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# Background Studies on Infrastructure Sector In Ghana



Submitted by:  
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## LIST OF ACRONYMS

ABCECG	Association of Building and Civil Engineering Contractors of Ghana
AGI	Association of Ghana
AICD	African Infrastructure Country Diagnostic
APR	Annual Performance Review
BoG	Bank of Ghana
DFR	Department of Feeder Roads
DPs	Development Partners
DRIC	Directorate of Research, Innovation and Consultancy
DUR	Department of Urban Roads
EU	European Union
FGDs	Focus Group Discussions
GDHS	Ghana Demographic and Health Survey
GDP	Gross Domestic Product
GHA	Ghana Highway Authority
GHENT	Ghana Enterprise Survey
GHP	Ghana Housing Profile
GIIF	Ghana Infrastructure Investment Fund
GIPC	Ghana Investment Promotion Authority,
GLSS	Ghana Living Standards Survey
GoG	Government of Ghana
GPRTU	Ghana Private Road Transport Union
GREDA	Ghana Real Estate Development Agency
GRF	Ghana Road Fund
GSGDA	Ghana Shared Growth and Development Agenda
GSS	Ghana Statistical Service
GYEEDA	Ghana Youth Employment and Entrepreneurial Development Agency
IBES	Integrated Business Enterprise Survey
ICT	Information and Communication Technology
IFF	Infrastructure Finance Facility
IFS	Institute for Fiscal Studies
IGF	Internally Generated Fund
ILO	International Labour Organization
IMF	International Monetary Fund
IPP	Independent Power Producers
KIIs	Key Informant Interviews



LiPW	Labour-Intensive Public Works
MMDAs	Metropolitan, Municipal and District Assemblies
MoC	Ministry of Communication
MoELR	Ministry of Employment and Labour Relations
MoF	Ministry of Finance
MoRD	Ministry of Railway Development
MoT	Ministry of Transport
MOTI	Ministry of Trade and Industry
MoWH	Ministry of Works and Housing
MRH	Ministry of Roads and Highways
MSML	Micro, Small, Medium and Large
MWRWH	Ministry of Water Resources, Works and Housing
NDC	National Democratic Congress
NDPC	National Development Planning Commission
NEP	National Employment Policy
NIP	National Infrastructure Plan
NPP	New Patriotic Party
NRGP	Northern Rural Growth Project
NYEP	National Youth Employment Programme
PDF	Project Development Facility
PHC	Population and Housing Census
PPP	Public-Private Partnership
PWD	Public Works Department
SMTDP	Road Sector Medium-Term Development Plan
SPSS	Statistical Package for Social Sciences
SSNIT	Social Security and National Insurance Trust
SWOT	Strength, Weaknesses, Opportunities and Threats
ToR	Terms of Reference
TUC	Trades Union Congress
UCC	University of Cape Coast
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
YEA	Youth Employment Agency

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## EXECUTIVE SUMMARY

This background study is one of the projects under the International Labour Organisation (ILO), European Union (EU) and Government of Ghana (GoG) partnership in implementing the project "Strengthening the Impact of Sector and Trade Policies on Employment" (STRENGTHEN). The primary purpose of the study is to provide a better sense of the overall employment situation in the infrastructure sector.

Literature from related studies were accessed through Internet searches, library searches and a review of available documents from state institutions. Datasets and reports that were nationally representative were used to tease out the employment dynamics in the infrastructure sector. Some of the key findings from the study are summarised as follows:

The Government of Ghana has developed myriads of policies, strategies and funds which have worked as frameworks within which direct, indirect and induced jobs have been generated. Analyses of the initiatives show significant potentials to create more employment. They include:

- *Local Content Policy* is to ensure that over time, 70 per cent of all government projects and procurements are to be undertaken by local contractors to enhance job creation through value addition and skills improvement.
- *Labour-intensive Public Works (LiPW) Policy* has the potential to create more employment opportunities but without clear-cut strategies that satisfy the social dialogue pillar of decent work.
- *National Road Fund, the Ghana Infrastructural Investment Fund and the National Investment Plan* constitute sources of funds for the expansion of infrastructural development to engender more employment.
- *The National Housing Policies and Programmes* provide a framework for indigenous ownership of infrastructure projects to enhance employment generation.

In addition to these policies, strategies and funds, a number of projects have been embarked upon which have contributed to employment generation outcomes. Notable ones include the Takoradi 2 Thermal Plant, Azito Independent Power Producers (IPP) Plant, Tema Port Expansion Project and Teshie Nungua Sea Water Desalination Project - all of which generated over 7,243 jobs. Between 1995 and 2016, a total of US\$2,852.62 million had been invested in the construction sub-sector and generated 12,856 jobs.

The analysis of the Population and Housing Census report indicates that the construction sub-sector experienced a drop in employment from 72,060 to 65,069 between 1970 and 1984 due to the economic and political crisis. However, over the period of 40 years (1970-2010), there was an increase in employment in the construction sub-sector on the average.

Further, the expansionary works in the infrastructure sector in the last three decades have accounted for a rise in the proportion of the workers in the construction sub-sector. Between 1987 and 2013, the proportion of employees in the construction sub-sector to the total labour force increased from 1.2 per cent in 1987 to 2.25 in 2013, even though the proportion had plunged to 0.95 per cent in 1991.

The Ghana Living Standards Survey (GLSS) datasets show a persistent male dominance. The proportion of females in the construction sub-sector has experienced a

decline. The datasets also reveal that majority of people engaged in the sub-sector are youth.

To address the gender disparity in employment in the sub-sector, the implementation of the LiPW Policy, which seeks to ensure gender equity/balance in recruitment and remuneration in the construction sub-sector is likely to improve the proportion of female workers in that sub-sector.

To address the problem of the rising youth unemployment in the country at the moment, it is recommended that, by implementing the local content policy, LiPW policies and other complementary policies, the construction sub-sector can serve as a conduit for more job opportunities for the unemployed youth. It is thus, instructive for much of public and private investments to be devoted to the construction sub-sector to help in absorbing the masses of unemployed youth in the country.

The phenomenon of decent work gained attention in the study. The data gathered indicated high degrees of work vulnerability which cuts across both sexes. Throughout the periods under consideration (1999-2013), workers in the construction sub-sector were found to have endured working conditions below the ILO standards of decent work. Much of this is inextricably linked with the high levels of informality that characterises the construction sub-sector and the fact that the majority of the workers are basic school leavers. This significantly low number of workers in the construction sub-sector without decent work has the potential of putting the sustainability and the future of work in jeopardy.

The GLSS datasets have thus, brought to the fore the gradual increase in the number of tertiary graduates in the construction sub-sector due to the increasing degree of the deployment of sophisticated technology in the infrastructure sector which require highly qualified skilled personnel.

A key challenge faced in the course of conducting this study had to do with the scanty, scattered and inconsistent data on employment in the infrastructure sector. Most of the data consulted for the study were not in disaggregated form and thus, made it difficult to tell the employment generated in the various sub-sectors of the infrastructure sector. This explains why the consultants had to resort to analysis of employment generated by the construction sub-sector as a whole. The consultant also had difficulty in accessing data from the respective institutions. This was in the form of reluctance on the part of some of the agencies to release information to us on time. As at the time of presenting this report, some of them had still not responded to our request even after constant reminders.



# SECTION 1: INTRODUCTION

## 1.1 Background

Ghana's economy has been experiencing increasing growth over the last two decades with improvements in virtually every facet of the economy. The growth in the economy has occurred vis-à-vis reduction in poverty levels, which currently stands at 24.3 per cent, which represents a drop of 4.2 percentage points over the previous rate (Ghana Statistical Service [GSS], 2015). In spite of these achievements, the economy is still bedevilled with shortfalls in both economic and social infrastructure, which have tended to slow the rate of acceleration in the growth of the economy.

Further to the above is the issue of energy infrastructure shortfalls, which has tended to virtually cripple the industrial sector of the economy leading to reduction in productivity as well as job losses. The growth in the economy has not been accompanied by the expected job creation and it is in this direction that the infrastructure sector can play a critical and leading role in serving as a conduit for skills enhancement and employment creation.

Since independence, the country has made a series of investments into the infrastructure sector. Under the 7-year development plan (1963/64-1969/70), significant investments in infrastructure were made in a number of sectors such as the energy, railway, education, road and health sectors. For instance, the construction of the Akosombo Dam for hydroelectric power generation cost US\$258 million. The construction of these infrastructure while facilitating the rapid growth of the country around the period also generated direct, indirect and induced employment through the engagement of both local and foreign contractors with varying skill levels as well as the opening up of the local economies in the areas where these infrastructure projects were undertaken. It must be indicated that, by 1982, the country was in the doldrums of economic crisis with deterioration in social and physical infrastructure. This could largely be placed at the doorsteps of the frequent military juntas that bedevilled the country beginning 1966. The 1966 coup truncated the 7-year development plan and hence the infrastructure developments designed under the plan. The truncation of the development plan and the subsequent abandoning of the infrastructure projects implied loss of jobs.

Since the era of the 7-year plan, most of the policies on infrastructure sector have been on short-term or, in some instances, adhoc basis. Some of these infrastructure policies were contained in programmes such as the Economic Recovery Programme (ERP) which began in 1983; and the Programme of Action to Mitigate the Social Cost of Adjustment (PAMSCAD) which was initiated in 1989. The PAMSCAD basically made use of labour-intensive methods in undertaking the various infrastructure projects that were initiated. This ensured the employment of a number of people, including those who had been laid off as a result of the economic reforms.

Over the last two decades, policies and funds with some infrastructure components have ranged from the Ghana Road Fund of 1985 which was restructured in 1997 with the passage of the Road Fund Act of 1997 (Act 536); the Ghana Poverty Reduction Strategy (GPRS I & II); the Ghana Shared Growth Development Agenda (GSGDA, 2010-2013); and the Ghana Infrastructure Investment Fund (GIIF) which was passed into law under the GIIF Act, 2014 (Act 877).

There is yet another national infrastructure strategic plan in the pipeline named "The National Infrastructure Plan", which is still at the draft stage, is expected to span a period of 2018-2057 when it is passed into law. The aim of these policies and many others are geared towards harmonising infrastructure development in the country, while at the same time providing avenues for the private sector to be the main drivers of growth, employment and development.

The above seems to point out the urgent need to improve upon the stock of infrastructure in the country to fast-track the rate of economic transformation and employment creation. Ghana's infrastructure indicators compared to other African middle-income countries still remain low (African Infrastructure Country Diagnostic, 2010). In the area of quality of infrastructure, the African Development Bank (2012) ranks Ghana far below the best performing countries in Africa. In addition, the Africa Infrastructure Country Diagnostic (2010) reports that Ghana is doing quite well economically, but there is a serious gap between the needs and available economic and social infrastructure to sustain the growth. Indeed, there is a growing demand for infrastructure in Ghana given the growing population and the increasing pressure on the existing ones.

