-owned SMEs.

Component 4: Project management and institutional strengthening

- Provide support to the Ministry of Tourism, Arts and Culture (MoTAC) to manage and coordinate the project.
- Finance the cost of the following activities: (1) develop a tourism sector action plan, (2) operate the public-private dialogue mechanism for the sector, (3) undertake a capacity assessment study and select training for allied agencies, such as Ghana Immigration Service, Ministry of Foreign Affairs, Ministry of Aviation, and the Forestry Commission (4) strengthen the capacity of staff of MoTAC its departments, and agencies on tourism policy and planning, fiduciary areas, environmental and social safeguards management, monitoring and evaluation (M&E) through the provision of relevant advisory services, (5) project operating costs, including

environmental and social safeguards, and tourism awareness campaigns, (6) finance a competitively selected grants management team, (7) improve existing statistical and information systems, including technical assistance to the GTA Tourism Satellite Account process, and the collection of baseline information on visitor demographics for project monitoring.

Some of the expected outcomes from the project include increased private sector participation and investment, an increase in leisure visits, longer lengths of stay, increased domestic benefits from tourism, and increased visitor satisfaction with the quality and diversity of products. The project will support the SME sector and women-led enterprises to provide demand-driven services. More specifically, Component 1 aims to solve the problem of the lack of skilled workers in the tourism sector to improve the quality of products and services. Component 2 will upgrade facilities and infrastructure at various tourist sites, providing employment opportunities for the youth at destination sites and increasing revenues in local communities. Component 3 will support SME business development services and upgrade facilities. Component 4 will strengthen the Ministry of Tourism, Arts and Culture (MoTAC).

Moreover, the project is expected to generate direct and indirect jobs. More specifically, direct jobs in the tourism sector are expected to rise from 305,628 jobs in 2019 to 380,000 in 2030 and 419,562 by 2035. The indirect jobs supported by the tourism industry and related sectors will range from 764,000 in 2019 to 895,000 in 2027, assuming a 3.5 employment multiplier effect and a 2 percent annual growth rate of the direct employment. Hotels and restaurants, tour operators, bed and breakfast places, crafts, and construction work will additionally generate other indirect jobs.

It is important to note that Ghana's Tourism Development Project draws important inspiration and lessons from both existing programs such as the National Tourism Development Plan (commissioned by UNDP), the Australian Tourism Demand-Driver Infrastructure Program as well as an IDA-financed program (Skills for Jobs and public-private partnership credit). This is with respect to implementation capacity shortfalls, within the public sector, concerns about procedures and transparency in grant funds, and difficult public-private dialogue mechanisms to ensuring complementarity of proposed interventions under the different projects.

4. Constraints to IWOSS growth

4.1 Regulatory environment and requirements

The regulatory environment within which firms operate in Ghana imposes constraints and invariably increases the costs of firms' operations: Indeed, it is well documented in various studies on enterprise development in Ghana, that the regulatory environment imposes excessive and unnecessary burdens and increased costs on SMEs (Ackah et al., 2014; Turkson, 2010; Abor and Quartey, 2010 and Baah-Nuakoh et al., 2002).

Ghana has lately made some attempts at reforming the regulatory regime to be supportive of firms, especially micro and small firms, that were often neglected in earlier reforms. Recently, in fact, policymakers have devoted their attention to both the agro-processing and tourism sectors because of the enormous potential that these two sectors have in becoming significant job creators, in addition to their enormous contribution to output and diversification away from dependence on a few primary commodities and minerals. The major challenge, though, has been with the enforcement of the

reforms. For instance, the Ghana Tourism Development Plan reported the lack of enforcement of planning control and guidance, leading to inappropriate development to the detriment of tourist resources. Related, there is a lack of enforcement of rules aimed at ensuring the environmental quality of tourism sites and beaches.

The general regulatory regime supporting businesses in Ghana has, over time, seen marginal improvements, as shown in the country's performance on the World Bank's Doing Business indicators (Table 17), Ghana's overall score increased marginally from 57 percent in 2016 to 60 percent in 2020 (a 5.3 percent increase), propelling Ghana up the rankings from 108 to 118. Specific improvements in the regulatory regimes in getting electricity, trading across borders, and dealing with construction permits were major factors in this change in rank. These policies align with the country's quest to implement its renewable energy policies and more generally initiate the use of green energy sources.

Indeed, in terms electricity access, Ghana has made getting electricity faster by improving the review process and increasing the availability of equipment for new electricity connections. Regarding trading across borders, the government has made it easier for individuals and firms to have more convenient access to the two main ports in the country, facilitated by the implementation of a paperless port operations system, which reduced the number of hours spent in clearing goods and increased tax revenue. The system mainly involves increased use of technology, improved infrastructure, and high-quality human resources to reduce the number of hours that shipping vessels spend at the ports. The system is expected to increase efficiency at the ports, increase revenue mobilization, and reduce the stress associated with clearing goods while opening up the ports to more business, since 80 percent of Ghana's trade volumes are currently done through sea transportation.

Table 17: Doing Business Indicators, Ghana (2016-2020)

Year	2016	2017	2018	2019	2020	% change
Overall	57.0	58.0	58.4	60.4	60.0	5.3
Starting a business	83.7	83.7	84.0	84.3	85.0	1.6
Dealing with construction permits	58.5	59.2	61.9	66.2	67.6	15.6
Getting electricity	59.5	60.3	61.0	74.0	77.4	30.1
Registering property	59.2	59.3	59.3	59.3	59.4	0.3
Getting credit	60.0	60.0	60.0	60.0	60.0	0.0
Protecting minority investors	60.0	60.0	60.0	60.0	60.0	0.0
Paying taxes	66.2	66.2	66.5	66.8	56.0	-15.4
Trading across borders	43.7	52.3	52.3	54.8	54.8	25.4
Enforcing contracts	54.0	54.0	54.0	54.0	54.0	0.0
Resolving insolvency	25.0	25.3	24.8	24.9	25.4	1.6

Note: Scores are scaled from 0 to 100, where 0 represents the lowest and 100 represents the best performance

Source: World Bank Doing Business database (2020).

In terms of construction permits, the government has removed several obstacles through the Business Enabling Environment Project by implementing a digital Permit Processing System (PPS). The system allows developers to submit their documents, book appointments for site inspection, enable scheduled officials at district assemblies to supervise and control the construction of buildings and the issuance of permits digitally. The initiative is reported to have reduced the number of days needed to acquire building permits, and more generally strengthened construction quality control by imposing stricter qualification requirements for professionals in charge of technical inspections (GoG, 2020).

Ghana witnessed some marginal improvements in other indicators, including measures for starting a business, resolving insolvency, and registering a property. However, it has not improved on indicators such as getting credit, protecting minority investors, and enforcing contracts over the past five years.

The only indicator on which Ghana's performance has decreased concerns the paying of taxes. In previous years, Ghana's tax system allowed financial losses to be fully carried forward during any of the following five years of assessment. In 2020, the tax system in Ghana became more complicated and costly, as a portion of the recoverable value-added tax system was split into two new levies: the Ghana Education Trust Fund and the National Health Insurance Levy.

4.2 Infrastructure

The distribution of Ghana's infrastructure generally reflects the spatial distribution of economic activity, with a greater density in the south of the country than in the north. The World Bank reports that Ghana's infrastructure platform is generally advanced, especially when compared with other low-income countries in Africa (World Bank, 2010). Institutional reforms targeting ICT, ports, roads and water utilities have substantially contributed to this success (World Bank, 2010). Indeed, Ghana has succeeded in increasing household access to telephone, power, and water services by developing its national infrastructure backbones. Moreover, this success has not been confined to urban areas, as rural water, electricity, and global system for mobile communication (GSM) coverage rates are similarly impressive.

However, in 2016, a report by the Ghana Institution of Engineers, ranked Ghana's roads and bridges, electric power, and potable water infrastructure systems or networks as generally in a poor to fair condition. Out of a maximum of 5 points, they ranked roads and bridges 2.79; electric power, 3.08 and potable water, 2.79. Table 18 reveals the condition mix of Ghana's roads.

Table 18: Total road network (December 2015)

Class road	Length	Good	Fair	Poor	Total
Trunk	14,873.70	57%	36%	7%	21%
Feeder	42,045.18	35%	34%	31%	58%
Urban	15,461.77	37%	17%	46%	21%
National condition mix	72,380.65	39%	32%	29%	100%

Source: GhIE Ghana Infrastructure Report Card 2016.

Ghana's National Tourism Development Plan (2013-2027) identified poor road infrastructure to major tourist sites as a huge constraint to the sector's growth. More specifically, it notes that road travel along transit corridors is prone to delays, as a result of poor road conditions (potholes, un-tarred sections, lack of general maintenance); frequent, severe speed humps; too many and frequent police checkpoints; toll booths; customs posts; and congestion where the roads pass through towns, with hawkers and traffic pulling off the road. Proposals have been made to restore some railway networks through the establishment of a more substantial, integrated, and modern railway network that offers opportunities for tourist movement as well as specific railway-based tourism activities.

In addition, a report on the Tourist Sector Development Project (2018) indicated that the most consequential cost constraining growth in the sector is cost of energy. According to the report, energy costs represent about 40 percent of operational cost for hotel accommodation. Energy costs in Ghana are four times the regional average due to poor energy transition policies, huge debts at the

downstream of the energy sector, multiple illegal connections, and a failure of the government to pay energy bills.

For agro-processing, the current ecological zones where most commodities are produced provide a major source of comparative advantage in the production and supply of raw materials. However, constraints relating to poorly developed rural infrastructural facilities (mainly poor roads and the high cost of installing electricity) continue to hamper the ability of actors along the agro-processing value chain to compete effectively. It is reassuring, though, that there has been significant improvement in the time and cost it takes to get electricity installed over the last five years, as seen in Table 17.

More generally, the country has benefitted from the growth of the mobile phone networks, which has significantly transformed the use of telecommunications and related activities. This growth can be attributed to a healthy competition among service providers as well as improvement in regulations. Currently, the level of mobile telephone subscriptions for voice is more than 100 percent, while that of data is close to 100 percent (NCA, 2019). Mobile phone users are further allowed to transfer mobile money over different networks following the successful implementation of the country's interoperability of mobile money transfers, which has facilitated business in various sectors, especially among micro and small firms that also happen to dominate both the agro-processing and tourism sectors. This benefit notwithstanding, a number of pressing issues—including limited linkages of ICTs between human resource development, particularly in tourism—persist.

4.3 Skills

Ghana's National Tourism Development Plan (2013-2027) identified a huge gap between both the quality and quantity of human resource requirements of the tourism sector. Some of the skills identified as lacking include professional, managerial, and technical skills. Currently, there is no clear national policy framework on training and development of the human capital for the public, private, and/or large informal firms in the sector. One exception, though, is World Bank support for interventions aimed at attracting various operators of castles and museums. Some other challenges include poor quality of data on human resource development and employment, limited linkage of ICTs with tourism human resource development (as noted above), and low public awareness of tourism employment opportunities.

Some education and training for both public and private sector workforce of the tourism industry has been undertaken since the development of the 1996-2010 plan. However, an evaluation of these training programs indicate that the training hasn't been done in an effective and systematic manner, thereby creating deficiencies in the quality and quantity of skills requirements in the sector (Ministry of Tourism, 2012). Some of the skills identified to be lacking include professional, managerial, and technical skills. The lack of a structured staff training policy at the Ministry of Tourism, limited good quality hospitality and tourism training institutions, and no national standards nor certification of hospitality and tourism programs account for the deficiencies in skills (Ministry of Tourism, 2012).

Majority of the agro-processors in Ghana are household or domestic processors who contribute very little value addition to agricultural commodities. This is mainly because most of these processors are predominantly illiterate, have no formal training (skills in agro-processing are acquired mostly through informal apprenticeship training) and make use of very simple and locally manufactured technology. In Ghana, it is the multinational agro-processing firms that can rely on modern and more efficient technology, mainly because they have the skills that meet the needs of the modern agro-processing sector.

4.4 Capacity to export

Tourism is the fourth-largest foreign currency earner after the major primary export sectors of gold and cocoa and remittances. Tourism businesses are subject to standards and regulations under the Ministry of Trade and Industry, such as trading standards, import and export rules, consumer protection, and business registration and licensing. Yet, these businesses have not received the incentives that apply to other sectors and especially those under agro-processing, such as tax relief. Lengthy, expensive, and complicated visa procedures and policies, which have limited the development of air travel, are obstacles to the continued expansion of travel and the export of creative goods.

In agro-processing, entrepreneurs have had a strong desire to export, but several constraints hinder their ability to do so. Although there is a strong policy framework to encourage exports through financial support from Ghana's EXIM Bank, the creation of export processing zones, and changes in policies and procedures at ports (such as the introduction of paperless processing), Ghanaian exporters remain uncompetitive because of relatively higher trade costs and infrastructure constraints. Importantly, attempts to increase the proportion of storage facilities in the country as part of efforts to reduce post-harvest losses in the agricultural sector can benefit agro-processing firms. The Warehouse Receipt System⁹ by the Ghana Grains Council (GGC) is an example of an initiative that can be used to prioritize the use of storage facilities in Ghana (GGC, 2020). For instance, Turkson (2018) identified burdensome documentation requirements, time-consuming customs procedures, and inefficient port operations that leads to corruption at the ports to be one of the main reasons for the very high trade costs in Ghana as in many SSA countries. In addition, due to the highly perishable nature of most agro-processing products, the lack of cold storage facilities has been a major constraint to export. Further constraints include the seasonality of agricultural produce as a hindrance to increasing capacity and the inability of exporters to meet strict phytosanitary standards to remain competitive.

4.5 Agglomeration

The major constraints to the growth of Ghana's special economic zones are lack of funds to develop additional enclaves, lack of legislative instruments with appropriate penalties for recalcitrant firms, unreliable supply of utilities to enclaves, poor marketing and promotion, and high indebtedness to Ghana's Land Commission. For instance, the 2013 annual report of the Ghana Free Zones Authority cites over GHS1 million rent owed the Ghana Lands Commission.

The Ghana Free Zones Act offers extensive and generous incentives to potential investors interested in developing and operating within the free zone enclaves and single-factory free zones in Ghana. Currently, Ghana has four free zone areas—the Tema Export Processing Zone, Shama Export Processing Zone, Sekondi Export Processing Zone, and the Kumasi Technology Park. The monetary incentive structure includes a 100 percent exemption from payment of direct and indirect duties and levies on all imports for production and exports from free zones, a 100 percent exemption from payment of income tax on profits for 10 years that will not exceed 15 percent thereafter, total exemption from payment of withholding taxes from dividends arising out of free zone investments, and relief from double taxation for foreign investors and employees where Ghana has a double taxation agreement with the country of the investors or employees. While the monetary incentives are on offer

⁹ An electronic form certifying the quantity and quality of stock by depositors into a secured storage facility. This was developed specially for grains .

to investors, the failure of the government to provide its side of the bargain by enabling a business-friendly environment and the ensuring the non-monetary incentives (including no import licensing requirements, minimal customs formalities, 100 percent ownership of shares by any investor, no restrictions on repatriation of dividends or net profit among others) has led to the non-enforcement of penalties in respect to exporting. Indeed, under the Act, a free zone enterprise is expected to export at least 70 percent of annual production of goods and services and supply the remaining up to 30 percent for sale in the local market, but there have been instances that firms have not met this condition yet enjoyed the monetary incentives.