In addressing these challenges, the Government of Ghana (GoG) has identified the need to partner the private sector to fill the gaps in infrastructure. It is estimated that, Ghana requires a sustained spending of US\$1.5 billion per annum over the next couple of years in order to bridge the deficit in infrastructure (Ministry of Finance [MoF], 2014). The country already spends about US\$1.2 billion per year on infrastructure, equivalent to about 7.5 per cent of Gross Domestic Product (GDP) (Foster & Pushak, 2011). This means that public and private investments should necessarily be increased in order to satisfy the infrastructural needs of the country.

Public investment in economic and social infrastructure ultimately leads to great benefit for the society in terms of direct, indirect and induced benefits. Among these benefits are improvements in economic opportunities such as increased employment, increased competitiveness; improved productivity, reduction in poverty and inequity and creation of additional opportunities for sustainable livelihoods. In addition, it leads to better health (increased air quality, reduction in illicit drug use, and reduced viral infection); improved safety (reduction in accidents and crime); and increased leisure and recreation (Aschauer, 1990). Mlinga and Wells (2002) indicate that the infrastructure sector generates additional employment for other economic activities as well as assisting other sectors, for example, agriculture to develop.

Unemployment has become a major talking point on various platforms in the country in recent times. The unemployment rate in the country at the moment is pegged at 12 per cent of the labour force (GSS, 2016). A number of interventions have been put in place by successive governments to arrest the unemployment challenge, such as the National Youth Employment Programme (NYEP) in 2006 under the previous New Patriotic Party (NPP) government with subsequent modification under the National Democratic Congress (NDC) government to Ghana Youth Employment and Entrepreneurial Development Agency (GYEEDA) in 2013 and subsequently to Youth Employment Agency (YEA) in 2015. These interventions were aimed at mitigating the rate of youth employment in the country that was beginning to threaten the security of the country.

The infrastructure sector is a very important contributor to reducing the unemployment situation in Ghana. According to GSS (2014), industry contributed 14.4 per

cent of the total employment in 2012, with manufacturing contributing 9.1 per cent of this figure, while construction contributed 3.3 per cent. The Integrated Business Establishment Survey-Job Creation Report also shows that the construction sub-sector was the second highest contributor (14.3%) in terms of jobs created, which translates into 87,872 jobs. Out of this number, 82,755 were Ghanaians (GSS, 2015).

When efficient infrastructure services are ensured, it serves as a critical determinant of the pace of growth in output and the development of the market. Furthermore, household welfare experiences improvement when there is access to affordable infrastructure services for consumption purposes. Kirkpatrick, Parker and Zhang (2006) indicate that the potential contribution of infrastructure to economic growth and poverty reduction has not been fully realised, and existing infrastructure stock and services fall far short of the requirements.

Even though the sector is doing quite well in the area of employment, females still do not find themselves well represented. The GLSS 6 Labour Force Report suggests that the proportion of females in construction as a proportion of the total employment is 0.2 per cent, while that of their male counterparts is 6.7 per cent (GSS, 2014).

The sector has potential for reducing high levels of youth unemployment in Ghana, especially in the construction sub-sector. This is seen in the growth that is expected in the real estate sub-sector. In order to simply maintain current housing standards, as many as 2 million new dwellings would be needed, which means building just under 1.5 new rooms per minute. If this housing shortage is translated into effective demand for new dwellings, then this would create between 150,000 and 200,000 new jobs in construction. Further, existing housing stock is in need of upgrading: households frequently share water and sanitation facilities with those living in the same compound (UN-Habitat, 2011).

Though the foregoing points to the notion of the infrastructure sector having great potential for employment creation, it is virtually difficult to make a strong case for the assertion due to the scattered nature of information regarding it. Furthermore, there is presently no in-depth study on the employment characteristics (in terms of size of firms, skills set available, and employment trajectory) and capabilities of the infrastructure sector. This study thus, seeks to fill the existing gaps by bringing to the fore such critical information to aid in effective implementation of infrastructure projects and programmes, while providing insight for government and other key stakeholders on where to direct incentives and stimulus packages to elicit the best returns.

## **1.2 Objectives of the Study**

Broadly, this background study seeks to give account of the existing body of knowledge on employment in the infrastructure sectors. The following specific objectives will be addressed:

- i. To assess the employment characteristics in the infrastructure sector;
- ii. Identify the level of public investment and employment generation capacity in the infrastructural sector;
- iii. Pool data and other relevant information and documents that are on employment in the infrastructure sector in Ghana;
- iv. Delineate the main existing infrastructure employment data into sub-sectors, size,



etc., in order to understand the frequency, trends in employment in these units and their relative importance; and

- v. Provide in-depth analysis in the roads and building construction sub-sectors in Ghana aimed at assessing their relative strengths, weaknesses, opportunities and threats vis-à-vis their capability to create employment.

### **1.3 Research Questions**

To achieve the above objectives, the following questions are raised:

- i. What are the employment characteristics in the infrastructure sector?
- ii. What is the level of public investment in the infrastructure sector in Ghana?
- iii. What is the employment generation capacity of the infrastructure sector?
- iv. To what extent has the public investment in infrastructure engendered its employment generation capacity?
- v. To what extent do existing data and reports address issues on the heterogeneity relative to employment data (measured in terms of skill set and other characteristics) among different groups within Ghana?
- vi. What are the attributes of the major players in the infrastructure sector?
- vii. What are the strengths, weaknesses, opportunities and threats found in the roads and building construction sub-sectors in Ghana?

## **SECTION 2: METHODOLOGY**

### **2.1 Introduction**

The study was purely exploratory in nature. It involved desktop review of existing literature in the area of employment in the infrastructure sector. In addition to this, in-depth interviews were conducted with key stakeholders. The Consultant (Directorate of Research, Innovation and Consultancy of the University of Cape Coast [DRIC-UCC]) implemented the study using a three-phase sequential approach as follows:

Phase 1: Preparation of exploratory work plan and desk review;

Phase 2: Data collection and analysis; and

Phase 3: Report writing and dissemination of findings.

### **2.2 Phase One: Preparation of Exploratory Work Plan and Desk Review**

#### ***Kick-off meeting***

The Consultant held a kick-off meeting with the Client (ILO) after the award of contract to discuss the project implementation strategies and plan. At this meeting, a number of inputs were made which were subsequently incorporated into this report.

#### ***Work plan***

The research team developed a work plan which detailed the line of activities used to undertake this background exploratory study and submitted an inception report to ILO for review. This work plan involved the activities undertaken by way of methods of data sourcing, data analysis as well as deliverables and schedules of activities.

#### ***Desk review***

The research team undertook a review of documents related to employment in the infrastructure sector. These included GLSS 6 Labour Force Report (2014), Integrated Business Establishment Survey (IBES) summary report 2015, Population and Housing Census reports, GSS (2014, 2015), reports from Ministry of Works and Housing (MoWH), Ghana Road Fund (GRF), Ghana Infrastructure Investment Fund (GIIF), 2011 Ghana Housing Profile (GHP), Road Sector Medium-Term Development Plan (SMTDP): 2014-2017 (Draft), Ministry of Roads and Highways (MRH), Ministry of Finance (MoF) and reports from other related projects. Additionally, the team consulted other secondary sources to augment and compare the information presented in the project documents. The review was guided by the aims and key questions of the exploration.

## **2.3 Phase 2: Data Collection and Analysis**

### ***Data collection tools/protocol***

The study relied primarily on secondary data. The study also made use of in-depth interviews to complement the secondary information. A copy of the interview guides has been included in this report as Appendix A. The in-depth interview guide was based on the key issues and gaps identified in the desk review and the secondary datasets.

Secondary data from the GSS on employment, including the various rounds of the GLSS data, Enterprise Survey data (GHENT) and other relevant documents were relied on in the generation of information on the employment characteristics in the infrastructure sector.

### ***Design of research instruments***

The objectives and research questions generally assisted the Consultant in the development of the in-depth interview instruments which was used to solicit data from the key stakeholders. The instruments were subjected to review by the Client who made inputs. The research team committed six man-days to complete these activities.

### ***Selection of key stakeholders***

Key stakeholders in related governmental and non-state institutions were selected and contacted for data on the issues under study. The following institutions were interviewed: Ghana Statistical Service (GSS), Sector ministries responsible for Roads and Highways, Works and Housing, Trade and Industry, Agriculture, Finance, Employment, Energy, Ghana Investment Promotion Authority, Labour Department of Trades Union Congress (TUC), National Development Planning Commission (NDPC), Association of Building and Civil Engineering Contractors of Ghana (ABCECG), Association of Ghana (AGI), Development Partners (DPs) such as the International Labour Organisation (ILO) and other relevant stakeholders.

### ***Recruitment and training of field assistants***

The Consultant recruited and trained two Research Assistants who assisted in the collection of primary data. These Assistants particularly assisted in the recording and transcription of qualitative data from interviews with key stakeholders as well as generation of relevant tables from the various datasets. The two-day training focused on issues that relates to the objectives of the study, contents of the instruments, duties and responsibilities, anticipated challenges and how to resolve them.

### ***Reconnaissance survey to sector experts' institutions***

The interviews with the experts were preceded by reconnaissance visits which prepared the terrain for a smooth data collection. The Client facilitated this process by

sending each respective respondent an introductory letter detailing the purpose of the study, a brief background of the Consultant and request for cooperation. The letter also detailed the exact schedule of the data collection and an advance instrument to the respondent.

### ***Data gathering (Stakeholders' interviews and desk reviews)***

The research was carried out using data drawn from primary and secondary sources. The Consultant constituted three teams of three members each comprising the key Resource Persons, Research Assistants and personnel from the participating institutions.

Data were gathered using one-on-one and phone interviews with key stakeholders. In addition, information from presentations on employment creation in the infrastructure sector by experts and actors in these sectors were sourced at workshops and fora on employment creation in the infrastructure sector. The case study approach was used to tease out the unique features of some of the infrastructure projects and their employment capabilities.

Secondary data such as GLSS 1-6 and Enterprise Survey data were used. In addition, various information were gathered from a number of published reports such as: Ghana Population Census, Integrated Business Establishment Survey, academic articles and technical reports from Metropolitan, Municipal and District Assemblies (MMDAs), National Development Planning Commission (NDPC), United Nations agencies.

### ***Data analysis***

The secondary data were analysed using content analysis through which employment data from the infrastructure sector were mapped out according to defined features. The analysis sorted out the various levels of employment creation potentials of the various policy strategies introduced in the infrastructure sector.

The primary data was also analysed using the comparative analytic strategy which unearthed the basic social and economic process that characterised the formulation and implementation of employment creation strategies and opportunities in the infrastructure sector. Analytical tools/approaches such as cross-tabulations, frequency distributions, among others, were employed.

## **SECTION 3: REVIEW OF POLICIES, STRATEGIES AND ESTABLISH STATUTORY FUNDS**

Due to the broad nature of the sector, there is the need to narrow down on some specific aspects of the infrastructure sub-sector. In this direction, the background study focused mainly on building and road infrastructure sub-sector.

### **3.1 National Housing Policies and Programmes**

A number of draft policies have been rolled out over the years with the view of enhancing greater access to decent housing facilities and also bridging the housing infrastructure deficit confronting the country. Most of the interventions in the sector have been in terms of government directly constructing houses or in other cases, giving out loans to workers to build houses, or providing subsidies to State Housing Company Limited, Tema Development Corporation and the Department of Rural Housing to build for the public. Examples include roof and wall protection loan schemes; supply of building materials; construction of low cost houses; government estate houses; and rural housing cooperatives.

More specifically, there have been previous national housing policies prior to the recent one published in 2015. The first notable one was the 1986 National Housing Policy and action plan which was to span from 1987 to 1990, unfortunately stagnated due, in part, to a proposal to establish a national housing fund. The second notable policy was the National Shelter Strategy of 1992 developed with the support of UN-HABITAT. This also stalled due to the absence of the requisite support from the key stakeholders (National Housing Policy, 2015; Habitat, 2011).

The challenges that bedevilled the above-mentioned policies had to do with lack of political commitment (Habitat, 2011)

#### ***National Housing Policy, 2015***

There is a new housing policy developed by the Ministry of Water Resources, Works and Housing (MWRWH) on behalf of the Government of Ghana titled the National Housing Policy, 2015. It is hoped that the present policy will not encounter the kind of challenges that the National Housing Policy and Action Plan (1987-1990) and the National Shelter Strategy (1992) faced. One of the key goals (goal 3) of this new housing policy is to ensure the participation of all key stakeholders in decision-making on housing development and allocation in their localities. In achieving this goal, the policy in its seventh objective seeks to involve communities and other non-traditional interest groups in designing and implementing low income housing initiatives.

To achieve this specific objective, the strategy this policy seeks to adopt would be to encourage the participation of women, youth, public works department (PWD) and the unemployed in community-based infrastructure development programmes using labour-intensive methods where appropriate. This particular strategy is suggestive of a deliberate attempt to use such infrastructure-sector interventions to ensure indigenous ownership of infrastructure projects to enhance employment generation.

## 3.2 National Employment Policy

The National Employment Policy (NEP) developed in 2014 by the Ministry of Employment and Labour Relations (MoELR) identified 10 key issues in the economy that need urgent addressing. Some of the key issues are that there is a:

- i. Large informal sector employment that is characterised by low productivity, huge informal sector deficits, vulnerable workers and working poor.
- ii. Weak resource mobilisation in support of the cooperative sector and of small-scale business development.
- iii. Over emphasis on academic education, skills mismatch and employability challenges.
- iv. Incidence of youth and seasonal unemployment among rural smallholder farm workers.
- v. Weak institutional capacity for labour administration and coordination of employment creation.
- vi. Lack of accurate and timely labour market information for development decision making and planning.

These issues informed the publication of the current employment policy. The NEP has, as its main goal, to create gainful and decent employment opportunities for the growing labour force to improve their living conditions and contribute to economic growth and national development within the framework of equity, fairness, security and dignity.

In order to achieve this goal and to address the key issues identified, the policy seeks to achieve the following objectives:

- i. To create more decent jobs to meet the growing demand for employment.
- ii. To improve the quality of jobs for those who are employed.
- iii. To increase labour productivity.
- iv. To strengthen governance and labour administration.

In order for the efficient implementation of the NEP, a number of sector policies have been identified to underpin it. Some of the sector policies include the National Infrastructure Plan (NIP), Housing Policy, Labour Intensive Public Works Policy, Public-Private Partnership (PPP) Policy, Ghana Industrial Policy, National Youth Policy, and Industrial Sector Support Programme..

The NEP seems to be a dedicated policy aimed at targeting employment creation sector by sector as well as ensuring that the rights of the worker are safeguarded. This seems to be a departure from previous employment policies.

## 3.3 Labour-intensive Public Works Policy

The Labour-intensive Public Works (LiPW) Policy was formulated in 2016 by the Ministry of Employment and Labour Relations, which seeks to re-engineer and deepen initiative to address national unemployment challenges. The target beneficiaries are the poor and the lower-skilled labour force.

The actual working document on the LiPW Manual and strategy however, were initially developed in 2014 by the Ministry of Local Government and Rural Development with assistance from the WB and ILO. The publication of the eventual document was done by MoELR.

This policy has been percussed by the growing problem of unemployment, rising public debt stock and exclusion of vulnerable groups in terms of access to employment opportunities, coupled with the rising cost of delivering capital-intensive projects. Using labour intensive methods for executing public projects have been found to be a more cost-effective way, especially when labour supply has been found to be abundant in some specific cases. The LiPW policy is thus, intended to reduce Ghana's over-reliance on external financial inflows for national development, provide public infrastructure and income earning opportunities for local economic development.

Some key developmental challenges that the LiPW seeks to address are:

- i. Growing number of economically active poor population who do not have the skills to compete on the formal labour market.
- ii. Inadequate employable skills for the economically active poor.
- iii. Weak institutional training for persons who wish to take a career in the application of labour-intensive techniques.
- iv. Inadequate national physical assets (e.g. Roads, housing and education infrastructure).
- v. Lack of coordinated framework to provide direction for use of integrated labour-intensive public works methods to address unemployment issues among rural and urban active poor population.
- vi. Inability of cash transfers alone to lift the poor from poverty (8.4 % of the total population of Ghana - GLSS 6).
- vii. Inability of the economy to expand rapidly to address the unemployment situation in country.
- viii. Low pace of local economic development.
- ix. Limited involvement of the private sector in the provision of local physical assets.
- x. High cost of public infrastructure and physical assets produced through capital-intensive methods.

The overall goal of the LiPW Policy is to improve the living conditions of the economically active poor through expansion of income earning opportunities and accelerated local economic development.

This goal is to be realised through the following objectives:

- i. To create income earning opportunities for the rural and urban poor to reduce extreme poverty.
- ii. To provide employable vocational and technical skills for the unskilled and semi-skilled labour force.

- iii. To provide socio-economic infrastructure for sustainable local economic development.
- iv. To promote private sector participation in job creation and sustainable local economic development.
- v. To promote inter-agency coordination to facilitate implementation of LiPW Policy.

To achieve these objectives, a number of strategies are to be implemented, some of which are:

- I. Making use of labour-intensive techniques mandatory for the production of public infrastructure, where feasible.
- ii. Adopting an integrated LiPW approach to income earning opportunities and promoting local culture and products.
- iii. Targeting extremely poor households for LiPW projects and programmes.
- iv. Applying decent work standards to guarantee workers' rights.
- v. Integrating labour-based training into the technical and vocational education institutions.
- vi. Extending opportunities to the LiPW beneficiaries to acquire technical and vocational employable skills through learning-by-doing.
- vii. Encouraging training and upgrading the capacity of labour-based contractors.
- viii. Promoting LiPW work-related training and retraining.
- ix. Promoting local infrastructure development through LiPW techniques.
- x. Harnessing and maximising the use of appropriate local inputs (materials and labour) in the production of selected public goods and services.
- xi. Ensuring gender equity/balance in recruitment and remuneration.
- xii. Stimulating private sector participation in LIPW Policy implementation through the provision of appropriate economic incentives.
- xiii. Expanding opportunities to local LiWP contractors in supplying local construction materials (sand, stone, gravels, industrial water, etc.) as a means of cash transfer to boost local economic development.
- xiv. Building capacity of staff of implementing agencies to facilitate implementation.
- xv. Ensuring a holistic approach to monitoring and evaluation across sectors.
- xvi. Reinforce the institutional arrangement to ensure graduation of LiWP beneficiaries to decent, productive and sustainable employment.

These strategies are envisaged to go a long way in expanding job access to the poor and excluded in the society to have more employment opportunities, especially in the execution of infrastructure related projects in their various communities. In addition to creating employment for vulnerable groups such as the poor and women, there would also be the enhancement of skills through the training programmes that they would be exposed to. It is expected that for every infrastructure project that is undertaken in local communities, this



deliberate policy would ensure the creation of direct, indirect and induced jobs in the construction sub-sector.

The policy has thus far, been piloted under the Ghana Social Opportunities Programme (GSOP) with remarkable prospects and success rates in the creation of direct and indirect jobs in the infrastructure sector. As at 2015, about 135,607 persons, 61 per cent of which were females, were employed under change mitigation activities, small earth dams and feeder roads.

The policy has the capacity to enhance job sustainability given the fact that it aims at improving the living conditions of the economically active poor through expansion of income earning opportunities and accelerated local economic development. It suffices to say that this policy is a pro-poor employment creation strategy with a social protection dimension. The policy also provides more pro-active and realistic measures to ensure adequate economic and social security to the economically active poor. In addition, it seeks to stimulate local economic growth and development in beneficiary communities.

Generally, the policy's ability to enhance decent jobs for the target beneficiaries is appreciable because its objectives cover three of the four strategic pillars of decent work. While the policy may enhance full and productive jobs, social protection, and rights to work, there are no clear-cut strategies that satisfy the social dialogue pillar of decent work.

### **3.4 Local Content and Employment Creation**

In order to create more employment opportunities for the Ghanaian private sector, the GoG, in its 2017 budget statement, seeks to pass a new legislation to ensure that, in the course of time, at least 70 per cent of all government projects and procurement that focus on job creation and local value addition, with emphasis on skills improvement, are to be executed by local corporations and enterprises, with particular preference to entities owned by women, persons with disabilities as well as those established under the Youth Enterprise Fund (YEP). In this direction, the government seeks to expand LI 2204 which was passed in 2013 in order to make this a reality (MoF, 2017).

### **3.5 Public-Private Partnership Strategies**

The Government of Ghana developed its PPP policy in 2011. The World Bank committed support in the preparation of the legal framework, administrative and management systems for the implementation of PPPs. Again, the World Bank provided the capacity building for the relevant institutions for the adoption of PPPs as a strategy to finance the delivery of public goods with an amount of US\$ 30 million over a four-year period (2012-2016) (MoF, 2013).

Government's support and interventions in PPP arrangements include the following:

- i. Establishment of a Project Development Facility (PDF) for upstream PPP project preparation and transaction development;
- ii. Establishment of a Viable Gap Scheme for supporting PPP projects that fall within the Government's national development agenda and are economically justified but not financially viable; and

- iii. Establishment of an Infrastructure Finance Facility (IFF) in recognition of the need for supporting long-term financing in local currency to the private sector partners of PPPs (MoF, 2013).

Some of the projects undertaken through PPP are captured in Table 9 of Chapter 5.

### **3.6 National Infrastructure Plan**

In order to harmonise the development of infrastructure projects in the country in realising the long-term goal of national development in all facets, a National Infrastructure Plan (NIP) is to be established. The plan, which is currently at the draft stage, is being coordinated by the NDPC, and has the vision of building world-class infrastructure assets that are efficient, dependable, resilient, functional, accessible and inclusive, with the capacity to support Ghana's export-led growth as well as improving the quality of life of all Ghanaians. The plan, which is to span a period of 40 years (2018-2057), is expected to be implemented as an integral part of the national development plan.