4.6 Firm capabilities

The agro-processing industry in Ghana is not well-advanced, with a relatively low degree of value addition to agricultural commodities, and very few linkages with marketing and financial services in addition to the use of simple technology. This situation is partly due to small firm sizes and under-developed processes that lead to many of these firms to operate below capacity or use inefficient technologies. Indeed, these bottlenecks are revealed in the country's high dependence on imported goods. A study by Gyeke-Dako et al. (2017) on Ghana's participation in the global value chain revealed that there is very little transformation to exports and imports, implying minimal value addition and, hence, limited participation along the value chain.

Sutton and Kpentey (2012), however, demonstrate that the capabilities of Ghana's manufacturing originates from a growing private sector and a few local trading companies. In particular, local trading companies have demonstrated that their deep knowledge about the local market and international supply chains allows them to better identify viable opportunities and to source supplies effectively. Moreover, these local trading companies can easily acquire manufacturing know-how because of their interlinkages, and they can likely be crucial seedbeds for the take-off of related industrial activities in the country.

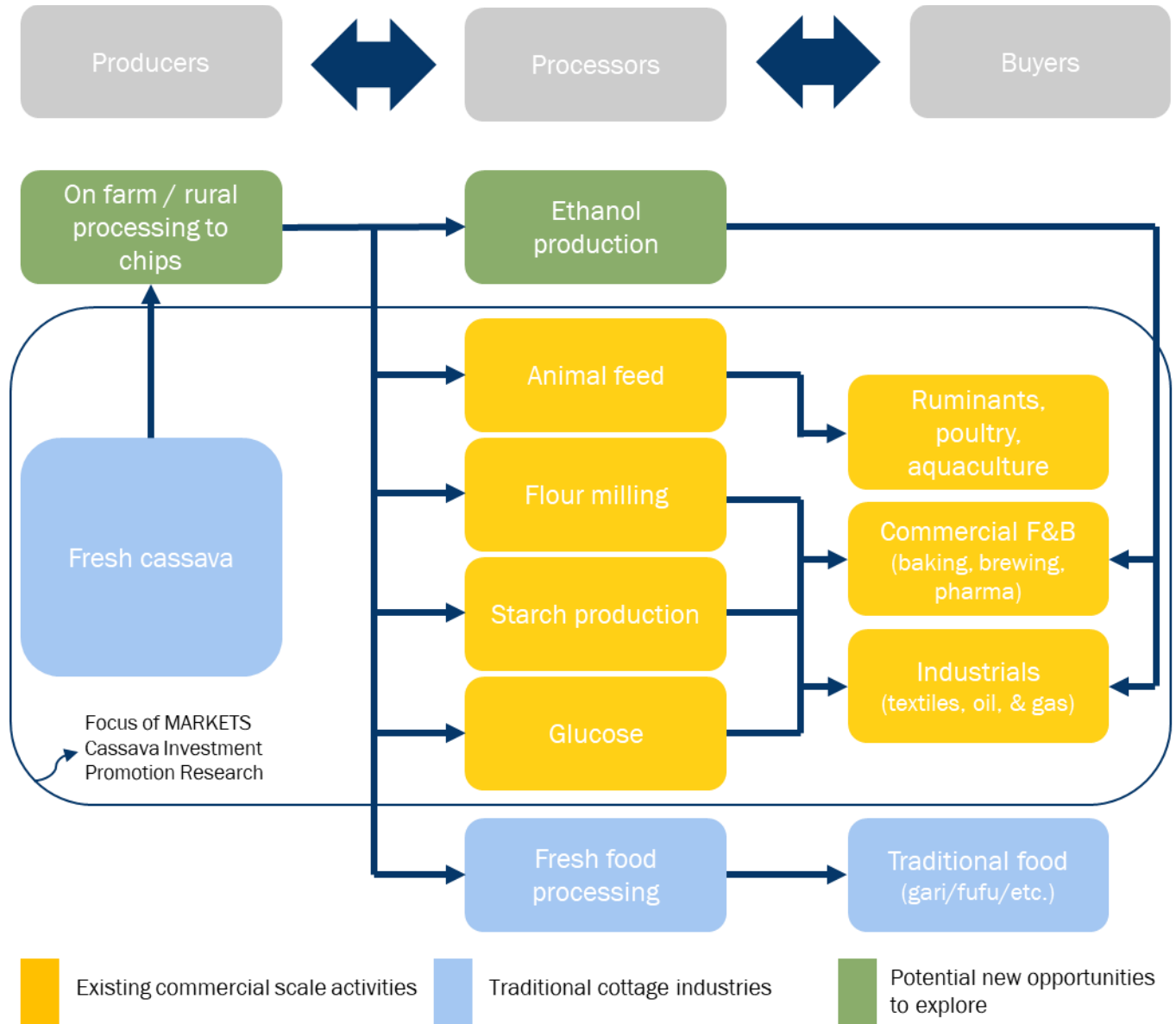
4.7 Constraints within the value chains

The value chains of both agro-processing as well as tourism are not well-advanced, with a relatively low degree of value addition. This result is partly due to the dominance of small firms along the value chain of the different sectors as well as their under-developed processes that lead to them operating below capacity. Indeed, the majority of these actors have no formal training as most of the skills are acquired through informal apprenticeship. In addition, they rely mostly on very simple and locally manufactured technology. There is also an over-dependence on the exports market to support activities in these sectors. Not surprisingly, Gyeke-Dako et al. (2017) have shown that Ghana's participation in the global value chain is limited as there is very little transformation to exports and imports within the country.

Figures 13 and 14 show the value chain of a typical agro-industry in Ghana for cashew nuts and cassava, respectively. These two agro-processing products have in recent times been the focus of government due to their employment generation potential. More importantly, there is an increasing number of domestic processors who are imitating institutional processors that use semi-mechanized technologies. Some of the challenge faced by firms in these sectors is the shortage in inputs/raw materials because of their seasonal nature, as the country sometimes have to rely on imports, the highly perishable nature of agricultural produce in the country, inadequate finance to support actors

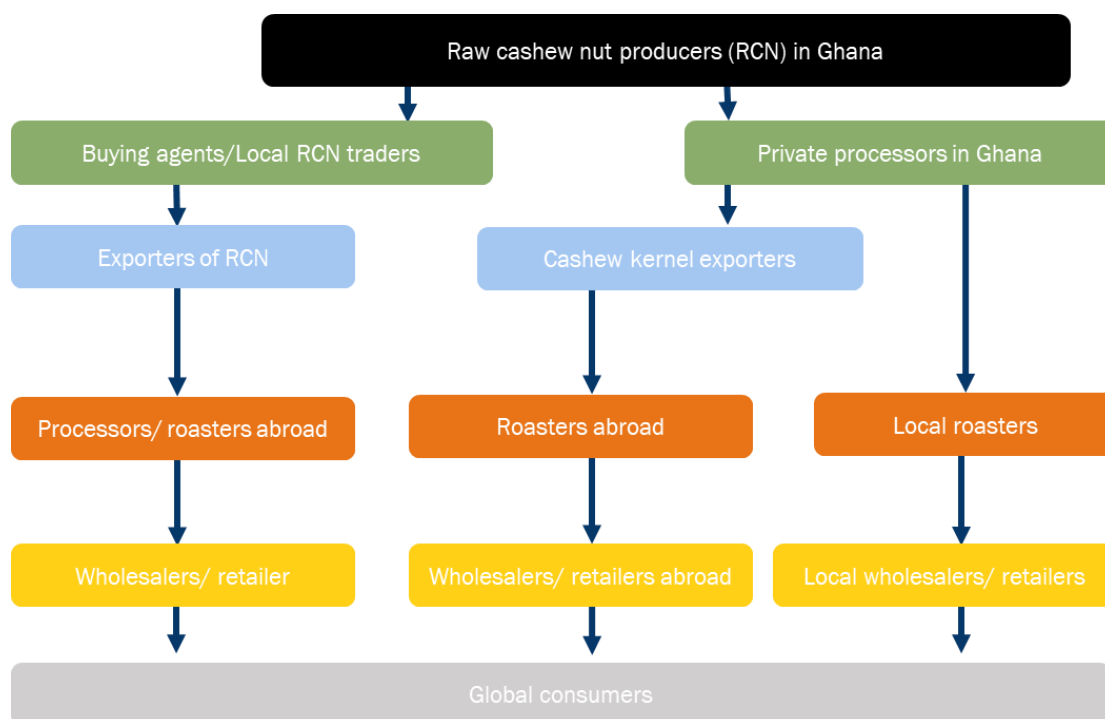
especially in the downstream of the value chains and inadequate storage facilities.¹⁰ Although there are attempts to provide a stimulus package to increase the capacity of farmers into these products, there are delays in the efforts, or they are completely not forthcoming.

Figure 13: A typical cassava value chain



Source: FAO (2013).

¹⁰ The main constraint for processors is the shortage of inputs/raw materials, while that for retailers and wholesalers is finance and storage facilities.

Figure 14: Flow chart of marketing channels in cashew trade in Ghana

Source: GAINS, 2012.

In tourism, there are numerous industries within the value chain, including accommodation, medical centers, agriculture, aviation, entertainment, and public transport. The main challenges in this value chain are the manpower constraints, poor institutional arrangement, and inadequate funds in support of tourism projects. As indicated in the Ghana Tourism Development Plan 2011-2027, one of the main complaints by both domestic and foreign tourists in Ghana has to do with the poor level of the quality of services within the tourism industry, mainly the result of the low quality of the workforce in the industry. With the exception of the higher star-rated hotels that make use of extensive IT infrastructure for all services and have well-trained staff, most hotels and tourist sites lack skilled personnel and, even though they might have internet-connected computers, do not have software and expertise to facilitate their technical operations. Indeed, the industry is mainly made up of private micro and small firms, but upskilling the workforce through training and capacity development is not prioritized. This is because the human resource management concerns of such firms do not align with the motivations of the enterprise owners, most of who see no reason to invest in training of their workforce. In addition, the development of tourist sites and maintenance of monuments requires substantial resources; however, because of the competing needs for government revenue, few funds have been given to investing in tourism.

4.8 Potential for future output and employment growth and demand for labor

Both the agro-processing and horticulture, as well as tourism sectors, have a huge potential for growth and employment. As such, the government has created plans for the two sectors to be given huge financial and policy support as outlined in the country's budget and development agenda. Moreover, the skill requirements of these two sectors are already abundant in the country. Ghana has a very youthful population that can meet the needs of the two sectors.

For instance, agro-processing is currently one of the priority sectors under Ghana's policy of developing strategic anchor industries. Activities within the sector are not only going to be driven by the private sector but supported by the government in the areas of land acquisition, land registration, and the provision of necessary infrastructure. The government also intends to support the development of industrial parks; several land banks have already been identified. These initiatives according to government, are expected to boost growth through the provision of employment opportunities, particularly for the youth, while enhancing the country's competitiveness.

For the tourism sector, the government is not only encouraging the private sector to participate but also supporting the development of various projects. Key among such projects are the upgrade of road infrastructure to various tourist sites, the development of some government priority projects such as the Marine Drive Tourism Project, upgrades to various tourist sites, and the development of linkages between the tourism sector and other sectors such as agro-industry; See Ghana, Eat Ghana, Wear Ghana, Feel Ghana campaign; Eat Ghana, Eat Chocolate campaign etc. These initiatives are expected to increase the number of international travels into the country as well as increase visitors' lengths of stay. The National Tourism Development Plan projects that the proportion of domestic tourists will increase by 60 percent, international travels by 15 percent within the short to medium term. The contribution of the tourism sector to the country's GDP is further expected to increase significantly (Ministry of Tourism, 2012).

More importantly, there is a large pool of unemployed—and young—labor that can be relied on to improve the agro-processing and tourism sectors. Indeed, in 2016/17, more than a third of the unemployed were between 15-24 and more than half are between 15-34 (Table 19)—an increase from 2012/13. In 2016/17, about 62 percent of the unemployed population has only a basic level of education; 29 percent had only a secondary education (Table 19). Over time, there appears to be a declining proportion of the unemployed with basic education and an increase in those with secondary education. Complemented with the current government's policy of providing free education at the secondary level, it is generally expected that average education of the total labor force of Ghanaians will gradually transition from the basic to the secondary level. This can significantly enhance the productivity of jobs and increase average wages.

Table 19: The demographic pattern of the unemployed in Ghana

Demographic group	2012/13	2016/17
Gender		
Male	48.9	37.9
Female	51.0	62.1
Age		
15-24	36.0	40.7
25-34	29.8	30.0
35-65	34.1	29.3
Education		
Less than secondary	76.8	62.1
Secondary	17.1	28.6
Post-secondary	6.1	9.3

Sources: GLSS 6 and 7.

Ghana's current path to economic and industrial transformation provides another reason for the increasing optimism of continuing growth and labor demand in the country. Under the country's current

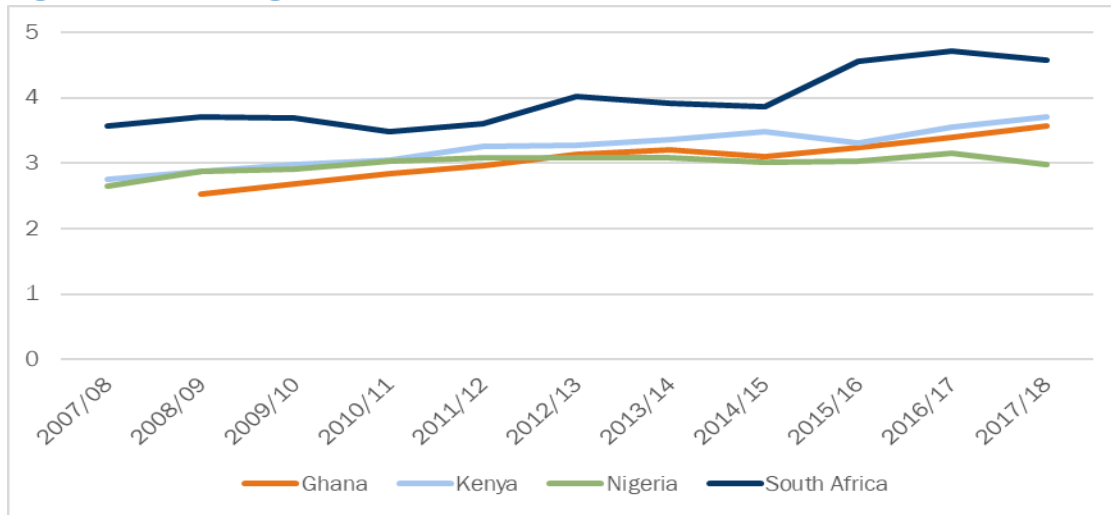
10-point agenda towards industrial transformation, various sectors with high growth and employment generation potential have been identified as strategic anchor industries, including agro-processing. The strategy for boosting the agro-processing sector includes at least four themes; namely, improving production efficiency; development of products; storage, processing, and transport; and marketing. These activities are being pursued and supported by other industrialization policies.