The NIP is to be implemented via PPP. To achieve this, appropriate policies as well as state support would be provided to ensure that the private sector charts the way for the execution of the infrastructure plan through skills development, enhanced equipment capacities, local production of a wide range of construction materials, among others.

Various categories of infrastructure are to be implemented in an integrated manner. Some of the infrastructure to be provided are energy (electricity, petroleum, renewable & alternative energy, nuclear energy), transport (road transport, road safety, inland and marine transport, aviation, railways, ports and harbours), water (drainage and flood systems, water supply systems, sanitation and waste management systems, irrigation infrastructure), human settlements (housing systems and services, social infrastructure, civic infrastructure, commercial infrastructure), ICT, institutional development (construction industry development, infrastructure maintenance policy and strategy, human resources development framework, national infrastructure database, procurement administration reforms, land administration), and logistics infrastructure (institutional infrastructure, technology infrastructure, facilities infrastructure).

This plan is expected to ensure a very coordinated and sequential provision of critical infrastructure in the country on a sustainable basis, very much a departure from what currently pertains.

It can be inferred from the expected implementation of the NIP that, while bringing rapid transformation to the economy through the provision of critical infrastructure across the country, there will also be significant creation of jobs through the engagement of both local and foreign contractors who would in turn engage the services of both skilled and unskilled manpower to execute the projects as well as skills training coupled with technology transfer.

### **3.7 Ghana Road Fund**

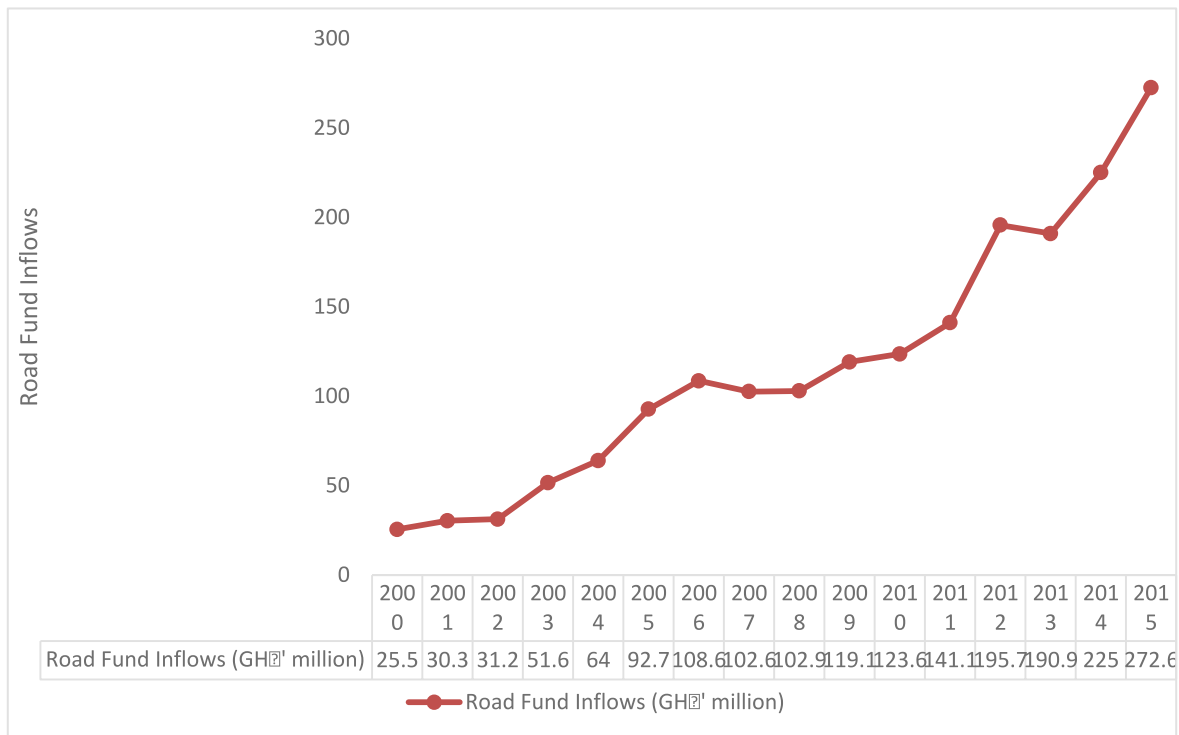
In order to improve the condition of roads in the country, the GoG set up the Ghana Road Fund (GRF) in 1985. Its main objective was to increase funding for road maintenance and improvement on the quality of roads. The Road Fund was restructured in 1997 to make it more effective and also improve upon its efficiency. In line with this, the Road Fund Act,

1997, (Act 536) was passed. The restructuring of the Road Fund expanded its mandate to include upgrading and rehabilitation of Roads, road safety activities, selected road safety projects, and other such relevant matters to be determined by the board. The fund is supposed to be managed by a management board comprising representatives from the Minister of Roads and Transport, Ministry of Finance, Minister for Mines and Energy, the Accountant General, the Minister for Local Government and Rural Development and two persons nominated outside the Ministry of Roads and Transport as well as one representative each from the Association of Road Contractors, Ghana Private Road Transport Union (GPRTU), Ghana Private Enterprise Foundation, Ghana Road Haulage Association, Ghana Institute of Engineers and Ghana Association of Farmers and Fishermen.

It must be pointed out however, that in spite of the restructuring of the road fund, the flow of revenue into the fund has not met expectation (MoF as cited in IFS, 2016) as shown in Figure 1. Even though the inflows into the fund over the years have been increasing, on the average, the quantum of the inflows into the road fund is so low '—'—("Ghanas road tolls very low Ebo Hewton," n.d.), especially, judging from the point that the number of road toll points has been increasing over the years. The road fund contributes only 30 per cent of total amount of funding sourced for road construction (Ministry of Roads and Highways, 2014). This has accounted for the inability of the Ministry of Roads and Highways to repair many roads that have become virtually un-motorable. In addition, the MRH indicated that, the fund only covers 60 per cent of road maintenance annually; implying that 40 per cent of roads are not given any attention in terms of repairs or facelift annually (IFS, 2016).

Part of the reasons for the low inflow into the fund is attributed to the inability of the management board to obtain approval for increases in levies, fees and tolls as well as weak supervision, control and monitoring of road tolls and vehicle license. There are also issues of financial malfeasance and lack of cooperation bedevilling the low revenue flows into the fund (IFS, 2016).

**Figure 1: Trends in Road Fund Inflows (GHc millions, Nominal figures)**



Source: Authors' computation from Ministry of Finance (2017)

The low inflow of revenue into the Road fund has enormous implication for employment generation. The amount of money that could have been disbursed reduces and then shrinks the potential to attract more contractors to undertake road maintenance. Thus, the reduction in road construction and road maintenance activities reduces the capacity to absorb more labour into the sub-sector.

### 3.8 Ghana Infrastructure Investment Fund

In order to effectively address the infrastructure deficit in the country, the Government of Ghana has set up an infrastructure investment fund. To make this fund operational, the government has proceeded to pass the Ghana Infrastructure Investment Fund Act, 2014 (Act 877).

The main objective of the fund is to mobilise, manage, coordinate and provide financial resources for investment in a diversified portfolio of infrastructure projects for national development. The seed amount for the fund was US\$250 million. The economic and social infrastructure that qualify to be funded by the GIIF are as follows:

- a) Energy: The generation, transmission and/or distribution of electricity, including rural electrification.
- b) Transportation: Fixed transportation infrastructure, including toll roads, bridges, tunnels, light and heavy rail systems and railway equipment, airports (passengers and freight), ports and harbours, warehousing and bulk storage/handling facilities, which may include (but only as ancillary thereto) certain moveable assets.
- c) Telecommunications, Media and ICT: The development and operation of (i) telephone services, cellular radio telephone services and other radio common carrier

communications infrastructure; (ii) Internet and data provision infrastructure, including fibre optic cables; and (iii) telegraph, microwave and private communications networks, electronic mail and other emerging telecommunications technologies.

- d) Agribusiness: Infrastructure to support the establishment and development of agribusiness in Ghana across the whole value chain, including production, processing, distribution and marketing.
- e) Heavy industry: The development of industrial parks special economic zones, manufacturing hubs, specialised industries for example fertilizer production, cement production and motor vehicle assembly.
- f) Oil and Gas: Exploration, development, distribution and storage of oil and gas products, including downstream gas development.
- g) Mining and associated services: Exploration and development of mining assets, distribution and processing of products and rehabilitation of used mines.
- h) Tourism: Development and rehabilitation of tourism infrastructure, including hotels, lodges, reservation and game parks.
- i) Health: Development of core medical infrastructure, including hospitals and medical centres; capital intensive medical equipment and supporting infrastructures such as medical training schools.
- j) Education: Schools at all levels (primary, secondary and tertiary), student and instructor accommodation, teacher training institutions, public research facilities
- k) Administration and Security: Government offices, police stations and housing, courts, prisons and defence.
- l) Water/Waste Services: Urban/rural fresh water production and treatment, supply and distribution, sanitation, solid waste disposal/collection and waste treatment, bulk water supply (water reservoirs, transfer schemes, dams and pipelines).
- m) Social Housing: Housing projects for low-income households, rural housing schemes, slum, upgrading projects.
- n) Sports and Cultural Centres: Stadia, leisure parks, and public recreational facilities.
- o) Municipal and Local Government Facilities: Car parks, markets, and urban infrastructure.

In pursuance of this objective, the fund is to ensure that the investments will engender the development of skills in infrastructure development comprising project management, financing and investment.

The funding sources for this fund are expected to emanate from both domestic and international sources. The creation of this fund implies expansion in infrastructure projects which would in turn call for the engagements of both local and foreign contractors. Thus, the infrastructure investments will provide the avenues for the numerous Ghanaians to gain employment opportunities. Further, the local content component would serve as a platform for the transfer of skills and technologies. This would eventually build the capacities of local firms to take over the execution of state-of-the-art infrastructure projects.

### **3.9 Conclusion**

The policies reviewed above are expected to establish a strong link between infrastructure sector and employment. Overall, the policies show promising indications of generating employment within the infrastructure sub-sector. It must be acknowledged however that, these policies may not be effective in eliciting the desired responses, if they are not coordinated in a coherent manner and also, if the relevant institutions expected to implement them are not up-to-the task. It is in this direction that the design of a national infrastructure plan must be facilitated to ensure that the country has a comprehensive, and coherent long-term infrastructure policy. There is also the need to strengthen the legal and regulatory frameworks governing the GRF and GIIF in order to ensure their effectiveness in delivering on their mandate. Furthermore, it is imperative to boost the sources of inflows into the fund in order to bolster capital accumulation for undertaking high grade infrastructure projects. Government must also take steps to strengthen the PPP regime to facilitate the development of the infrastructure sector while at the same time ensuring that, these infrastructure investments will inure to the benefit of the economy in terms of high employment generation and economic growth.

Finally, there is also the need for government to clearly define the responsibilities of the various Ministries, Departments and Agencies (MDAs) related to the infrastructure sector in terms of execution of infrastructure projects as well as adequately resourcing them together with building their capacities to deliver on their respective mandates.

## SECTION 4: ANALYSIS OF EMPLOYMENT IN THE INFRASTRUCTURE SECTOR

### 4.1 Introduction

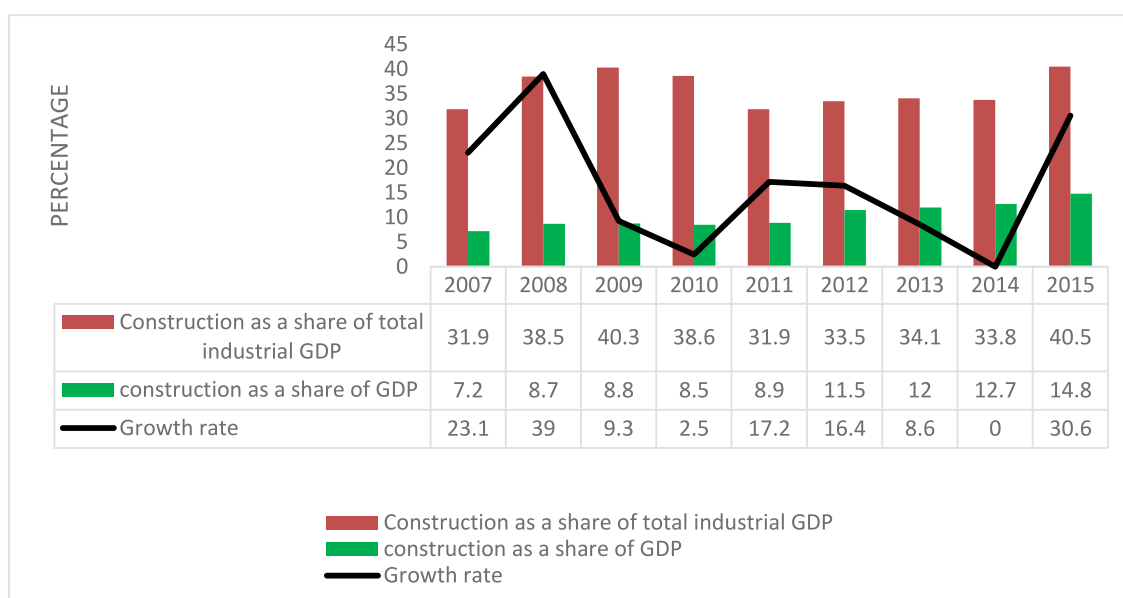
This section seeks to discuss the existing employment situation in the infrastructure sector in Ghana using existing documents and datasets such as the State of the Ghanaian Economy, Population and Housing Census (2000, 2010), Ghana Living Standards Survey (GLSS 1 – 6), Ghana Enterprise Survey (GHENT, 2013) and the Integrated Business Establishment Survey (IBES, 2015). The GLSS and GHENT datasets are sample surveys, while that of IBES and PHC are census datasets. Specifically, this section talks about the state of employment, trends in employment, characteristics of the employee, employment generation capability challenges and the current strategies in employment creation in the infrastructure sector.

### 4.2 State of Employment in the Infrastructure Sector

Even though this study is focused on the infrastructure sector, the difficulty in getting a disaggregated data has limited the authors to do a presentation predominantly on the construction sub-sector. The analysis is based on a PHC report and the datasets of the various rounds of the GLSS, IBES and GHENT.

The sub-section begins by looking at the growth trends, shares to GDP and industrial GDP of the construction sub-sector in Ghana.

**Figure 2: Construction Sub-Sector Growth Rate, Share of Industrial GDP and Share of Real GDP**



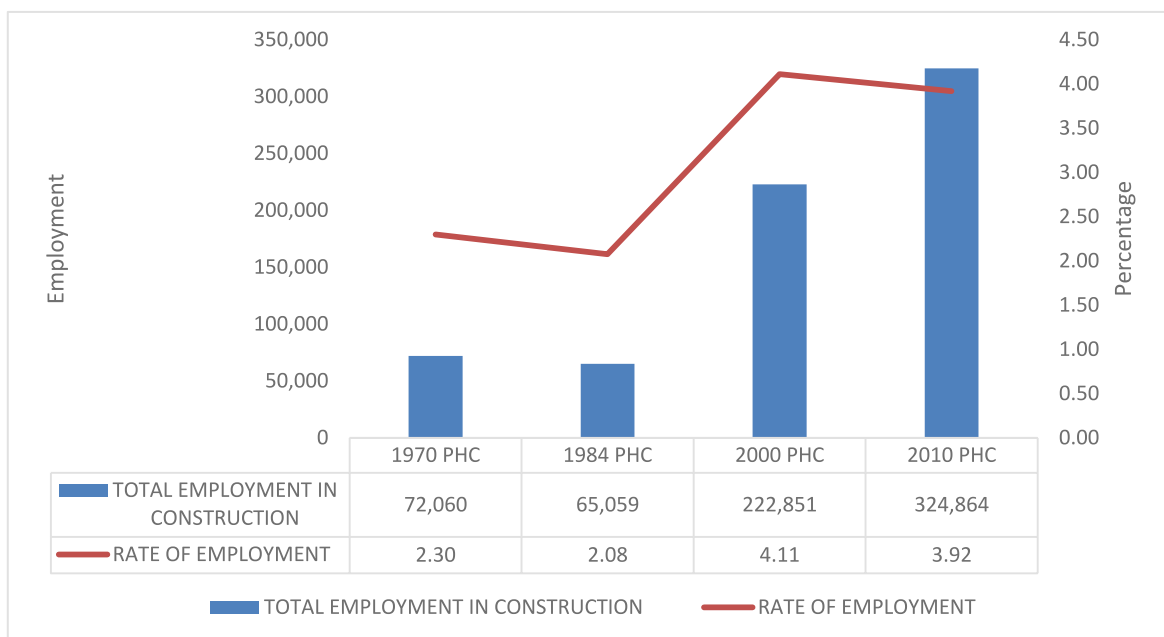
Source: Authors' computation (2017) from GSS (2015)

Figure 2 presents information on the growth rate of the construction sub-sector, its share of industrial GDP and its share of real GDP. The growth rate of the construction sub-sector shows fluctuating trend between 2007 and 2015. The construction growth rate recorded its highest growth in 2008 about 39 per cent, which commensurate with the growth rate in GDP for that year of 8.4 per cent. However, the sector recorded zero growth in 2014 which was quite strange. There was a sharp drop in growth rate in construction from 39 per cent to 2.5 per cent over the period 2008-2010, but picked up to about 17.2 per cent in 2012. In 2015, there was a significant growth rate of about 30.6 per cent from a 0 per cent growth rate in 2014. The growth rate in the sector clearly indicates the need to pay more attention to it to derive maximum benefits form it in terms of employment generation for the masses of the unemployed youth as well as providing the needed economic and social infrastructure.

The share of construction in total industrial GDP shows a relatively stable trend between 2007 and 2015. Construction as a share of total industrial GDP, recorded its highest contribution in 2015 of about 40.5 per cent and lowest share in 2007 and 2011 of about 31.9 per cent. From 2011, the trend look relatively stable and increasing fairly but rose from 33.8 per cent in 2014 to the highest point (40.5 per cent) in 2015. Furthermore, construction as a share of GDP showed an increasing trend from 7.2 per cent in 2007 to about 14.8 per cent in 2015, indicating that the sector more than doubled over the period.

Figure 3 shows employment trends in the construction sub-sector base on PHC reports for 2000 and 2010.

**Figure 3: Number of People Employed in the Construction Sub-sector**



Source: Authors' computation (2017) from GSS (2005, 2012)

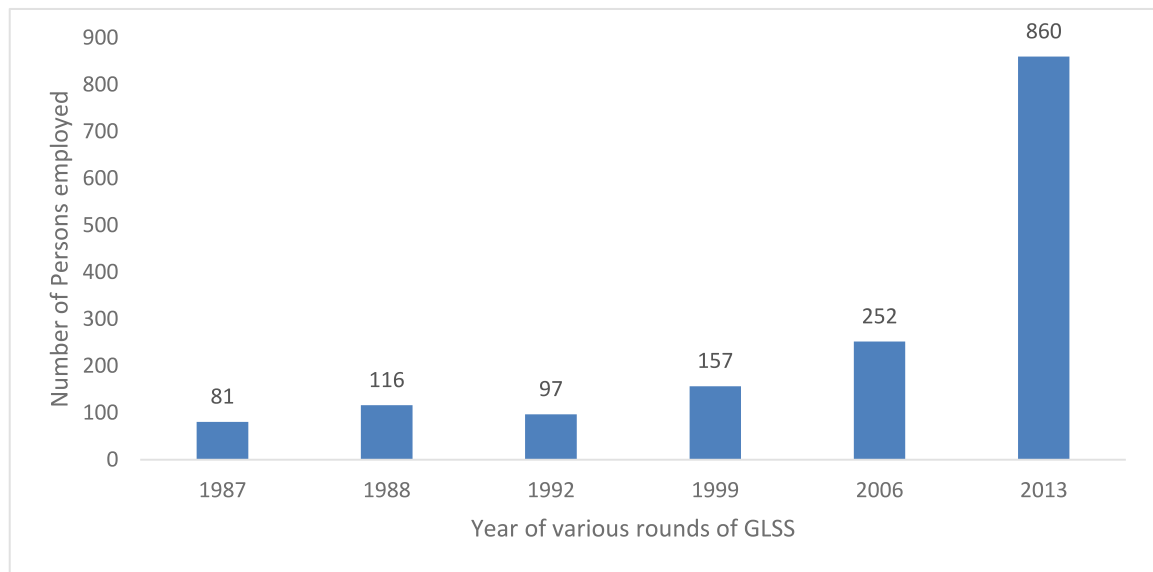
From Figure 3, the number of people employed in the constructions sub-sector shows an increasing trend though slightly dropped in the second round i.e. 1984. In 1970, about 72,060 Ghanaians were employed in the construction sub-sector. By 1984, the number of people had dropped to about 65,069 from 1970. However, the trend was overturned in 2000 where there was more than 300 per cent increment compared to 1984. As at 2010, about



324,864 Ghanaians were reportedly employed in the construction sub-sector and this trend is expected to rise considering the construction growth rate in 2015 as indicated in Figure 3 earlier.

With regard to the construction sub-sector, the period between 1970 and 1984 saw a marginal decrease in employment from 2.3 per cent to 2.08 per cent indicating a reduction of about 0.22 percentage points of persons engaged. However, there was a sharp increase from 2.08 per cent in 1984 to 4.11 per cent in 2000 within a period of 16 years. This could be attributed to the economic reforms that saw a significant infrastructure development. Again, employment reduced marginally within the ten-year period from 2000 to 2010 could be due to external shocks.