Activities in the agro-processing sector are not only going to be driven by the private sector but supported by the government in the areas of land acquisition, land registration, and the provision of the necessary infrastructure, as reflected in the national budget. Another sector witnessing substantial development is the tourism sector. Some of the recent notable commitments in the Tourism sector include the development of the Marine Drive Tourism Investment Project, the program associated with the Year of Return for Africans in the Diaspora, the re-opening of the Hotel Hospitality and Catering Training Institute, and the aggressive campaign towards the patronization of made-in-Ghana goods. The government anticipates all these activities to provide important inter-linkages for various activities in different sectors, for instance, the agro-processing sector. More importantly, there is an increasing effort to enhance the skill requirements of the unemployed to appropriate fit into these sectors.

It is important to mention that Ghana's current path to economic and industrial transformation adequately fits into its recent globalization trends, where the services sector is assuming an important role. Both the agro-processing and tourism sectors can rely on the uptake of the inexpensive, rapid communications and information transmission enabled by the IT revolution in services. The government of Ghana is strongly leveraging the uptake of technology and digitization to improve administrative systems in the country through initiatives like the introduction of a national ID card, digital property addressing system, paperless port systems, mobile money interoperability, and land digitization with block-chain technology. These technologies are intended to improve the ways businesses conduct their operations and minimize distraction. Specifically, for entrepreneurship, where the agro-processing sector dominates, there are attempts to establish a Ghana Design and Manufacturing Centre (GDMC) that will be a center of excellence for the design, manufacturing, and technology commercialization of manufacturing activities. A major aim of this initiative is to significantly address the extant skills gap in manufacturing. Ghana also has a Science, Technology and Innovation Policy that seeks to address its present technology gaps.

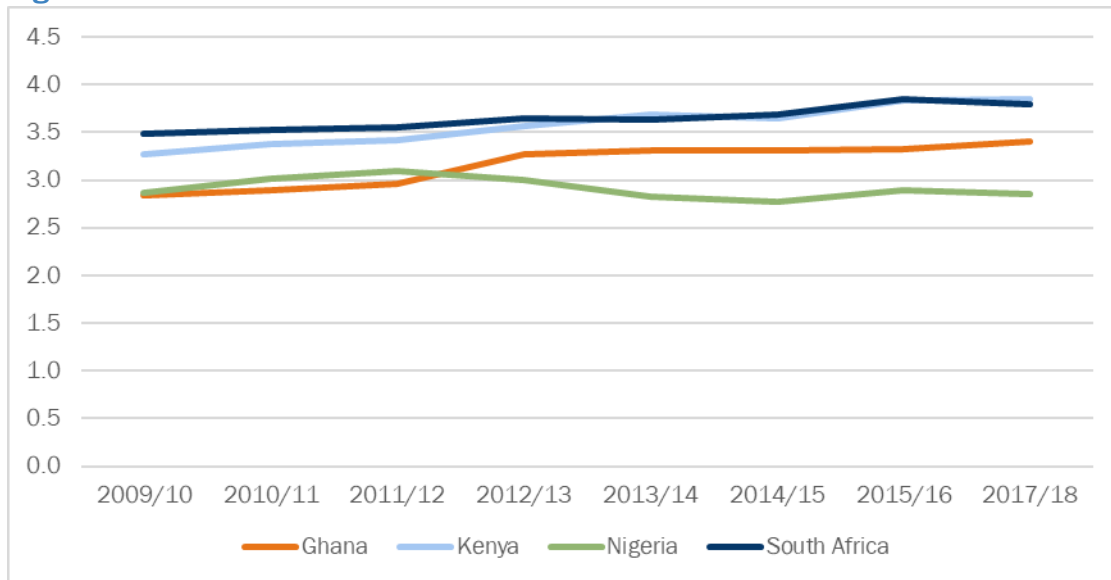
There are several implications of the above factors for Ghana's potential growth and labor demand in general and more specifically for the agro-processing and tourism sectors. In the short to medium term, most businesses in Ghana will continue to be labor-intensive. Some marginal economic and industrial transformation is expected, and this is reflected in the country's intended path to enhance innovation and its technological readiness based on its science and innovation policies. Relative to countries like Kenya and South Africa (a few of the economic giants in Africa), Ghana lags in terms of its technological readiness and innovation. However, Ghana's technological readiness and the adoption of innovation has been marginally higher than that of Nigeria in recent times (Figures 15 and 16).

Figure 13: Technological readiness level of Ghana relative to other sub-Saharan African countries



Note: Technological Readiness Level is based on a scale from 1 to 9 with 9 being the most mature technology.
Source: World Economic Forum.

Figure 14: Innovation Index in Ghana relative to other sub-Saharan African countries



Source: World Economic Forum.

The extant skill gaps are likely to be significantly narrowed as various educational policies are implemented—especially those concerning secondary education as well as technical, vocational education and training. The demand for both skilled and unskilled labor will continue to increase together with average wages. More importantly, an improvement in the interlinkages between various sectors will prove to be beneficial to traditional sectors such as the agricultural and the agro-processing sectors.

5. Scenarios for the future: Projecting output and employment growth and demand for skilled workers

As discussed, both the agro-processing and tourism sectors in Ghana display the potential for high growth and employment potential, spurred on by the country's (1) changing demographic patterns of the population; (2) path to economic and industrial transformation; and (3) the uptake of technology and digitization. In addition, Ghana's labor force continues to be relatively youthful (GSS, 2017b), and the projections reveal that component of the population will continue to grow faster, even if GDP growth generally slows down. This prediction is based on the positive population growth rates that the country has experienced over the past two decades. Importantly, though, nearly half of the existing youth population currently has only basic education (i.e., up to the junior high school level) and are involved in low-skilled jobs in the private sector (GSS, 2017b), where job transitions are relatively easy because of the large informal sector. Altogether, the skills level of the youth is not very high (see Appendix Table B6).

In this section, we present projections for the country's GDP growth as well as labor demand and its skill decomposition for Ghana in 2025 and 2035. The projections for GDP are based on an annual average growth rate of approximately 8 percent, while the sectoral rates are based on past performance and projections from Ghana's short- to medium-term growth projections. The projections for employment and sectoral employment shares are based on two rounds of the Ghana Living Standards Survey GLSS 5 in 2012/13 and GLSS 6 in 2016/17.

The results, as seen in Table 20, show that with annual GDP growth of 7.4 percent, employment is projected to grow at a rate of 6.9 percent (employment elasticity output of 0.86). The IWOSS sectors are expected to grow by 7.8 percent, while manufacturing grows by 5.5 percent. Other non-IWOSS sectors are expected to grow by approximately 7 percent. The IWOSS sectors that are contributing significantly to this growth include, hotels and restaurants, finance, and insurance, as well as trade.

In terms of employment, the IWOSS sectors are expected to contribute a little above 50 percent by 2035 after a projected decline from a share of 43.3 percent in 2017 to 42.1 percent in 2025. Manufacturing and other non-IWOSS sectors are expected to contribute 9.3 and 37.1 percent, respectively in 2035. The annual growth in employment for IWOSS sectors is estimated at 10.3 percent relative to manufacturing and other non-IWOSS sectors that averages 3.4 and 4.7 percent, respectively by 2035. The IWOSS sectors driving the growth in employment include agro-processing and horticulture, hotels, and restaurants, finance and insurance, transport and storage, and trade. Noticeably, annual employment growth in agro-processing (7.2 percent) is expected to double the annual employment growth of manufacturing (3.4 percent) and higher than that of non-IWOSS (4.7 percent) by 2035. Employment growth in tourism (hotel and restaurants) are expected to grow annually at a much higher rate (10.7 percent) compared to agro-processing (Table 20).

More generally, the estimated pattern in growth and employment is expected to generate high-skilled workers for the economy (Table 21). The skills definitions are based on educational level: high-skilled workers are those with post-secondary education; skilled workers have either completed secondary school or at least have some years of secondary education; and low-skilled workers have less than a secondary education or no formal education. For instance, the overall proportion of low-skilled workers is expected to decline by about 5 percent between 2017 and 2035, while that for skilled and high-skilled workers are expected to increase by 3 and 2 percent respectively for the same periods. Most of the skill transformation of the workforce is expected to occur in the non-IWOSS sector. Manufacturing is expected to witness the most transformation of low-skilled workers into skilled workers. This notwithstanding, Ghana's economy will be dominated by low-skilled workers.

Table 20: A growth scenario to 2035: Projecting GDP and employment

	GDP			Employment					Share of total population		
	2017	2035 (proj.)	Annual growth (%)	2017	2025 (proj.)	2035 (proj.)	Add. jobs (2017-2035)	Annual growth (%)	2017 (%)	2025 (%) (proj.)	2035 (%) (proj.)
		1,092,348.									
Overall economy	207,738	74	7.4	10,238,224	12,950,058	20,195,466	9,957,242	6.9	100	100	100
Total IWOSS	99,449	601,611	7.8	4,435,806	5,457,351	10,820,973	6,385,167	10.3	43.3	42.1	53.6
Agro-processing and horticulture	8,241	18,612	4.0	720,634	856,319	1,447,554	726,920	7.2	7.0	6.6	7.2
Construction	19,433	41,331.84	4.3	468,340	591,783	691,311	222,971	3.4	4.6	4.6	3.4
Trade	33,383	205,800.68	9.1	2,350,564	2,568,195	5,870,747	3,520,183	10.7	23.0	19.8	29.1
Hotels and restaurant	9,254	121,330.57	15.4	351,633	469,211	876,586	524,953	10.7	3.4	3.6	4.3
Information and communication technology	9,254	22,386.78	5.3	31,592	133,171	50,857	19,265	4.4	0.3	1.0	0.3
Transport and storage	2,826	65,594.11	6.7	382,468	501,593	1,423,612	1,041,144	19.4	3.7	3.9	7.0
Financial and insurance	5,040	102,910.43	13.9	113,649	219,304	420,971	307,322	19.3	1.1	1.7	2.1
Real estate	12,018	23,644.75	6.4	16,926	117,776	39,336	22,410	9.5	0.2	0.9	0.2
Manufacturing (excl agro-processing)	26,860	86,121.69	5.5	1,273,380	1,437,184	1,882,633	609,253	3.4	12.4	11.1	9.3
Other non-IWOSS	108,289	480,657	7.0	4,529,038	6,055,524	7,491,860	2,962,822	4.7	44.2	46.8	37.1
Other crops	28,358	65,988	4.7	2,479,770	2,703,783	3,653,513	1,173,743	3.4	24.2	20.9	18.1
Cocoa	4,186	8,784.66	4.4	872,540	1,016,215	2,180,264	1,307,724	10.7	8.5	7.8	10.8
Livestock	7,100	11,736.82	2.4	28,793	130,233	42,393	13,600	3.4	0.3	1.0	0.2
Forestry and logging	4,055	6,744.63	2.8	59,978	162,981	88,658	28,680	3.4	0.6	1.3	0.4
Fishing	2,800	5,344.05	3.6	87,106	191,462	105,777	18,671	1.5	0.9	1.5	0.5
Mining and quarrying	25,917	223,193.76	10.0	163,681	271,863	362,157	198,476	8.7	1.6	2.1	1.8
Electricity	4,390	8,113.75	4.0	1,945	102,041	3,908	1,963	7.2	0.0	0.8	0.0
Water and sewage	1,415	3,948.87	6.4%	11,397	111,966	16,723	5,326	3.3	0.1	0.9	0.1

Professional, administrative & support service	5,563	24,989.44	10.8%	51,967	154,563	118,625	66,658	9.2	0.5	1.2	0.6
Public administration & defense; social security	3,679	35,770.93	7.8%	69,307	172,768	88,181	18,874	1.9	0.7	1.3	0.4
Education	7,846	42,895.93	9.1%	222,729	333,851	327,038	104,309	3.3	2.2	2.6	1.6
Health and social work	8,046	30,661.97	9.7%	42,473	144,587	44,628	2,155	0.4	0.4	1.1	0.2
Other service activities	4,934	12,484.16	8.9%	437,352	559,211	459,995	22,643	0.4	4.3	4.3	2.3

Source: Authors' Calculations based on National Income Accounts (published by the Ghana Statistical Service), GLSS V and GLSS VI, National Budget and Economic Policy Statements. See Appendix C for the Methodology used in the projections to 2035.

Table 21: Projected labor demand by skills

	2017			2035 (proj.)						Annual % growth		
	Low skilled (%)	Skilled (%)	High skilled (%)	Low skilled	Skilled	High skilled	Low skilled (%)	Skilled (%)	High skilled (%)	Low skilled (%)	Skilled (%)	High skilled (%)
Total population	71	17	13	9,767,902	1,574,801	705,809	66	20	15	7	14	13
Total IWOSS	67	20	13	1,376,744	218,044	44,747	65	21	14	13	17	15
Agro-processing and horticulture	93	6	1	1,645,257	193,552	11,915	89	10	1	7	18	3
Construction	81	15	4	362,855	154,897	78,293	61	26	13	3	17	44
Trade	78	17	5	7,233,677	1,007,717	114,465	87	12	1	31	17	3
Hotels and restaurant	78	17	5	640,168	195,085	23,989	75	23	3	11	17	3
Information and communication technology	27	40	33	17,864	81,388	72,452	10	47	42	4	29	31
Transport and storage	79	16	5	996,551	76,298	25,137	91	7	2	19	3	3
Financial and insurance	41	28	31	111,330	31,057	26,662	66	18	16	19	3	1
Real estate	61	19	20	6,489	4,361	5,062	41	27	32	9	29	31
Manufacturing	84	14	3	941,566	671,140	72,492	56	40	4	3	39	17

(excl agro-processing)												
Other non-IWOSS	73	15	12	380,099	95,180	83,381	67	18	16	4	10	11
Other crops	92	6	1	2,305,742	162,832	31,462	92	7	1	3	4	3
Cocoa	92	7	1	1,338,966	92,226	9,373	93	6	1	11	9	3
Livestock	82	13	5	22,419	3,772	1,257	82	14	5	3	4	3
Forestry and logging	91	4	5	31,921	1,353	1,681	91	4	5	3	3	3
Fishing	94	6	0	86,239	5,379	-	94	6	0	2	1	0
Mining and quarrying	82	13	4	270,938	60,276	7,475	80	18	2	9	15	1
Electricity	74	21	5	27,116	9,616	4,160	66	24	10	7	11	28
Water and sewage	73	9	19	17,162	3,213	4,435	69	13	18	3	9	3
Professional, administrative & support service	59	25	16	126,851	33,935	50,354	60	16	24	9	3	17
Public administration & defense; social security	53	28	19	113,708	64,560	47,142	50	29	21	2	2	3
Education	37	22	41	190,102	538,191	626,685	14	40	46	3	44	25
Health and social work	34	31	35	37,489	109,039	258,139	9	27	64	0	17	43
Other service activities	79	15	6	372,638	152,944	41,791	66	27	7	0	9	3

Source: Authors' calculations based on National Income Accounts (published by the Ghana Statistical Service), GLSS V and GLSS VI, See Appendix C for the Methodology used in the projections to 2035.