**Figure 4: Rates of Employment in the Construction Sub-sector**



Source: Authors' computation (2017) from GLSS 1, 2, 3, 4, 5 & 6

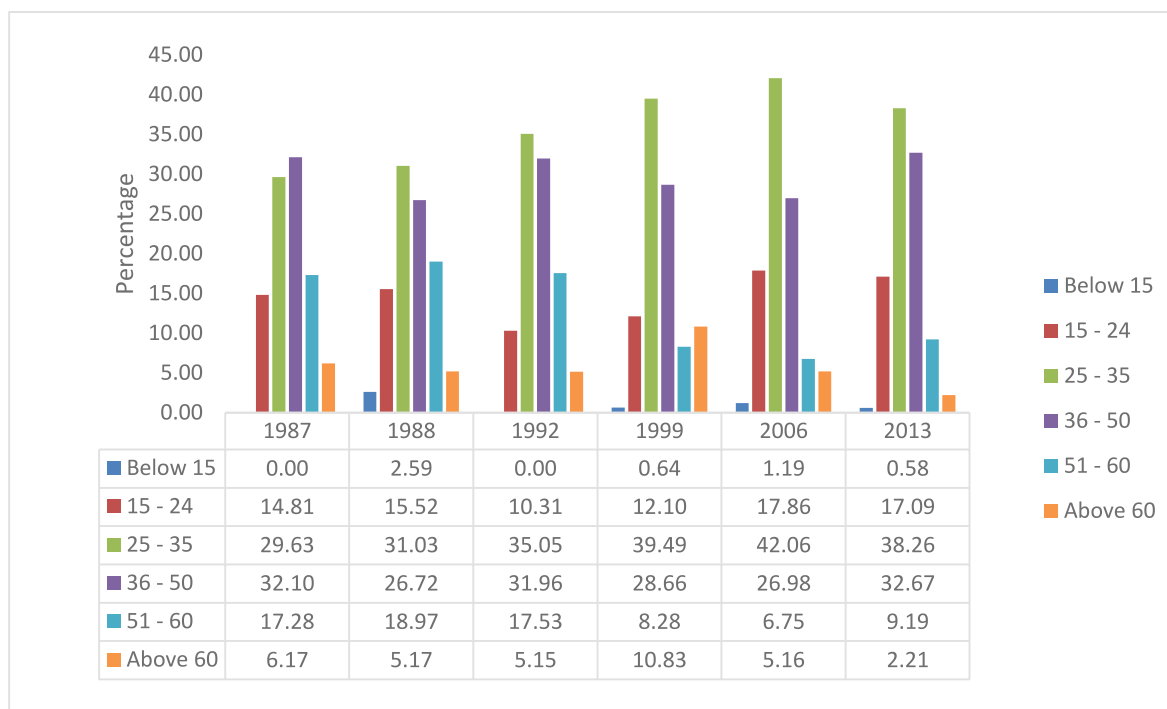
Based on the various rounds of GLSS, Figure 4 shows the number of persons employed in the construction sub-sector. The figure generally shows an increasing trend in employment over the 6 rounds of the survey except a slight dip between 1988 and 1992. These figures from GLSS 1 to 6 show that the construction sub-sector is underperforming in creating jobs in Ghana. It is imperative to note that these figures also include children i.e. below the approved labour force participation age of 15 – 64 years. It must, however, be noted that, these assertions are based on a sample and not a census, and thus, cannot be generalised necessarily for the entire country judging from the small sample surveyed.

### 4.3 Socio-Demographic Characteristics of Employment in the Construction Sub-sector

This section is devoted to the analysis of the socio-demographic characteristics of employment in the construction sub-sector. It must be stated that, we are unable to discuss the other sub-sectors within the infrastructure sector due to data limitation.

This sub-section begins by considering the age distribution of workers within the construction sub-sector based on the various rounds of the GLSS datasets.

**Figure 5: Age Distribution of Workers in the Construction Sub-sector**



Source: Authors' computation (2017) from GLSS 1, 2, 3, 4, 5 & 6

Figure 5 indicates that, on the average, the construction sub-sector is dominated by those within the age bracket of 25-35 years from all rounds of the GLSS. Following closely are those within 36-50 years, 15-24 years and then 51-60 years and lastly, by those aged 61 years and above respectively. Again, those below the legally acceptable working age cohort (below 15 years) are really insignificant compared to the other age groups. This signifies that the incidence of child work is very minimal. This trend may probably be due to the fact that construction work mainly engages the youth since they have the strength and energy to meet the labour-intensive demands of the sub-sector. Again, as people age, they would rather look for jobs that are less demanding on their physical strength.

**Table 1: Distribution of Employment by Region and Sex (Percentages) in the Construction Sub-sector**

REGION	1999						2006						2013					
	URBAN		RURAL		TOTAL		URBAN		RURAL		TOTAL		URBAN		RURAL		TOTAL	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
<b>Absolute Figures</b>	<b>85</b>	<b>1</b>	<b>65</b>	<b>6</b>	<b>157</b>	<b>160</b>	<b>4</b>	<b>82</b>	<b>6</b>	<b>252</b>	<b>511</b>	<b>12</b>	<b>314</b>	<b>23</b>	<b>860</b>			
Greater Accra	34.12	0.00	1.54	16.67	19.75	32.50	0.00	9.76	0.00	23.81	31.51	8.33	10.51	26.09	23.37			
Ashanti	18.82	0.00	32.31	0.00	23.57	26.25	0.00	26.83	0.00	25.40	12.33	25.00	11.46	4.35	11.98			
Western	12.94	0.00	13.85	0.00	12.74	6.88	0.00	8.54	0.00	7.14	10.57	0.00	11.78	4.35	10.70			
Upper East	0.00	0.00	0.00	0.00	0.00	0.63	0.00	15.85	66.67	7.14	4.31	33.33	16.56	43.48	10.23			
Volta	7.06	100.00	21.54	83.33	16.56	4.38	0.00	9.76	0.00	5.95	7.05	8.33	15.61	4.35	10.12			
Eastern	12.94	0.00	13.85	0.00	12.74	10.00	25.00	6.10	0.00	8.73	9.78	8.33	10.51	0.00	9.77			
Central	8.24	0.00	12.31	0.00	9.55	9.38	0.00	8.54	0.00	8.73	10.18	8.33	9.24	4.35	9.65			
B. Ahafo	4.71	0.00	4.62	0.00	4.46	5.00	25.00	4.88	0.00	5.16	6.07	0.00	5.41	0.00	5.58			
Northern	1.18	0.00	0.00	0.00	0.64	4.38	50.00	3.66	0.00	4.76	5.48	0.00	3.18	0.00	4.42			
Upper West	0.00	0.00	0.00	0.00	0.00	0.63	0.00	6.10	33.33	3.17	2.74	8.33	5.73	13.04	4.19			
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Source: Authors' computation (2017) from GLSS 4, 5 and 6 data sets

Table 1 describes the distribution of employment across the ten regions and localities (urban/rural) as well sex distribution in the construction sub-sector. The Ashanti region recorded the largest number of employment in both 1998/1999 (GLSS 4) and 2005/2006 (GLSS 5) with about 24 per cent and 25 per cent, respectively of total employment in the construction sub-sector. The Greater Accra region followed closely with about 20 per cent only for the GLSS 4. However, the Greater Accra region became the region with the highest level of employment in 2013 (GLSS 6) with about 23 per cent of total employment in the construction sub-sector.

For GLSS 4, in terms of the urban distribution by sex, Greater Accra had the highest male population in urban sector with about 34 per cent, whilst the Upper East and West regions reported no male participation in employment whereas the Eastern and Western regions recorded equal levels of urban male participation of 13 per cent, respectively. However, Volta region had a 100 per cent female representation in the urban area, whilst the rest of the regions recorded no female employment at all. With regard to rural employment distribution by sex, the Ashanti region reported male employment of about 32 per cent, whilst the Volta region represented about 83 per cent for females involved in construction and its related activities.

The 2005/2006 survey of the GLSS revealed that the Greater Accra region dominated in male participation (about 33 per cent) in the urban areas with the least being the Upper East and West regions that had a male participation of about 0.63 per cent. The Northern region had a female participation of about 50 per cent being the largest in the urban areas with Eastern and Brong Ahafo regions taking shares of the rest equally i.e. 25 per cent. In the rural sector, the Ashanti and Upper East regions dominated employment in the construction sub-sector with about 27 per cent and 67 per cent, respectively.

From the GLSS 6 data, it shows that, the Greater Accra and Ashanti regions had the largest employment of persons of 32 per cent and 25 per cent for males and females, respectively in the urban areas. However, the Upper East region recorded the highest level of employment in this sub-sector for both males and females in the rural areas with 17 per cent and 43 per cent, respectively and Brong Ahafo and Northern region recording no employment at all.

Generally, employment in the construction sub-sector for both sexes and locations has seen an increasing trend. This could be attributed to the various economic reform programmes which were occasioned by an expansion in the infrastructure sector creating an expanded opportunity for employment.

#### **4.4 The Concept of Decent Work**

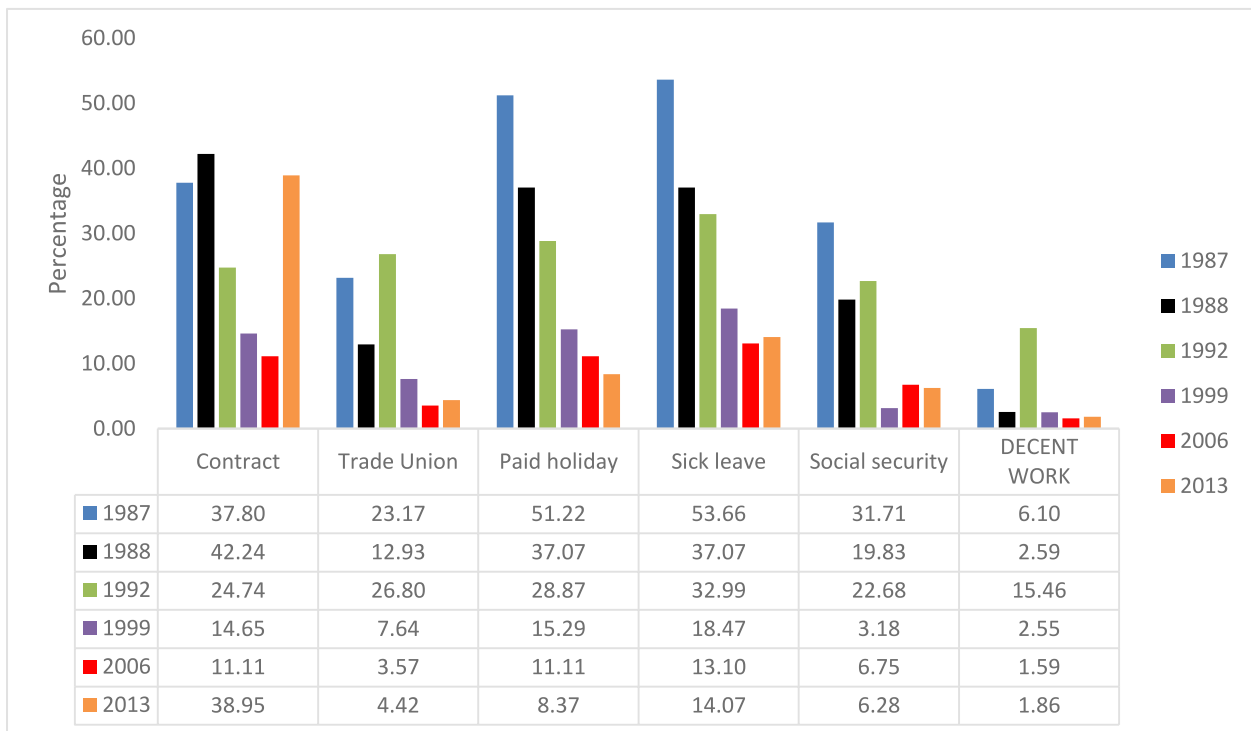
According to the ILO, work is considered decent, if it meets four strategic pillars, namely full and productive employment, rights at work, social protection, and the promotion of social dialogue. Based on these four pillars, the researchers delved into the GLSS data to identify the indicators that will enable the creation of a decent work index. Even though, the indicators identified in the dataset did not adequately capture all the four pillars of decent work, they were very close to such a definition.

Thus, in this report, work was considered to be decent, if it met all the five criteria listed below:

- i. Working with a binding contract
- ii. Affiliation with trade unions
- iii. Having a paid work
- iv. Having a sick leave
- v. Having social security

The study based the computation of decent work on the premise that an individual employee within the construction sub-sector had to satisfy all five indicators of decent work as defined above. Using the additive method, an index for decent work was created. Employees who scored in all five indicators were classified as having decent work.

**Figure 6: Decent Work in Construction**



Source: Authors' Construct from GLSS 1-6

From Figure 6, it can be observed that, the percentage of employees having decent work has declined on the average. Of the five parameters used in defining decent work in the construction sub-sector, the number of employees having binding contracts with their employers was higher than those with trade unions, social security, paid holiday, and sick leave on the average. While the number of employees having a binding contract ranked high in 1988 and 2013, the number having sick leave was found to be higher in 1987, 1992 and 1999. The trend shows that even though the rate of employment in the construction sub-sector has been increasing over the period, as shown in Figure 4, these increases have come at the expense of reducing availability of quality jobs. The share of persons affiliated with trade unions also experienced a sharp decline, dropping from about 23 per cent to just about four

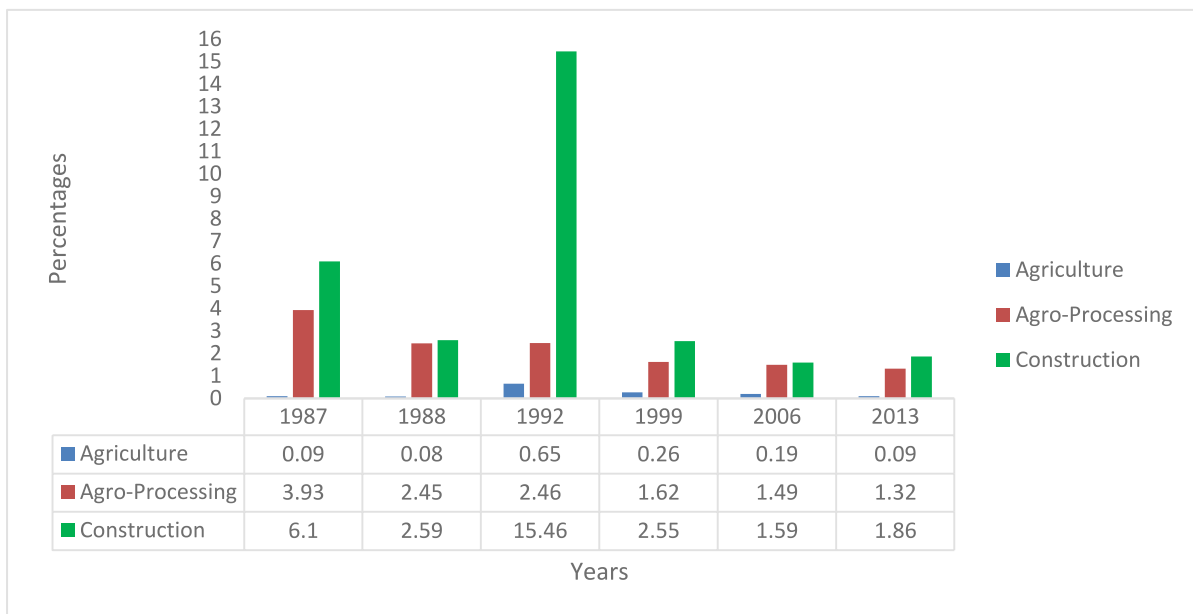
per cent. Workers with binding contracts have seen massive improvement after a long decline. Even though, there was a decline in 1988 from about 38 per cent to about 11 per cent in 2006, the proportion of workers in construction having binding contracts as at 2013 had increased to about 39 per cent. The situation as at 2013 depict that a little over 98 per cent of all those working in construction sub-sector do not have decent work. The declining trend in decent jobs in this sub-sector is suggestive of increasing spate of vulnerable employment.

The proportion of workers who enjoy the indicators of decent work such as a binding contract, membership to trade unions, paid holiday, sick leave and social security over the periods have also experience a decline. This suggests that, if this trend is not reversed, the sustainability of jobs in this sub-sector could be threatened further.

In addition, the increased use of sophisticated technology, for example, will likely mean that existing jobs or tasks could disappear or be fundamentally re-designed. The result would be that, there will be major changes in the capabilities and skills needed in the labour market. Technological disruption and disruptive innovation will also play an important role in shaping the Future of Work. Significant challenges arising from future forms of employment may include the polarisation of skills, and difficulty ensuring the adequacy of existing legal, institutional, or social protection frameworks, among others.

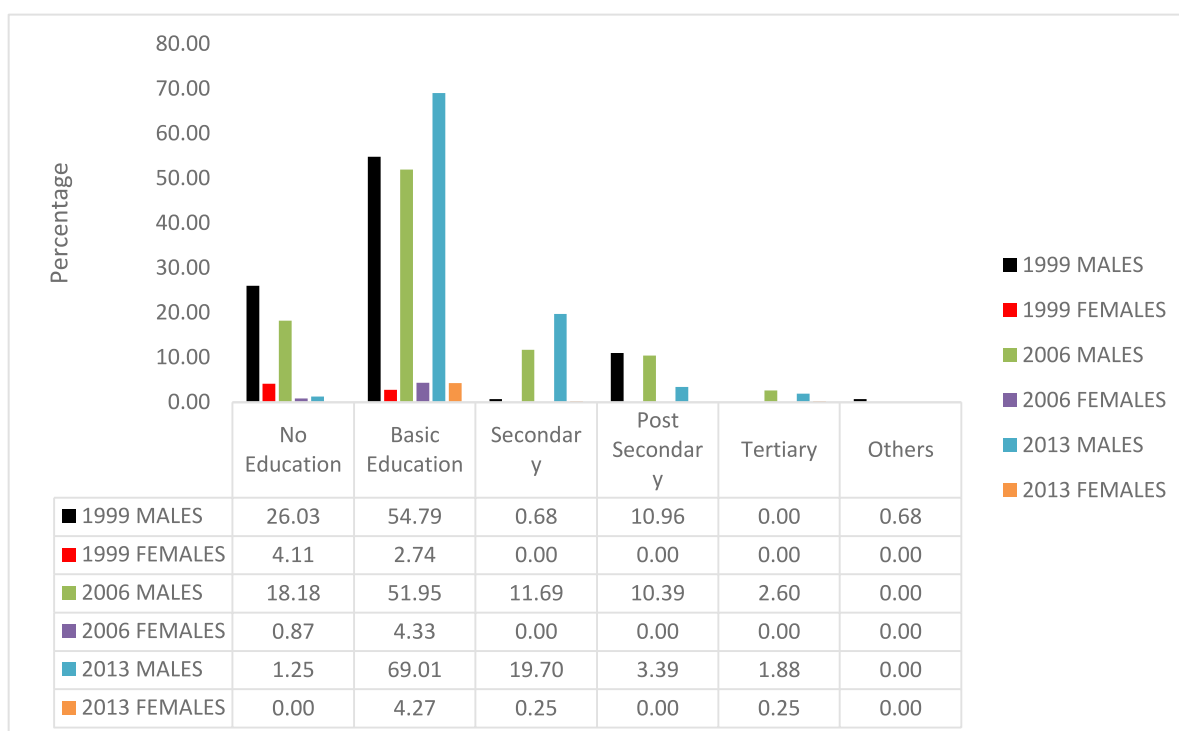
Despite the fact that decent work is low in the construction sector, workers in the sector with decent jobs appear to be relatively higher than those in the agriculture and agro-processing sectors. This is seen in Figure 7.

**Figure 7: Decent Work across Sectors**



Source: Authors' Construct from GLSS 1-6

**Figure 8: Distribution of Employment by Education and Sex**



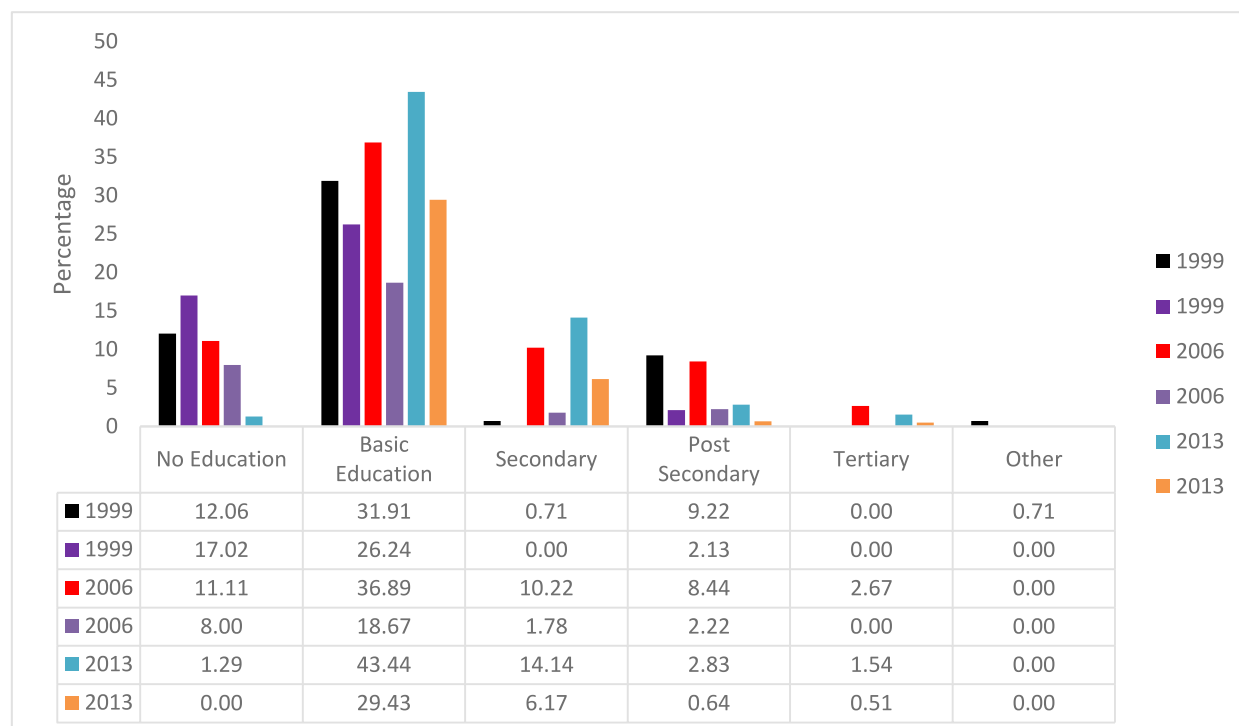
Source: GLSS 4, 5 and 6

With reference to education by sex in the construction sub-sector, Figure 8 shows the level of education attained by both males and females. It can be observed that, on the average, the level of education of employees with no education in this sub-sector has declined over the years for both males and females. This gives an indication of the quality of employees in terms of levels of education of people in this sub-sector.