6. Firm survey results

We conducted a survey with selected firms in the agro-processing and tourism sectors to establish how the broad trends described above play out in the experiences of firms. Using the Association of Ghana Industries (AGI) as a sampling frame, the sample was restricted to firms in Accra and Tema (the main business hub of Ghana). Indeed, firms in Accra and Tema are not quite different from those in other regions, except their proximity to the main ports. In all, 15 agro-processing firms and 10 hotels and restaurants (tourism sector) were interviewed with managers of the firm as the main respondents. Tables 22-24 provide background information of firms that were interviewed.

Table 22: Size classification of surveyed firms

	Agro-processing	Hotels/Restaurants
Firm size classification		
Small (5-19)	6.7%	20.0%
Medium (20-99)	53.3%	40.0%
Large (100+)	40.0%	40.0%
Sample	15	10

Table 23: Average age and total employment of surveyed firms

	Agro-processing	Hotels/Restaurants
Average age (total sample)	18.8	11.4
Small (5-19)	7.0	11.5
Medium (20-99)	12.3	12.5
Large (100+)	29.5	10.3
Average employment (total sample)	146.8	117.7
Small (5-19)	10.0	15.5
Medium (20-99)	48.9	46.5
Large (100+)	300.2	240.0

Table 24: Educational levels of workforce (total and youth)

	Agro-processing	Hotels/Restaurants
Total workforce (average proportion)		
Pre-secondary	20.8	19.3
Secondary	46.9	32.9
Post-secondary	21.1	43.3
Youth (15-24) (average proportion)		
Pre-secondary	24.2	27.4
Secondary	70.4	58.9
Post-secondary	10.8	29.9
Degree	7.1	10.6
Post-graduate	0.0	1.1

The categorization of firms by size (based on the number of workers) indicates that the survey includes one small firm, eight medium firms, and six large firms all in agro-processing. The average age of

employees in the agro-processing firms is 18.8 years, with average total employment of 146.8 workers. Most of the workforce, including the old and the young in agro-processing, have a secondary education, confirming the moderate skill requirement of IWOSS. With regards to firms in the tourism sector, our survey includes two small firms, four medium firms, and four large firms. The average age of the firms in the tourism sector is 11.4 years, with the average total workforce of 117.7 workers. Most of the workforce in tourism have at least post-secondary education.

6.1 Identifying skills in business

To assess the skills necessary for successful employees in these businesses, firms were asked to classify the three main occupations of youth (15-24) workers in their organizations. No order was used to identify these occupational categories, and, therefore, some of the job classifications overlap. The intention was to be able to use these classifications to identify the average level and importance of skills for youth workers in the two sectors (agro-processing and tourism). The skill types considered include basic skills, social skills, problem-solving skills, technical skills, systemic skills, and resource management skills. Both the importance and level of the skills were to be ranked on a scale of 1 to 5; where 1=not important and 5=very important. The definitions of these skill categories are provided in the survey instrument (see Appendix C).

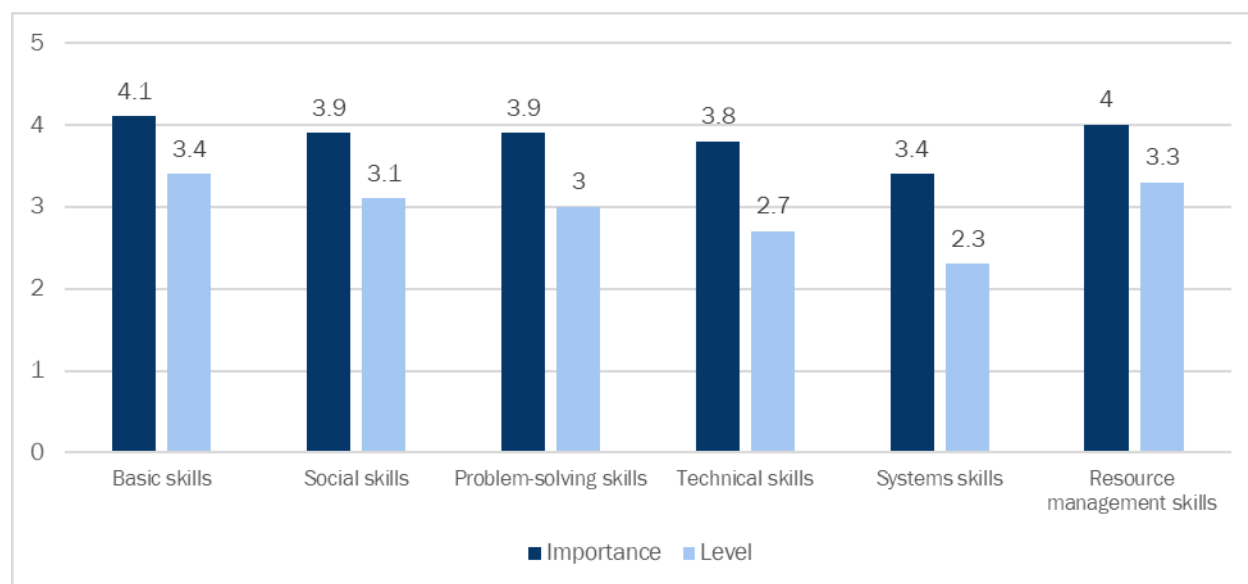
6.1.1 Agro-processing

Table 25 presents the main occupation of youth in the agro-processing sector. Classification for Occupation 1 includes jobs of administrative workers, production workers, and non-production workers. Although Occupation 2 contains job categories like Occupation 1, we find other job categories such as cleaners, quality control officers, and sales workers. The third category includes maintenance workers.

Table 25: Main occupations of the youth (agro-processing)

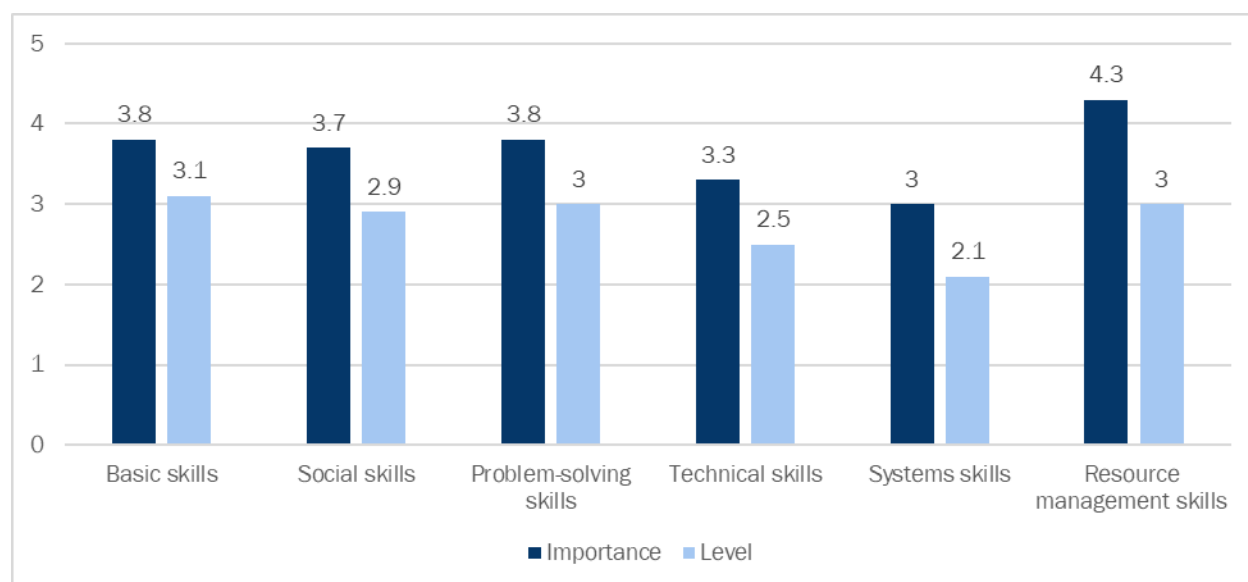
Agro-processing	
Occupation 1	Administrative workers Production workers Non-production workers
Occupation 2	Production workers Non-production workers Cleaners Quality control officers Sales workers
Occupation 3	Maintenance

Classification of skills in occupation by level of importance in Occupation 1, as shown in Figure 17, shows the differences that exist in terms of the relevance of skills for firms. Specifically, for firms in agro-processing, most firms ranked basic skills and resource management skills to be very important. Resource management skills—developed capacities used to allocate resources efficiently—include the management of financial resources, materials resources, personnel resources, and time management.

Figure 15: Importance and level of occupation 1 (agro-processing)

Source: Authors' calculations.

Although the average rank of the other skills can still be classified as important, the least important were systems skills. Similarly, most firms indicated that the current level of skills in Occupation 1 is highest for basic skills and resource management skills (Figure 17). In terms of Occupation 2, the most important skill was resource management, and this was followed by basic skills and problem-solving skills (Figure 18). With regards to the current level of skills in Occupation 2, firms ranked basic skills highest, followed by resource management and problem-solving skills (Figure 18).

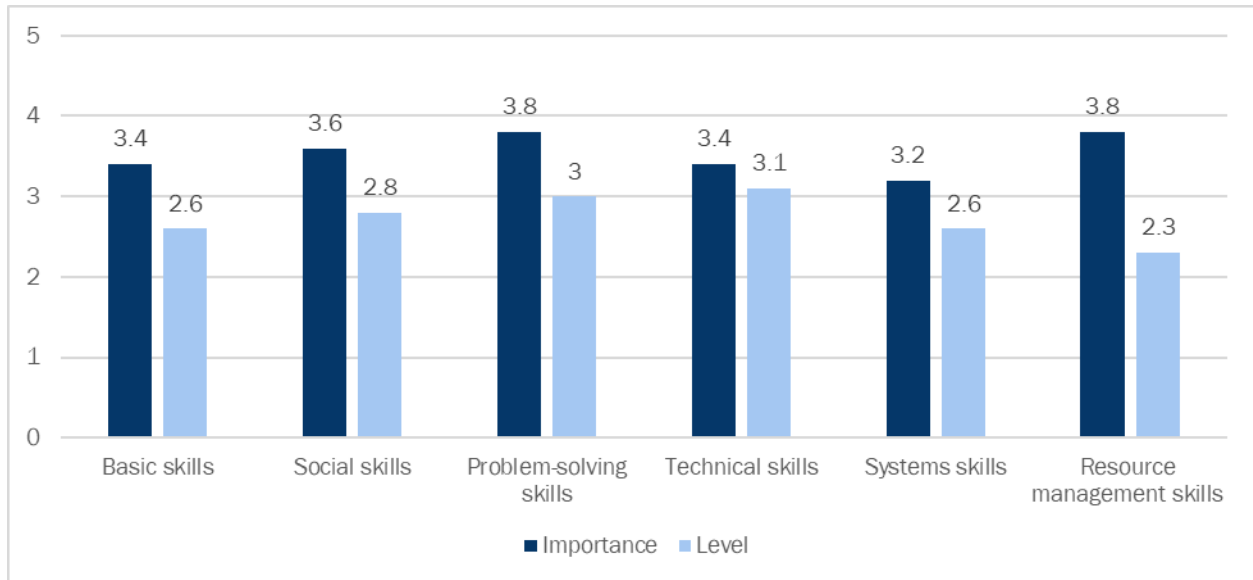
Figure 16: Importance and level of occupation 2 (agro-processing)

Source: Authors' calculations.

For the last occupational classification (Occupation 3), the most important skills identified are resource management and problem-solving skills (Figure 19). In terms of the current skill levels of jobs in

occupation 3, problem solving is the most important (Figure 19). Thus, overall, we observe that three skills are considered very important to firms in the agro-processing sector: basic skills, problem-solving skills, and resources management skills. The current levels of these skills are again considered quite high or very important.

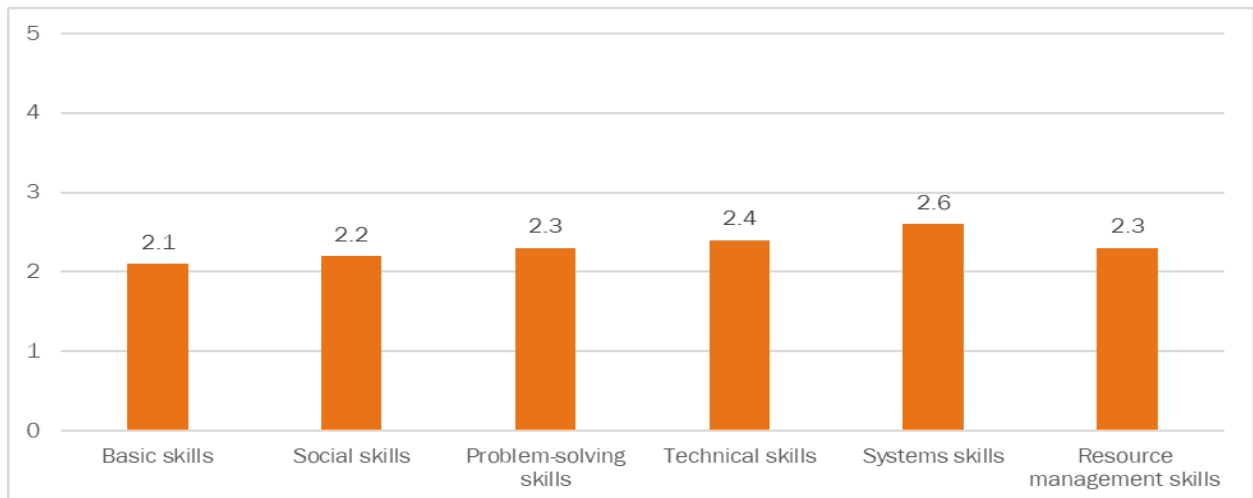
Figure 17: Importance and level of occupation 3 (agro-processing)



Source: Authors' calculations.

In Figure 20, we present the skill deficits¹¹ for the three different skill types, which indicates that basic skills and social skills of youth workers generally met the requirement of agro-processing firms. However, systems skills did not meet the requirement of agro-processing firms.

Figure 18: Skills deficit (agro-processing)



Source: Authors' calculations.

¹¹ Respondents were asked to rank the skill deficits from 1 to 5; 1=meets requirement and 5=does not meet skill requirements

6.1.2 Tourism

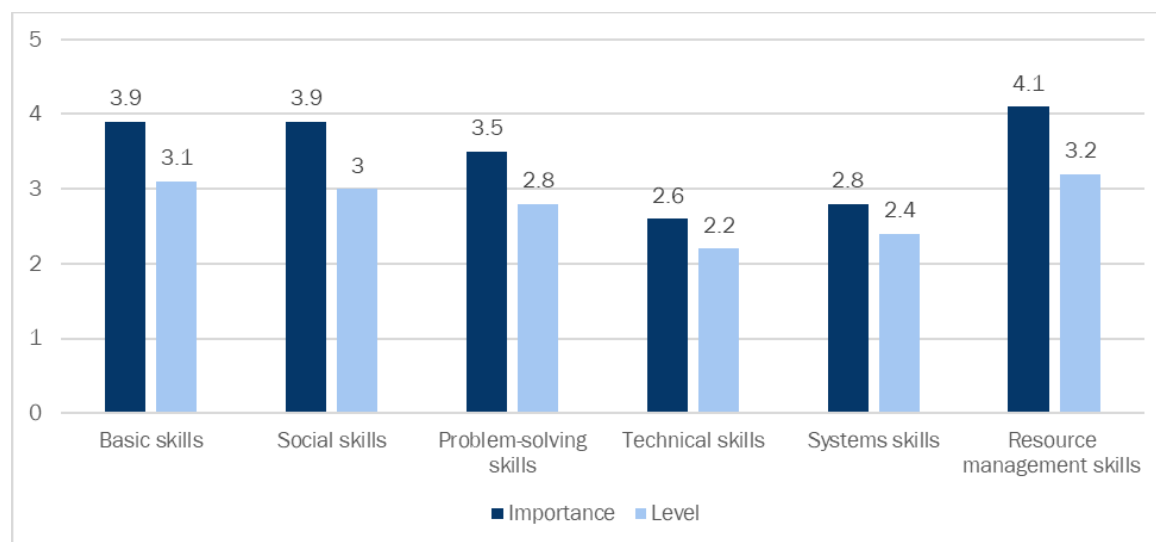
With regards to tourism, job classifications within Occupation 1 include administrative workers, waitresses, security staff, kitchen cook/support staff, stewards, and technical staff (Table 26). For Occupation 2, the jobs include kitchen cook/support staff, front desk, technical staff, drivers/mechanics, gardeners, and housekeepers. Finally, for Occupation 3, the jobs include gardeners, administrative jobs, unskilled workers, and cleaners.

Table 26: Main occupations of the youth (tourism)

Hotels/Restaurants	
Occupation 1	Administrative workers Waitress Security staff Kitchen cook/support staff Stewards Technical staff
Occupation 2	Kitchen cook/support staff Front desk Technical staff Drivers/mechanics Gardeners Housekeeping
Occupation 3	Gardeners Administration Unskilled workers Cleaners

When firms were asked to identify the most important skills of youth workers in the tourism sector, resource management skills, basic skills, and social skills were considered the most important skills for Occupation 1 (Figure 21). These same skills were ranked highest when firms were asked to indicate the current skill level for youth workers (Figure 22).

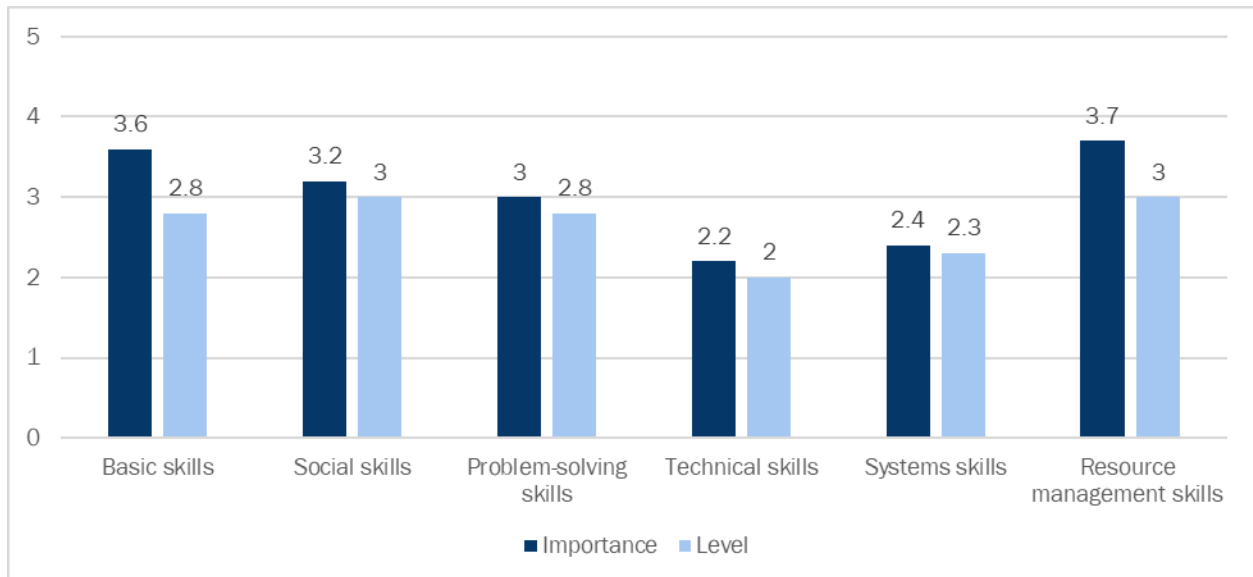
Figure 19: Importance and level of occupation 1 (tourism)



Source: Authors' calculations.

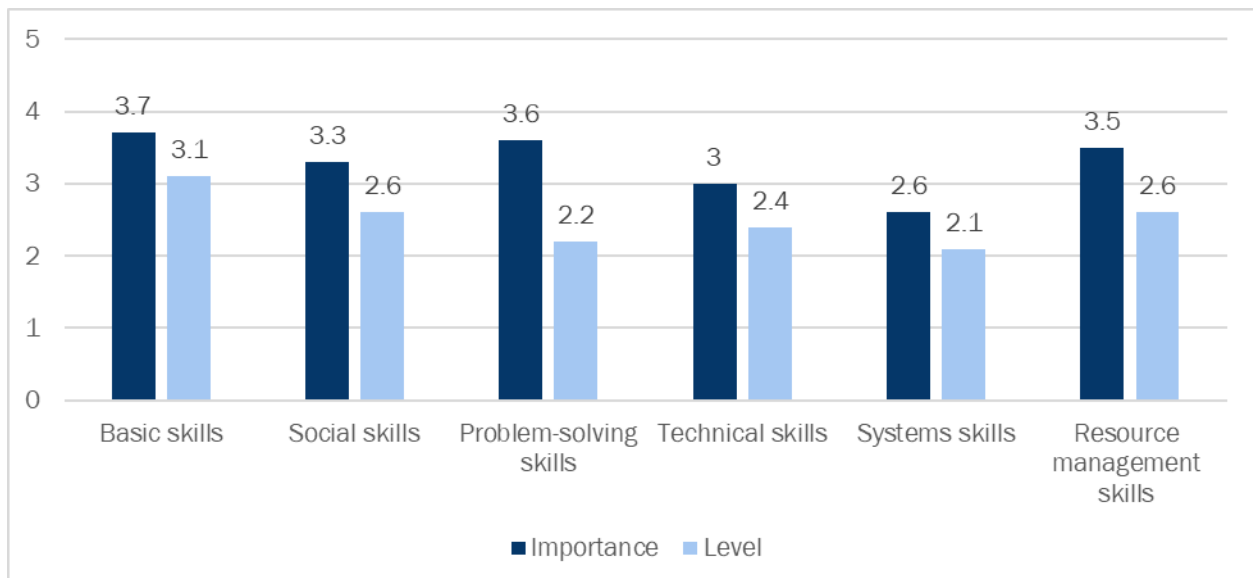
Regarding Occupation 2, we again observe a similar trend with resource management skills, basic skills, and social skills dominating in terms of both the most important skill and the current level within the workforce of firms surveyed (Figure 22). We observe some slight difference for occupation 3, where problem-solving skills emerge as the second most important skill (Figure 23). In terms of the current levels of the skills, basic skills, and technical skills were ranked highest (Figure 23).

Figure 20: Importance and level of occupation 2 (tourism)



Source: Authors' calculations.

Figure 21: Importance and level of occupation 3 (tourism)

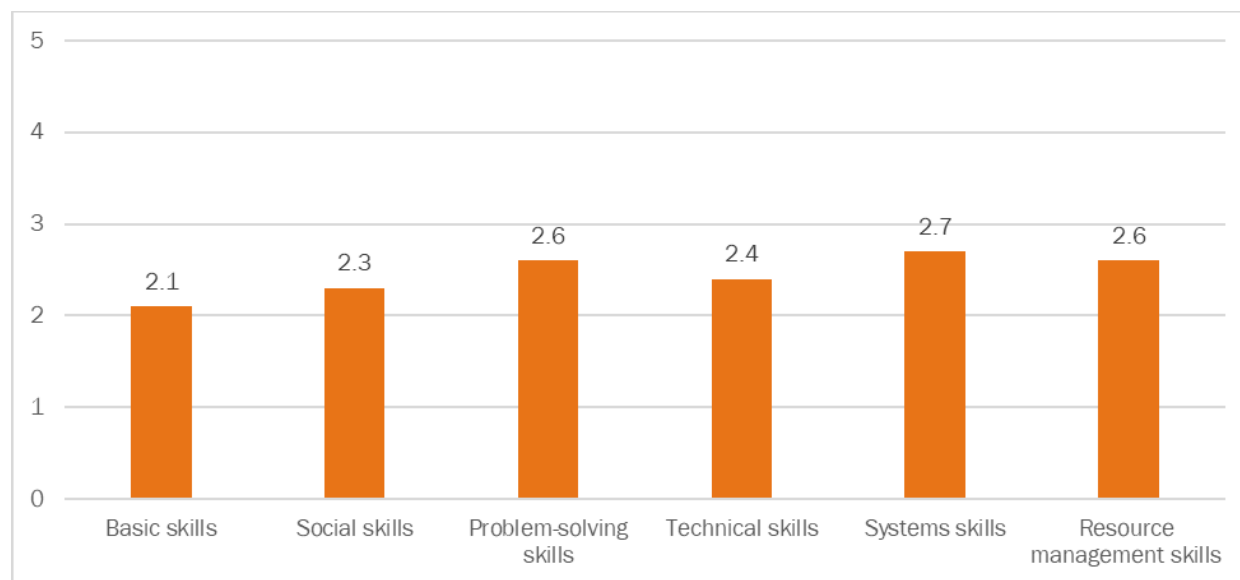


Source: Authors' calculations.

Like firms in the agro-processing sector, firms in the tourism sector indicated that the basic skills of youth workers met their requirements (Figure 24). Basic skills were followed closely by social skills,

technical skills, problem-solving skills, and resource management skills. Systems skills of youth workers fall short of the requirement of firms in the tourism sector.

Figure 22: Skills deficit (tourism)



Source: Authors' calculations.

6.2 Digital skills

In a further probe into whether any of the three categories of jobs required digital skills, about 85 percent of the firms answered in the affirmative. For instance, the digital skills identified by firms in the agro-processing sector include data management and analytics, production management, mobile transactions, and social selling. For tourism, digital skills identified include online communication and mobile transactions.

6.3 Future occupational and skill needs

The employability of young people requires that they be trained in areas that are crucial to support industry. Consequently, we sought to identify future occupational, and skill needs of youth workers in agro-processing and tourism sectors in Ghana by asking firms about their medium- and long-term plans for expansion/growth. Firms were further asked to provide reasons to support each of their responses.

For most agro-processing firms, plans for expansion/growth is in the medium term (73.33 percent) (Table 27). Examples of such medium-term expansion plans include an increase in the size of the factory floors, the commencement of production in other countries, introduction of another line of production, ownership of a farm, and the export of products to more countries. A few, however, had long-term plans for similar reasons.

Table 27: Future plans for expansion (agro-processing)

Agro-processing	
Medium term	%
Yes	73.3
No	26.7
Long term	
Yes	70.0
No	30.0

Of the firms that did not have any plan of expansion (whether medium or long term), the main reasons cited include the exhaustion of production limit and a focus on growing the firm's existing reputation. At the same time, agro-processing firms were optimistic that they were likely to employ more young workers, should their business expansion plans be realized (Table 28). More importantly, the highest educational attainment levels of these workers are likely to be those with secondary education (per the analysis above).

Table 28: Number of additional youth employees (agro-processing)

	Occupation 1	Occupation 2	Occupation 3
Pre-secondary	10	2	0
Secondary	25	1	0
Post-secondary	9	5	1
Degree	4	1	0
Postgraduate	1	0	0

Unlike firms in the agro-processing sector, most firms in the tourism sector did not show much interest in future expansion/growth (either in the medium or short term) (Table 29). The few that hinted of an expansion wanted to integrate business operations vertically. Others had plans to open more branches. Most firms in the tourism sector are also likely to employ more young workers that have at least secondary education should their business expansion plans materialize (Table 30).

Table 29: Future plans for expansion (tourism)

Tourism	
Medium term	%
Yes	46.6
No	53.3
Long term	
Yes	40.0
No	60.0

Table 30: Number of additional youth employees (tourism)

	Occupation 1	Occupation 2	Occupation 3
Pre-secondary	0	0	1
Secondary	4	5	0
Post-secondary	1	3	0
Degree	1	0	3
Postgraduate	0	0	1

6.4 Business environment

To cross-check the constraints to IWOSS sectors as identified and discussed under Section 4 using anecdotal evidence as well as the doing business indicators of the World Bank, the survey asked the firms to indicate the business environment variables that were major obstacles to their current operations. Specifically, firms were to select three of the business environment variables and rank them from 1-3, with 1 representing the variable considered as the most important obstacle and 3 representing the variable of least importance.

6.4.1 Agro-processing firms

Table 31, which presents results for firms in the agro-processing sector, reveal that 50.0 percent of the surveyed firms access to credit (50.0 percent) constitutes their greatest obstacle. The second major obstacle is electricity supply (42.8 percent), and the third is practices of informal competitors (28.6 percent). For us to precisely measure the incidence of the obstacles, we computed a severity index. The results for agro-processing firms are presented in Table 32. Again, electricity supply constitutes the most significant obstacle, followed by access to credit and practices of informal competitors.

Table 31: Obstacles to doing business (agro-processing firms)

Major obstacle 1	%	Major obstacle 2	%	Major obstacle 3	%
Access to credit	50.0	Electricity supply	42.8	Practices of informal Competitors	28.6
Electricity supply	14.3	Access to credit	14.3	Competition from imports	21.4
Tax rates, policies, and administration	14.3	Business licensing and permit acquisition	7.1	Customs and trade restrictions	21.4
Access to land	7.1	Marketing	7.1	Tax rates, policies, and administration	14.3
Custom and trade regulations	7.1	Political instability/politics	7.1	Business licensing and permit acquisition	7.1
Uncertainty about government Industrial policies	7.1	Tax rates, policies, and administration	7.1	Electricity supply	7.1
		Practices of informal competitors	7.1		

Table 32: Severity Index (SI) of business obstacles (agro-processing firms)

Obstacle to agro-processing	SI
Electricity supply	0.8
Access to credit	0.6
Practices of informal competitors	0.6
Customs and trade regulations	0.5
Tax rates, policies, and administration	0.4
Competition from imports	0.4
Business licensing and permits acquisition	0.2
Political instability	0.2
Access to land	0.0
Uncertainty about government industrial policies	0.0
Corruption	0.0
Court delays	0.0
Crime, theft, and disorders	0.0
Labor regulations	0.0
Inadequately skilled labor	0.0
Transport	0.0

6.4.2 Tourism firms

Firms in the tourism sector report that the greatest obstacle to doing business is electricity supply (40.0 percent), business licensing and permit acquisition (20.0 percent) and tax rates, policies, and administration (20.0 percent) (Table 33). Similarly, results from the severity index showed that tax rates, policies and administration, access to credit and electricity supply constitute the greatest obstacles (Table 34).

Table 33: Obstacles to doing business (firms in tourism)

Major obstacle 1	%	Major obstacle 2	%	Major obstacle 3	%
Electricity supply	40.0	Business licensing and permit acquisition	20.0	Tax rates, policies, and administration	20.0
Access to credit	30.0	Electricity supply	20.0	Access to credit	10.0
Tax rates, policies, and administration	20.0	Tax rates, policies and administration	10.0	Corruption	10.0
Access to land	10.0	Access to credit	10.0	Customs and trade restrictions	10.0
		Corruption	10.0	Inadequately skilled labor	10.0
		Crime, theft, and disorders	10.0	Labor regulations	10.0
		Practices of informal competitors	10.0	Political instability	10.0
		Uncertainty about government industrial policies	10.0	Uncertainty about government industrial policies	10.0
				Transportation	10.0

Table 34: Severity Index (SI) of business obstacles (firms in tourism)

Obstacles to tourism	SI
Tax rates, policies, and administration	0.4
Access to credit	0.3
Electricity supply	0.3
Corruption	0.2
Uncertainty about government industrial policies	0.2
Business licensing and permits acquisition	0.2
Customs & trade regulations	0.1
Labor regulations	0.1
Inadequately skilled labor	0.1
Political instability	0.1
Transport	0.1
Crime, theft and disorders	0.1
Practices of informal competitors	0.1
Access to land	0.0
Court delays	0.0
Competition from imports	0.0

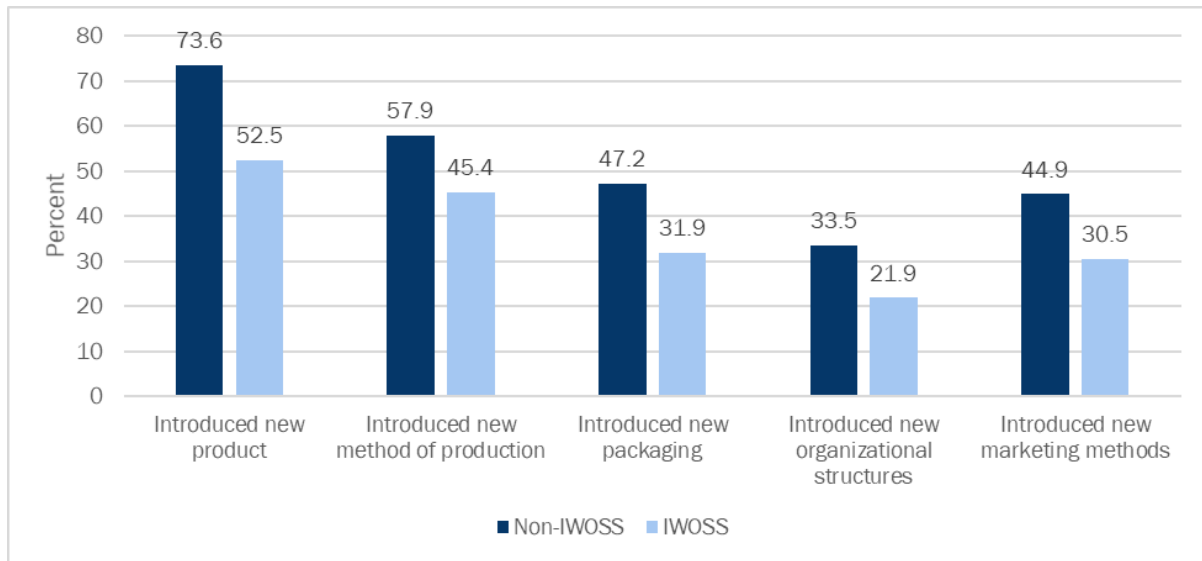
6.5 Innovation and technology

To answer our research questions concerning innovation and technology and how they differed when comparing IWOSS and non-IWOSS, we relied on the r4d data from the Department of Economics of the University of Ghana. The data was an enterprise survey of manufacturing and services firms for the project “Employment Effects of Different Development Policy Instruments in Ghana,” conducted by the Department of Economics, University of Ghana, in collaboration with the Swiss Programme for Research on Global Issues for Development and the World Trade Institute at Bern. A stratified random sampling technique was used to select a representative sample of firms of both the Association of Ghana Industries (AGI) as well as the institution that oversees the activities of Micro and Small firms in Ghana (NBSSI). This section of the report relies on two modules of the data: the technology and innovation module as well as the exports module.

The survey was conducted in two phases. The first phase was between July and September 2015, for which 428 firms responded out of 600 (response rate was approximately 71 percent). The second phase was between August and September 2016 for the 428 already surveyed firms, out of which 375 responded (response rate was approximately 88 percent). Table A4 in the appendix presents the distribution of the firms by firm size and location. Generally, about 56 percent of the firms were small-sized firms, 22 percent were medium-sized firms, and 21 percent were large-sized firms. Most of the firms were in Accra.

With regards to technology and innovation, the firms were asked several questions related to technological innovation and their use of various technology-related variables. For our analyses, firms were classified as IWOSS and non-IWOSS firms. In all, we found non-IWOSS firms to dominate most of the technological innovation questions. As shown in Figure 25, a higher proportion of non-IWOSS firms compared to IWOSS firms introduced new products (73.6 percent), new methods of production (57.9 percent), new packing (47.2 percent), new organizational structures (33.5 percent), and new marketing methods (44.9 percent).

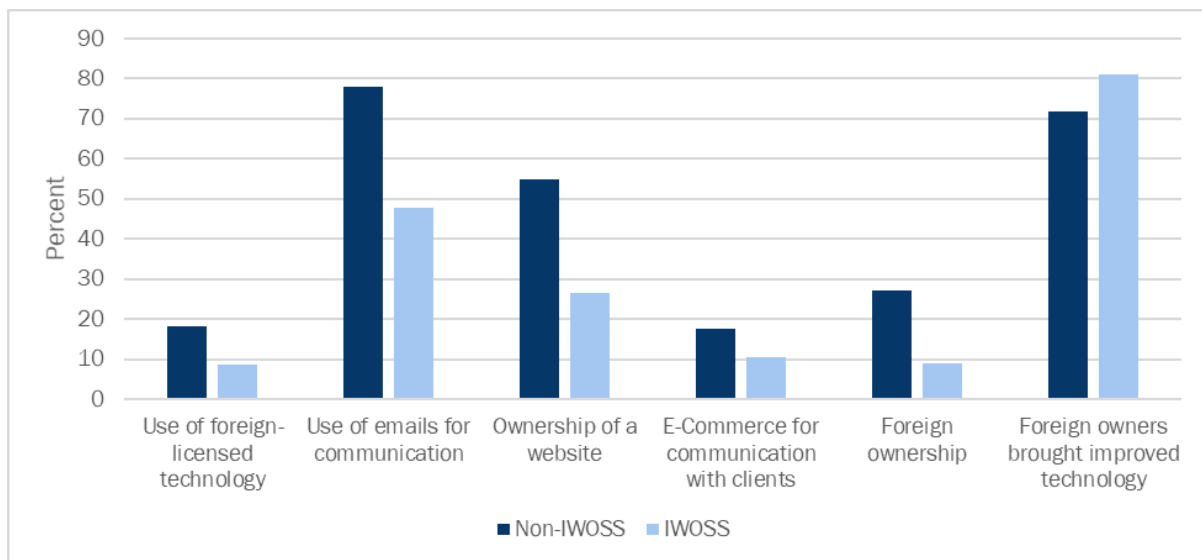
Figure 23: Types of innovation by firm (% of firms surveyed)



Source: Authors' calculations based on r4d Enterprise Survey - Ghana (2015).

With regard to the technology-related variables (with the exception of the use of foreign-owner bringing improved technologies), Figure 26 shows evidence that a lower proportion of IWOSS firms indicated that they made use of various platforms of technology compared to non-IWOSS firms. Indeed, the survey results show that 18.2 percent of non-IWOSS firms used foreign licensed technologies (compared to 8.6 percent of IWOSS), 78 percent used emails for communication with clients (compared to 47.6 percent of IWOSS), and 54.7 percent owned active websites (compared to 26.4 percent of IWOSS). In response to whether the firm had used e-commerce for communication and if its technology was foreign-owned, 17.6 percent and 27 percent respectively of non-IWOSS responded in the affirmative, compared to a lower proportion of IWOSS firms (corresponding percentage of 10.4 and 8.9 respectively).

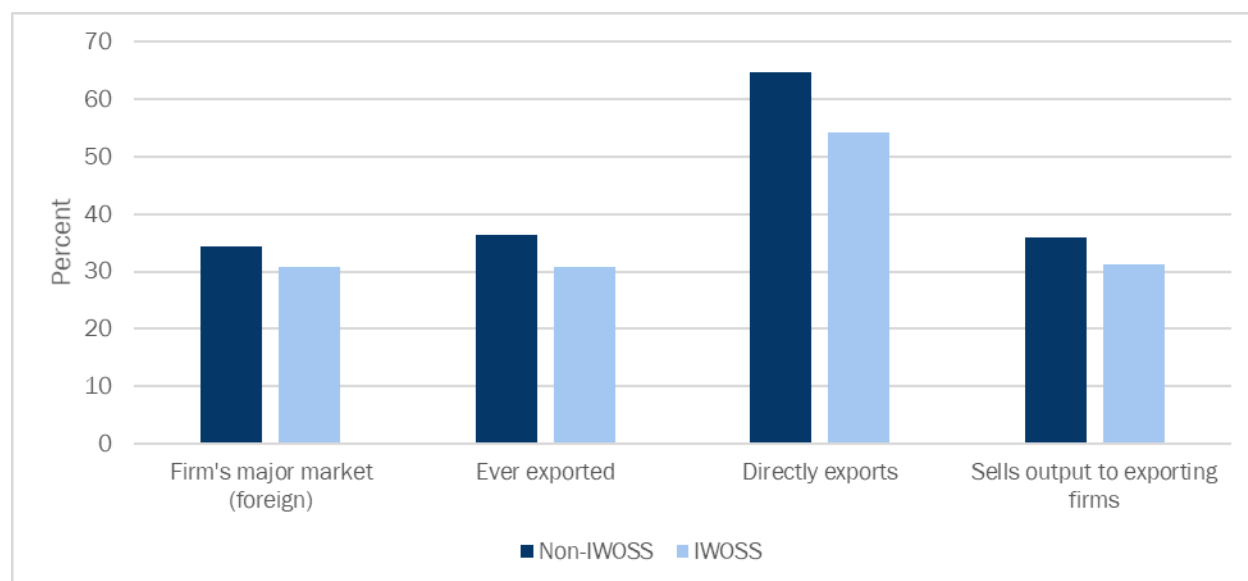
Figure 24: Type of technology adopted by firms (% of firms surveyed)



Source: Authors' calculations based on r4d Enterprise Survey - Ghana (2015).

For exporting, a marginally lower share of IWOSS firms were active in the international markets as compared to non-IWOSS firms. As evident in Figure 28, about 3 out of every 10 IWOSS firms were exporting to foreign markets (30.9 percent) or had ever exported (30.8 percent). Of those that were exporting, over 50 percent were directly exporting (54.2 percent) and close to a third selling to exporting firms (31.3 percent). In all these instances, the non-IWOSS firms had a greater proportion exporting to foreign markets (34.4 percent); ever exported (36.4 percent), with 64.8 percent of exporters directly exporting and 36 percent of non-IWOSS firms selling to other exporting firms.

Figure 25: Exporting behavior of firms (% of firms surveyed)



Source: Authors' calculations based on r4d Enterprise Survey - Ghana (2015).

7. Policy implications: Unlocking growth potential and overcoming skill gaps

7.1 Measures to ensure rapid overall growth

Evidently, there exists enormous potential for growth with attendant employment generation prospects in the selected IWOSS sectors (agro-processing and tourism) in Ghana. Given the country's youthful population and the need to diversify the economy away from mineral dependence through industrial transformation with enhanced usage of technology and digitization. Industries without smokestacks, based on their shared characteristics with traditional manufacturing, offer an important alternative in a multifaceted framework towards structural transformation, generation of productive jobs, and economic development.

Ghana has already begun to implement several policy initiatives to enhance the development of the IWOSS sectors of agro-processing and tourism. Indeed, the government of Ghana's policy directives for these sectors point to the fact that they are viewed as avenues for growth and employment due to the intensive use of low- to medium-skilled labor abundant in the unemployed youth pool in the country. The agro-processing and tourism sectors have been strategically targeted under government flagship industrial transformation program. Specifically, on agro-processing, the recent "One District

One Factory” initiative is one such policy that focuses on higher value addition along the agriculture value chain for import substitution and exports. The objective of the policy is to create employment for the youth in rural and peri-urban communities in the country. In the tourism sector, the success of the “Year of Return” campaign in 2019 that sought to market Ghana as a tourism destination with Trans-Atlantic trade appeal and its immediate impact of an increase in the number of tourists is an indication of the potential inherent in the sector in Ghana.

Despite modest growth observed in the IWOSS sectors in Ghana in recent times, challenges exist that prevent the IWOSS sectors from operating at their maximum potential. Overall, constraints identified in agro-processing and tourism sectors include lack of skilled labor, lack of credit facilities, inadequate infrastructure, cost of electricity, limited capacity to export unfriendly regulatory environment. Specific constraints identified in the limited survey conducted by this study indicates that skill gaps including in systems skills, technical skills, and problem-solving skills are predominant in the IWOSS firms we surveyed.

Ghana has been implementing policy reforms aimed at training young people to obtain the skills required to be productive in all sectors of the economy. Principal among these reforms was the 1987 educational reform which sought to, among other things, de-emphasize the grammar-school type education at the time and introduce technical and vocational education (TVET) training as part of primary and secondary school curricula. Subsequently, access to education improved, but the quality of education at all levels remained unchanged (World Bank, 2014). Although several other interventions have been undertaken by the government to improve access and quality of education in the country over time, challenges of the educational system persist in access and quality of graduates. Consequently, in 2017, the government of Ghana launched the Free Senior High School Program (FSHSP) for public senior high schools aimed at providing equitable access and quality education to improving the human capital base of the country. This policy was informed by the need for an educated workforce that supports the diversification and structural transformation for growth and development of the country.

Although efforts to increase the proportion of the population with secondary education is important for developing human capital, the development of skills is what is critical to industry, especially for IWOSS where skill deficiencies are a major bottleneck. As a result, the government must prioritize and increase enrollment into TVET for hands-on employable skills in order to support growth and provide a pathway for sustainable employment for young people. In addition, like manufacturing, IWOSS sector growth and development hinges on technology and the capability of firms to produce and upgrade output depends on the ability of their workforce to learn and master new technology.

The government has to re-think industrial policy and the establishment of industrial parks to promote manufacturing by providing the needed infrastructure to support firms to grow and move into new markets, but more importantly, special economic zones are also critical for IWOSS sectors, especially for those in agro-processing. The establishment of industrial parks based on the positive spill-over effects and upstream and downstream linkages associated with clustering and agglomeration, is acknowledged in the agglomeration literature to be essential for industrial development. Support to the private sector by the Ghana Free Zones Authority and Ghana Investment Promotion Centre for the establishment of Industrial Park infrastructure and special economic zones is anchored on such potential benefits. However, due to challenges with installing the appropriate infrastructure, the benefits are yet to be fully realized. In addition, the establishment of a factory in every district will not

promote agglomeration with its accompanying synergies and positive externalities in the industrial space of the country.

Overall, infrastructure, a critical component of any attempt at industrialization, must be strategically developed to facilitate the diversification drive in the country. As recently indicated by the Ghana Institution of Engineers, Ghana's roads and bridges, electric power, and potable water infrastructure systems or networks are generally considered to be in poor to fair condition. Indeed, the success of countries that have been able to diversify and industrialize is often attributed to heavy investment in basic infrastructure that supports manufacturing and, as IWOSS shares characteristics with manufacturing, their effective functioning depends critically on the infrastructural base in the country.

One other important observation of the selected IWOSS in Ghana is that their activities are not well-advanced and have a relatively low degree of value addition by all firms at various stages. While these characteristics might be attributed to the relatively small sizes of the firms in this space, their underdeveloped processes, and overdependence on exports of primary products, some other causal factors exist. For instance, the downstream of the agro-processing value chain is constrained by the lack of proper contractual relationships, thereby contributing to the unreliable supply of inputs. In addition, there is limited long-term access to financial services for supporting downstream activities of the agro-processing sector. The tourism value chain has weak linkages to other sectors of the economy. Firms in the sector also have inadequate financial services/incentives to encourage locals to participate or patronize their activities.

Thus, in addressing the above-mentioned challenges, policymakers should consider programs to provide long-term financing to support the value chains of these IWOSS sectors and upgrade them. Also, there should be some attempt at enhancing linkages between the IWOSS sectors and other sectors of the economy. One example might be a tourism plan that seeks to use local agricultural produce, which could enhance local participation in the tourism sector. Also, a policy that incentivizes Ghanaians to purchase local products from the agro-processing sector will be critical in enhancing such linkages.

Similarly, actors in both sectors must enhance their operations by leveraging the opportunities that exist in innovation and digitization. Typical non-IWOSS sectors were observed to perform better at the exports market, but innovation and digitization provide various opportunities for the agro-processing and tourism sectors to enhance their productivity and general operations. In countries where agro-processing and tourism have been important contributors to growth, digital technologies have been important in enhancing operations—specifically with respect to various trade-related aspects of their operations. Initiatives to encourage and promote innovation and digitization need to be supported by the government, and, in the case of Ghana, both IWOSS sectors have already been identified to receive priority in the current national innovation and digitization strategy.

7.2 Measures to realize the potential of the IWOSS sectors

Based on our review of the literature, and analysis of secondary and primary data, the IWOSS sectors in Ghana face several challenges that impede their productivity, competitiveness, and overall growth. For the agro-processing sector, we find that regular electricity supply, access to credit, practices of informal competitors and customs and trade regulations are the major obstacles faced by firms. For tourism, the main obstacles to doing business include tax regulations (including rate, relevant policies, and administration), access to credit, and electricity supply. Consequently, a comprehensive effort at addressing these specific challenges to improve the business environment to develop industries

without smokestacks in addition to traditional manufacturing in a multipronged approach for achieving structural transformation and inclusive growth in the country is called for.

In this regard, it is important to note that several policy initiatives have been pursued in recent times towards addressing some of the obstacles identified. The pace has been slow though, and benefits are yet to accrue to firms with an overall impact on the drive for diversification and growth.

For agro-processing, several business regulatory reforms have been introduced to reduce the cost of doing business, improve the competitiveness of local firms, make business environment efficiently regulated and transparent, as well as make Ghana an attractive destination for foreign investments. In an attempt to address the financial needs of local firms, the government has recently set up a National Development Bank to establish an incentive-based risk-sharing arrangement for agricultural lending, strengthen the Venture Capital Fund, and also establish a Ghana Commodity Exchange. In addition, the government of Ghana, together with the banking community, is planning to launch a GHS2 billion credit and guarantee scheme by the end of 2020. This initiative (although now part of the COVID-19 stimulus package) is structured to incentivize banks to lend to the private sector at discounted rates and is targeted at specific industries such as agri-business, hospitality, and tourism, among others. In recent times, the government has also shown commitment towards strengthening the Ghana Infrastructure Investment Fund by actively leveraging innovative sources of finance to address various infrastructural challenges in the country with a specific interest in infrastructure related to production and trade. For tourism, various programs exist under the National Tourism Development Project aimed at addressing business environment challenges by uplifting several tourists' sites, ensuring quality in service delivery, and encouraging private participation.

8. Conclusion

This report presents Ghana's case study on "industries without smokestacks" (IWOSS) in Africa. The main premise is grounded on the empirical observation that Ghana has had a trajectory of jobless growth against the backdrop of poor performance in the manufacturing sector and propelled by a low productivity services sector. Thus, there is a need to refocus the country's attention towards identifying and supporting sectors with greater employment potential. Such a refocus is critical for dealing with the jobless growth issue while charting a new course to exploring alternative development strategies instead of relying exclusively on manufacturing and mineral exports. The specific IWOSS sectors identified for Ghana in this paper, based on their characteristics and the unique nature of Ghana's development challenges, are agro-processing and tourism.

In this paper, we make use of a mixed-method approach by, first, reviewing policies and interventions in selected IWOSS sectors; second, using secondary data to draw a comparison between IWOSS and non-IWOSS sectors; and finally, complement findings based on the secondary data with a survey (case study) of selected agro-processing and tourism firms. Findings subsequently indicate that, despite modest successes observed in the IWOSS sectors in the country in recent times, several challenges still persist that prevent IWOSS sectors from operating at their maximum potential.

This study finds that the agro-processing and tourism sectors have several characteristics that can be relied on as an alternative development strategy for Ghana, including the recently improved regulatory environment, medium- to long-term policies aimed at enhancing economic growth, and the potential of the two sectors to rely on the large unemployed labor force because of their labor-intensive nature as well as export capacity. Some of the policies intended to promote agro-processing include the

National Industrial Revitalization Program; One District-One Factory project; Strategic Anchor Industries, and industrial parks and special economic zones. For tourism, some of the specific policies are captured in the National Tourism Development Plan (2013-2027) and programs such as the Marine Drive Tourism Investment Project, a program to commemorate 400 years of slavery (the Year of Return) and the “See Ghana, Eat Ghana, Wear Ghana, Feel Ghana” campaign. The government expects these projects to be instrumental in redirecting attention to the two sectors.

In terms of identifying business skills, and following the O*NETs classification of skills, some skill gaps were observed for both the agro-processing and tourism sectors. More specifically, much-needed systems, technical, and problem-solving skills appear to be lacking, while basic, as well as resource management skills, are relatively abundant. Some other business environment obstacles were found in both sectors. For agro-processing, access to credit, electricity supply, and practices of informal competitors are the main obstacles; while for tourism, electricity supply, business licensing and permit acquisition, and tax rates, policies, and administration were cited.

Based on the findings of the report, the following conclusions are made. First, we establish that supporting the agro-processing and tourism sectors can be critical in addressing the country’s jobless growth challenges and can serve as a viable alternative development strategy. Second, the agro-processing and tourism sectors are typically labor intensive, and there is a large group of individuals with at least secondary education in the unemployed pool that can be relied on to develop the sectors. Third, while the technologies used by agro-processing and tourism are also labor intensive, some complementary digitalization will be needed to enhance their relevance to the changing nature of work globally. Fourth, even though typical non-IWOSS sectors such as traditional manufacturing have had high growth and exporting potential, the increasing contribution of IWOSS sector to employment generation will be indispensable to addressing Ghana’s jobless growth situation.

Finally, while recent generic policies initiated to promote and shape the agro-processing and tourism sectors are a step in the right direction, a more specific effort is required to address the issues of access to credit, gaps in infrastructure at important tourist sites as well as those for agro-processing and minimizing the over-regulation of the sector will be critical. These efforts must be complemented with various incentives to local firms as well as institutional arrangements to increase local demand. Finally, there is a need to increase human resource capacity to enhance efficiency in both sectors.

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Appendix A: The employment and growth opportunities in Ghana's tourism sector: A case report of the Elmina Castle

Ghana has three castles and 30 forts spread mainly along the coastal regions of Ghana (see Appendix Table B1). The forts and castles are European-style fortified trading posts that were built in the coastal areas of the Gold Coast between 1482 and 1786. They were mostly built and used by not only the Portuguese, Dutch, and British, but were also occupied by traders from Spain, Denmark, Sweden, Holland, and Germany. Their main purpose was to facilitate pre-colonial Afro-European trade activities but later became instrumental in the slave trade. The forts and castles are a vital part of the history of Ghana, having lasting implications on aspects of day-to-day life such as religion, government administration, health care, the judiciary, and architecture. They signify the dynamic history of centuries of European-African encounters and the beginning of the African diaspora. The forts and castles have become very rich sites as tourist attractions and custody for Ghana's history, appealing to visitors from Ghana and foreigners alike. Under the National Monuments Instrument, EI 42, 1972, they serve as avenues for both direct and indirect employment for the youth.

The Elmina Castle is located at Elmina, a fishing community of about 33,573 people (per the 2010 Population and Housing Census), at the Central Region of Ghana. The castle is situated on the bay of the Atlantic Ocean and was constructed in 1482 and named as "*Castelo de Sao Jorge da Mina*" by the Portuguese. Recognized as one of the UNESCO World Heritage Sites, the Castle occupies a floor of about 91,000 sq. foot and is the largest of famous Castles in Ghana. Being the first slave trading post built in the Gulf of Guinea and one of the oldest European building in sub-Saharan Africa, it is a popular tourist site for many foreign nationals and Ghanaian nationals. The castle has many rooms, structures, drawings, and scenes that depict the ordeals of Ghanaian ancestors and give tourists a close feeling and understanding of the slave trade in Ghana and Africa more broadly. The Elmina Castle attracts tens of thousands of visitors every year, mostly local nationals. Statistics from the Ghana Tourism Authority suggests that about 29,765 local nationals visited the Elmina Castle as of 2015; of foreign nationals, 11,206 visited the castle, looking to reconnect with their family heritage.

Aside from the typical administrative staff that handle bookings, collection of funds, tour guides (including historians), security men, janitors and record keepers, the Elmina Castle serves as a source of employment for many youths. These jobs are in the form of food vendors, arts, and craft producers as well as workers at various hotels and restaurants (i.e., accommodation and food service sub-sectors of tourism). There are also popular "dance-ensembles" by the different youth associations that display the rich culture of the people of Elmina and perform at the Elmina Castle on festive occasions. In particular, during the annual "Bakatue" festival that is celebrated by the Chiefs and people of Elmina, these job opportunities can increase significantly as most visitors plan their trips around the time of the festival. It is important to mention that some of these jobs are taken up by the youth in neighboring communities, including Cape Coast.

Figure 26: The Elmina Castle and Township



Source: Elmina Castle (2019). *Elmina Castle Info*. Ghana-Net.com. Accessed July 15, 2020. [http:// http://elminacastle.info/elmina-castle-plan.html](http://http://elminacastle.info/elmina-castle-plan.html)

Although employment statistics at Elmina are difficult to find, anecdotal evidence suggests that jobs directly related to the Elmina Castle provide employment for close to about 40 percent of the youth in the locality during festive occasions.

There are also some other indirect jobs, mostly related to fishing, that blossom when tourism activities peak up. Tourists that visit Elmina patronize services such as transportation, health, banking, telecommunications, and photography that are often employment ventures for the youth.

Elmina Castle offers a good source of recreation and is one of the most patronized excursion centers in the country. One interesting feature that travel and tour firms that operate around the Elmina Castle offer their clients is a promotion that allows them to visit other nearby tourist sites such as the Kakum National Park, the Cape Coast Castle, and the Hans Cottage Crocodile pond at Cape Coast. All these activities offer viable employment for the youth. There are several growth and employment prospects for the youth in and around the Elmina Castle too.

Moreover, the castle will undergo an upgrade in 2020 through the Ghana Tourism Development Project (TDP); a World Bank-funded project that seeks to improve upon the performance of tourism in targeted destinations in Ghana. This upgrade will be complemented by some skills development training to ensure the youth are able to take up tourism-related jobs, and other attempts to market unexploited sites that are of historical significance properly.

Specifically, for Elmina, this project will improve upon economic activities and discourage the brain-drain of the youth with good education. Indeed, the Elmina area has often been noted for its under-developed economic activities and the brain-drain of the citizens with good education. The main

economic activity in Elmina is fishing and salt winning; both of which are not properly developed. These new developments are, therefore, expected to increase economic activities in Elmina and enhance notable linkages within the hospitality industry. Some industries that have mutually beneficial value chains and linkages with the Elmina Castle as well as other tourism-related activities include fashion and design, culture and creative arts, building and construction, entertainment, health, food and agriculture, security, energy, and sanitation, etc. There are some other sites of historical significance at Elmina that have not been adequately explored but have the potential to increase economic activities and provide employment for the youth. These include the Asafo posts, traditional shrines, and remnants from the Dutch period such as the Dutch Cemetery, merchant houses, and Government Garden.¹²

¹² Elmina Castle (2019). *Elmina Castle Info*. Ghana-Net.com. Accessed July 15, 2020. [http:// http://elminacastle.info/elmina-castle-plan.html](http://elminacastle.info/elmina-castle-plan.html)

Appendix B: Tables

Table B1: Lists of castles and forts in Ghana

A. WESTERN REGION	C. GREATER ACCRA REGION
Fort St. Anthony at Axim	Christiansborg Castle at Osu, Accra
Fort Dorothea at Akwida	Ussher Fort, Ussher Town, Accra
Fort Batenstein at Butre	James Fort at Jamestown, Accra
Fort St. Sebastian at Shama	Fort Augustaborg at Teshie
Fort Apollonia at Beyin	Fort Vernon, near Prampram
Fort Gross Friedrichsburg at Princesstown	
Fort Metal Cross at Dixcove	D. EASTERN REGION
Fort Orange at Sekondi	Fort Fredensborg at Old Ningo
B. CENTRAL REGION	E. VOLTA REGION
Castle of St. George's, Elmina	Fort Prinzensten at Keta
Cape Coast Castle	
Fort St. Jago at Elmina	F. ASHANTI REGION
Fort Victoria at Cape Coast	The Fort at Kumasi.
Fort William at Cape Coast	
Fort Royal at Cape Coast	
Fort McCarthy at Cape Coast	
Fort Amsterdam at Abandzi	
Fort William at Anomabu	
The Little Fort at Anomabu	
The Fort at British Komenda	
Fort Vendenburg, Dutch Komenda	
Fort Patience at Apam	
Fort Nassau at Mouri	
Fort Fredericksburg at Amanful	
The Fort at Tantomquery	
Fort Good Hope at Senya Beraku	

Table B2: Manufacturing labor productivity in 2015

Sector	Number of Persons Engaged	Revenue (GHS)	Labour Productivity
Total manufacturing	570,327	44,996,873,671	78,897
Total IWOSS	349,969	18,188,025,934	51,970
Manufacture of beverages	24,494	3,579,753,874	146,148
Manufacture of food products	96,405	12,322,962,814	127,825
Manufacture of textiles	22,608	776,902,287	34,364
Repair and installation of machinery and equipment	8,060	147,889,547	18,349

Manufacture of wearing apparel	198,402	1,360,517,412	6,857
Total non-IWOSS	220,357	26,808,847,738	121,661
Manufacture of petroleum coke & refined petroleum	1,253	2,729,598,278	2,178,450
Manufacture of electrical equipment	1,622	2,029,464,703	1,251,211
Other manufacturing	7,129	4,587,550,982	643,506
Manufacture of basic metals	6,284	3,800,678,123	604,818
Manufacture of rubber and plastics products	10,053	2,293,134,287	228,104
Manufacture of computer, electronic & optical products	699	111,515,634	159,536
Manufacture of chemicals and chemical products	16,282	2,125,282,865	130,530
Manufacture of paper and paper products	5,026	625,620,588	124,477
Manufacture of other non-metallic mineral products	16,247	1,715,401,499	105,583
Manufacture of pharmaceuticals, medicinal chemical and botanical products	5,431	407,147,567	74,967
Printing and reproduction of recorded media	12,357	722,707,907	58,486
Manufacture of fabricated metal products, except machinery and equipment	51,840	2,698,769,580	52,060
Manufacture of wood and of products of wood and cork, except furniture;	32,889	1,685,479,151	51,248
Manufacture of machinery and equipment	2,421	77,205,788	31,890
Manufacture of leather and related products	14,414	389,516,491	27,023
Manufacture of other transport equipment	332	8,195,238	24,684
Manufacture of furniture	34,527	769,518,641	22,287
Manufacture of motor vehicles, trailers & semi-trailers	1,551	32,060,416	20,671

Source: GSS (2017) Integrated Business Establishment Surveys, 2015.

Table B3: Distribution of Firm Size across Location

	1 st Phase				2 nd Phase			
	Small	Medium	Large	N	Small	Medium	Large	N
Accra	42.3	26.9	30.8	130.0	44.4	25.2	30.4	115.0
Tema	42.2	20.3	37.5	64.0	72.7	25.0	2.3	44.0
Ashanti/Brong Ahafo	61.6	26.3	12.1	99.0	73.3	22.2	4.4	90.0
Central/Western	66.2	16.9	16.9	65.0	72.4	17.2	10.3	58.0
Eastern/Volta	56.5	14.3	5.7	70.0	87.7	10.5	1.8	57.0
N	242	95	91	428	241	76	47	364
%	56.54	22.20	21.26	100	66.21	20.88	12.91	100

Source: r4d Enterprise Survey

Note: N = number of firms; % = percentage of responding firms

Table B4: Service and subsectors contribution to growth (2014-2018)

	2014	2015	2016	2017	2018
SERVICES	5.4	3	2.8	3.3	2.7
Trade; repair of vehicles, household good	2	0.5	-0.4	8.2	2.8
Hotels and restaurants	1.5	4.1	2.3	7.6	3.2
Transport and storage	5.8	2.6	1.1	8.9	1.1
Information and communication	29.7	11.9	5.6	4.2	13.1

Financial and insurance activities	21.4	11.9	8	-17.7	-8.2
Real estate	-0.3	3.1	3.2	3.8	-6.5
Professional, admin. & defense; social security	6.8	1.4	-4.2	2.9	0.3
Public administration & defense; social security	-3.5	-2.6	8.9	4.2	4.3
Education	-0.3	-0.5	2.3	6.3	3.9
Health and social work	2.7	-4.4	4	14.1	22.6
Other services	1.4	2.7	-0.1	5.3	3.1

Source: MoF (Ministry of Finance) (2020).

Table B5: Ghana' exports structure (2019)

Country	Proportion of Exports
Gold	36.0
Petroleum oil	31.0
Cocoa beans	11.0
Cocoa paste	2.4
Manganese ores and concentrates	2.1
Cocoa butter, fat and oil	2.0
Coconuts, brazil nuts and cashew	1.5
Colloidal and precious metals	0.7
Palm oil and its fractions	0.7

Source: Observatory of Economic Complexity (<https://oec.world/en/profile/country/gha>).

Table B6: Education distribution by gender among youth (15-35) (2017)

Educational Level	Male	Female	Both
None	15.0	13.0	17.0
Basic	4.02	39.0	44.0
Secondary	29.0	32.0	27.0
Vocational	2.0	2.0	2.0
Tertiary	11.6	13.0	10.2

Source: Ghana Statistical Service (2017).

Appendix C: Methodology for growth scenarios and projections

The GDP projections were obtained based on historical values and the more recent economic growth targets using the formulae as follows:

$$GDP_t = GDP_{t-1} + (GDP_{t-1} * growth_target)$$

Labor demand was forecast from two household surveys of the Ghana Living Standards Surveys (GLSS 5 in 2012/13 & GLSS 6 in 2016/17). The projections for 2035 were calculated based on adjusted employment elasticities and projected growth in labor productivity:

$$Lab_dd_t = Lab_dd_{t-1} + (Lab_dd_{t-1} * adj_emp_elasticity) + (Lab_dd_{2017} * Lab_dd_growth)$$

To project skills breakdown, we rely on the growth of skills distribution between the two household surveys (GLSS 5 and GLSS 6). This was adjusted by sectoral employment elasticities from the projected employment growth. Skills definitions are based on educational level: high skilled workers are those with post-secondary education; skilled workers have either completed secondary school or at least have some years of secondary education; and low skilled workers have less than a secondary education or no formal education.

Appendix D: Survey instrument

Addressing Africa’s Youth Unemployment through Industries without Smokestacks

The Ghanaian Case Study

The goal of this survey is to gather information for the Brookings Institute’s project that seeks to address Africa’s Youth Unemployment challenge through the creation of large-scale employment opportunities in “**Industries without Smokestacks**”. Industries without smokestacks are defined as industries that are not recognized as traditional manufacturing, but share its economic benefits—that is, tradability, the ability to absorb a large number of moderately skilled workers and provide good wages, as well as display the potential for productivity increases to accelerate structural transformation. Africa has historically struggled to industrialize with traditional manufacturing and industries without smokestacks are alternative sectors they could help push Africa through a pivotal and challenging step in the development process. Ghana’s case study focuses on Tourism and Agro-processing firms. Please note that the information gathered here will help Researchers from the **University of Ghana** to argue from the perspective of Ghana. The information obtained shall be held in the strictest confidentiality, and neither your name nor the name of your business will be used in any document for this survey. This survey is expected to last for about 50 minutes.

Date of Interview	
Name of Interviewer	
Name of Respondent	
Telephone Number	
QID/Name of Firms	
Type of Business	
Location	
Industry	

Number of Employees	
---------------------	--

Background Information

1. In what year did the Establishment begin operations	
2. What is the firm's current legal status?	
3. What proportion of the firm is owned by private foreign individuals, companies, or organizations?	
4. Does this firm export any of its products either directly or indirectly?	1. Yes 2. No
5. If yes, what are the main export destinations?	
6. if yes, what is the proportion of total exports out of total sales?	

Global Value Chain Activities

What are the current work activities that you are undertaking?

Brief bullet points

--

Identifying Occupations in the Business

Post-secondary would be a certificate or diploma – anything that is not a degree or a higher diploma.

Employment Categories	
1. Total Number of Employees	
2. Total Number of Employees with Pre-Secondary education	
3. Total Number of Employees with Secondary education	
4. Total Number of Employees with Post-Secondary education	
Youth (15-24)	
5. Total Number of employees between (15-24)	
6. Total Number of production workers (15-24)	

7. Total number of non-production workers (15-24)	
8. Total Number of skilled workers (15-24)	
9. Total number of unskilled workers (15-24)	

Based on the main occupations for youth (15-24 years) in your firm.

Occupation No.	Occupation (Job Title)	No. of employees
1		
2		
3		
4		

Occupation No.	Pre-secondary	Secondary	Post-secondary	Degree	Post-graduate
1					
2					
3					
4					

Occupation No.	Training period (days, weeks, months)
1	
2	
3	
4	

Identifying Skills in the Business

Do not press interviewees on importance and only question level if more than 1 point different from your expectations. Refer to excel spreadsheet for this question and ask about each skill for all three occupations before moving on to the next skill.

All questions are based on the three main occupations for youth (15-24 years) in your firm.

A. The following questions concern the skills that you feel are required for each occupation, and not those skills that your employees have:

Importance: 1 Not important – 5 Very important

Level: See appendix

If a skill does not apply leave the block blank

	Skill	Definition	Importance (1-5)			Level (1-5)		
			OCC 1	OCC 2	OCC 3	OCC 1	OCC 2	OCC 3
Basic Skills	Active Learning	Understanding the implications of new information for both current and future problem-solving and decision-making.						
	Active Listening	Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.						
	Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.						
	Learning Strategies	Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things						
	Mathematics	Using mathematics to solve problems.						
	Monitoring	Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.						
	Reading Comprehension	Understanding written sentences and paragraphs in work related documents.						
	Science	Using scientific rules and methods to solve problems.						
	Speaking	Talking to others to convey information effectively						
	Writing	Communicating effectively in writing as appropriate for the needs of the audience.						
Social Skills	Coordination	Adjusting actions in relation to others' actions.						
	Instructing	Teaching others how to do something.						
	Negotiation	Bringing others together and trying to reconcile differences						
	Persuasion	Persuading others to change their minds or behaviour						
	Service Orientation	Actively looking for ways to help people.						
	Social Perceptiveness	Being aware of others' reactions and understanding why they react as they do.						

	Skill	Definition	Importance (1-5)			Level (1-5)		
			OCC 1	OCC 2	OCC 3	OCC 1	OCC 2	OCC 3
Problem Solving	Complex Problem Solving	Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.						
Technical Skills	Equipment Maintenance	Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.						
	Equipment Selection	Determining the kind of tools and equipment needed to do a job.						
	Installation	Installing equipment, machines, wiring, or programs to meet specifications.						
	Operation and Control	Controlling operations of equipment or systems.						
	Operation Monitoring	Watching gauges, dials, or other indicators to make sure a machine is working properly.						
	Operations Analysis	Analysing needs and product requirements to create a design						
	Programming	Writing computer programs for various purposes						
	Quality Control Analysis	Conducting tests and inspections of products, services, or processes to evaluate quality or performance.						
	Repairing	Repairing machines or systems using the needed tools.						
	Technology Design	Generating or adapting equipment and technology to serve user needs.						
	Troubleshooting	Determining causes of operating errors and deciding what to do about it.						
Systems Skills	Judgement and Decision Making	Considering the relative costs and benefits of potential actions to choose the most appropriate one.						
	Systems Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.						

	Skill	Definition	Importance (1-5)			Level (1-5)		
			OCC 1	OCC 2	OCC 3	OCC 1	OCC 2	OCC 3
	Systems Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.						
Resource Management Skills	Management of Financial Resources	Determining how money will be spent to get the work done, and accounting for these expenditures.						
	Management of Material Resources	Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.						
	Management of Personnel Resources	Motivating, developing, and directing people as they work, identifying the best people for the job.						
	Time Management	Managing one's own time and the time of others.						

B.
The

following question concerns the differences between the skills that you have identified as being required for each occupation and the skills that your employees have:

Skill deficit: 1 Meets skill requirements – 5 Does not meet skill requirements at all

Skill category	Skill deficit (1-5)
Basic skills	
Social skills	
Problem solving skills	
Technical skills	
Systems skills	
Resource management skills	

C. Do any of the three main occupations identified require digital skills?

If yes, what type of digital skills are required (list activities requiring digital skills).

Brief bullet points

D. How do you foresee digital skills becoming more important in the future, especially with regards to the occupations we have discussed?

Brief bullet points

Future Occupational and Skill Needs

A. Turning to the plans for the future of the business: Based on the activities identified in Section II, do you have any plans to grow/expand your business in ...

1. the medium-term (next 5 years)?	Yes	No
If yes, what do these plans entail?		
2. the long-term (next 10 years)?	Yes	No

If yes, what do these plans entail?	
-------------------------------------	--

Enumerator note: The plans for growth and expansion need not be too detailed, as firms may not want to discuss their business plans openly. But short bullet points such as “Open more franchised restaurants”, or “Acquire new premises to expand current business operations” would be sufficient.

If “No” to both A1. and A2:

Why do you not plan on expanding your business in the future?

Short bullet point answers.

Only answer questions B to E if “Yes” to A1. and/or A2.

Consider the expansion path of your business in the medium-term (next 5 years):

B. Assume that your business’ expansion plans outlined above are realised. How would employment numbers for each of the three main identified occupations for youth be affected? In other words, how many more of each type of employee do you expect to hire in the next 5 years, and what would the required educational attainment level of these employees be?

Enumerator note: Table should be completed with numbers indicating the number of employees (or respondent’s best estimate) required in a given cell. If respondents **cannot** give numbers, the cell should simply be marked with an “X” to indicate that there will be individuals needed.

Occupation No.	Pre-secondary	Secondary	Post-secondary	Degree	Post-graduate	Total
1						
2						
3						

C. Still assuming that your business' expansion plans outlined above are realised, do you expect there to be any **new** occupations created within your company that would provide employment opportunities to the youth? If so, what are the three main new occupations you can identify?

New Occupation No.	Description (if needed)
1	
2	
3	

D. What level of education would you expect the employees in these new occupations to have?
 Enumerator note: New occupation Table should be completed with numbers indicating the number of employees (or respondent's best estimate) required in a given cell. If respondents **cannot** give numbers, the cell should simply be marked with an "X" to indicate that there will be individuals needed.

New Occupation No.	Pre-secondary	Secondary	Post-secondary	Degree	Post-graduate	Total
1						
2						
3						

Business Environment

Which of the following business environment measures currently represents the three most severe obstacles faced by this firm?

(Please list the most important obstacles first; followed by those of least importance)

1. Access to Credit
2. Access to Land
3. Business licensing and permits acquisition
4. Corruption

5. Court Delays
6. Crime, Theft and Disorders
7. Customs & Trade regulations
8. Labour regulations
9. Electricity Supply
10. Inadequate Skilled Labour
11. Political Instability
12. Practices of informal competitors
13. Tax rates, policies, and administration
14. Transport
15. Competition from imports
16. Uncertainty about government industrial policies