The figure also shows a pattern where most employees in this sub-sector are basic education leavers most of whom are males accounting for about 69 per cent as at 2013, followed by secondary school leavers accounting for about 20 per cent males during the same period. Post-secondary school and tertiary graduates amounted to less than 5 per cent.

However, there were improvements for both males and females employment. The percentage of females with basic education increased from 2.7 per cent to 4 per cent from 1999 through to 2013. That of their male counterparts also saw a decline from 55 per cent in 1999 to 52 per cent in 2006 but increased substantially to about 70 per cent 2013. Similar increases were also observed at the tertiary level for females. The quality of employment generated in this sub-sector has improved over the years as the number of people with higher qualification is increasing.

**Figure 9: Distribution of Employment by Education and Location**



Source: GLSS 4, 5 and 6

Figure 9 shows the distribution of employment generated in terms of education and the rural/urban spread. It is observed that construction employees are mostly basic education leavers who are mainly urban dwellers accounting for 43.44 per cent (338) in 2013, followed by secondary school leavers accounting for 14.14 per cent (110), post-secondary (2.83 per cent), tertiary (1.54 per cent) and no education (1.29 per cent). However, rural dwellers with no basic education saw their percentage contribution to total employment dwindling over the period from 17.02 per cent (24) in 1999 to 8 per cent (18) in 2006 and eventually to 0 per cent (0) in 2013. Tertiary graduates in the urban areas engaged in employment recorded fluctuating contribution to total employment. Similarly, increases were observed for post-secondary, secondary and basic education except workers without any form of formal education. Furthermore, rural dwellers engaged in construction sub-sector also increased marginally for basic education, secondary education, post-secondary education and tertiary graduates.

In the future, the construction sub-sector in the urban areas is more likely to engage people with higher level of educational qualification which will enhance sustainability of employment in the sub-sector.

In general, since most of the workers have basic education qualification, they might be employed as casual workers with their conditions of service not meeting the criteria for decent work by ILO standards.



**Table 2: Skill Sets Profiles in the Construction Sub-sector**

Skill Sets	GLSS (%)					
	1	2	3	4	5	6
Bricklayers, carpenters and other construction workers	43.21	42.24	46.39	69.43	0.00	47.91
Labourers (civil and building construction)	12.35	24.14	20.62	7.01	12.30	16.40
<b>Electronic and Electrical fitters, engineers, technicians</b>	1.23	0.86	1.03	1.91	4.37	8.02
<b>Plumbers and metal/sheet workers</b>	4.94	3.45	3.09	1.27	1.19	5.12
<b>Floor layers and tile setters</b>	0.00	0.00	0.00	0.00	0.00	3.26
<b>Painters</b>	8.64	6.90	9.28	3.18	13.89	3.14
<b>Transport equipment operators</b>	3.70	4.31	1.03	0.00	0.79	2.44
<b>General foremen</b>	2.47	1.72	3.09	1.91	0.00	1.05
<b>Architects, engineers and related technicians</b>	1.23	3.45	1.03	1.91	4.37	0.93
<b>Managers</b>	1.23	0.86	0.00	0.64	0.00	0.93
<b>Cabinet makers and related wood workers</b>	3.70	0.86	0.00	0.00	1.59	0.58
<b>Machinery Fitters, machine assemblers and precision instruments makers</b>	2.47	3.45	4.12	1.91	0.79	0.47
<b>Glass makers, cutters, grinders and finishers</b>	0.00	0.00	0.00	0.00	0.00	0.35
Machine tool operators	1.23	1.72	0.00	0.64	0.00	0.12
<b>Statisticians, Mathematicians, system analyst and related technicians</b>	1.23	0.00	0.00	0.00	0.00	0.00
Protective services workers	6.17	1.72	2.06	1.27	0.00	0.00
Stationary engine operators and related equipment operator	1.23	0.86	0.00	0.00	0.00	0.00
Other professions	4.94	3.45	8.25	8.92	60.71	9.30

Source: Authors' computation (2017) from GLSS 1, 2, 3, 4, 5 & 6

In the construction sub-sector, the skills set are heterogeneous. It ranges from skilled workers to unskilled workers. From Table 2, the skill sets in the construction sector is dominated by bricklayers and carpenters accounting for approximately 48 per cent of the share of workforce in the sub-sector as at 2013. These skill sets account for the high end of the labour force because employment in this sector require minimal educational qualification and is relatively labour-intensive. Electronic and electrical fitters, plumbers, floor layers and tile setters painters, metal/sheet worker, architects and engineers follow in that succession in relation to their respective shares of employment in the construction sub-sector. Statisticians, mathematicians, system analysts, protective services workers and stationary engine operators are those skills which are most lacking in the construction sub-sector.

Having bricklayers and carpenters as well as labourers constituting a high proportion (64 per cent as at 2013) of workers in the construction sub-sector imply that wages would be low for them as such categories are given less premium. This is because most of these workers are basic education leavers making their conditions of work fall below the criteria for decent work by ILO standards.

**Table 3: Skilled Labour Charge-out per day in Urban Ghana, March 2017**

<b>Labour</b>	<b>Job Description</b>	<b>Cost charged per day (GH¢)</b>
<b>Mason</b>	Concrete works	45 – 60
	Block works	40 – 50
<b>Labourers</b>	Concrete works	40 – 50
	Block works	30 – 40
<b>Carpenter</b>	Profile, columns, beams etc.	40 – 50
<b>Joinery</b>	Joinery works (specialised jobs)	Price charged is lump sum according to the work to be done.
<b>Plumber</b>	Inserting pipes in slabs	40
<b>Steel bender</b>	Binding rods into beams and columns	40
<b>Electrician</b>	Electrical wiring of the house	Price charged is lump sum according to the work to be done.

Source: Authors' construct from Cape Coast, 2017

In Ghana skilled workers in construction are not too difficult to find, making it easy for persons investing in construction projects to obtain their services fairly easily. Most of the artisans engaged in construction projects are paid daily at the close of the day. For individual workers, their daily charges range from GH¢30 to GH¢60 as shown in Table 3. The master masons and carpenters are on the high end on the pay stratum. Mostly, electricians and joinery charge a lump sum depending on the number of days they will spend on a job and the

difficulty level. The working day starts mainly at 8a.m. and last till 5p.m. for most jobs. It must be stated that these figures may sometimes vary depending on the socio-economic characteristics of the location of a project.

Given the current minimum wage (GH¢8.80) in Ghana, workers in the construction sub-sector earn at least 70 per cent above the minimum wage. This may act as a financial incentive, however, the irregular nature of these jobs is not likely to enhance sustainability of work.

**Table 4: Distribution of Persons Engaged in Construction Sub-sector by Sex and Region**

<b>Region</b>	<b>All</b>	<b>Male</b>	<b>Female</b>
Western	5,597	4,666	931
Central	2,349	2,067	282
G. Accra	60,617	45,621	14,996
Volta	2,266	2,132	134
Eastern	1,898	1,645	253
Ashanti	7,979	6,669	1,310
B. Ahafo	1,987	1,820	167
Northern	2,131	1,945	186
U. West	1,536	1,419	117
U. East	1,512	1,446	66
<b>Total</b>	<b>87,872</b>	<b>69,430</b>	<b>18,442</b>
<b>% of Industry</b>	<b>14.3</b>		

Source: IBES Summary Report (2015)

Table 4 presents the regional distribution of employment in the construction sub-sector. The table shows that a total of 87,872 persons engaged in the construction sub-sector in Ghana according to the IBES (2015) report. Of this number, 79 per cent were males, while 21 per cent were females. In the industrial sector, construction as a sub-sector contributes 14.3 per cent of the total work force. In terms of regional distribution of employment, in the sub-sector, Greater Accra region has the largest share of construction employees (60,617) accounting for about 69 per cent of the total. At the current pace of the expansion of the country's capital, it is expected that more people will be needed to help with the construction. The Upper East region had the least number of persons engaged in construction (1,512 persons). The figures are equally low for all the three northern regions.

**Table 5: Proportion of Persons Engaged in the Construction Sub-sector by Formal Establishment**

<b>Formal Establishment</b>	<b>Total</b>	<b>No. in Construction</b>	<b>Per cent</b>
Sole proprietorship	1,630,182	23,514	1.44
Partnership	246,836	2,672	1.08
Private Ltd Co. by Guarantee	676,263	57,190	8.45
Public Ltd. Company	52,630	1,195	2.27
Statutory	68,094	2,094	3.06
Other Governmental Institutions	366,690	1,030	0.28
Quasi-Government	44,593	2	0.00
Parastatal Government	12,339	16	0.13
NGO	184,960	93	0.05
Cooperative	13,377	14	0.10
Associations/Groups	87,242	52	0.06
<b>Total</b>	<b>3,383,206</b>	<b>87,872</b>	<b>16.92</b>

Source: IBES Summary Report (2015)

Of the 87,872 persons engaged in construction in Ghana, Table 5 shows that 23,514 of them are employed by sole proprietors. This is 1.44 per cent of the total number of persons employed in all sectors by sole proprietors in the country. Private limited companies by guarantee employed 57,190 persons accounting for 8.45 per cent of all persons engaged by this type of legal establishment in 2014. The share of employment in the public limited companies was 52,630 persons, of which 1,195 are in construction. Only 2 persons in construction were captured by the IBES census as working in the quasi-government organisation. This goes to support the trend captured by the IBES report where 91.6 per cent of all establishments were found in the informal sector.

**Table 6: Distribution of Construction Establishments by Size and Persons Engaged**

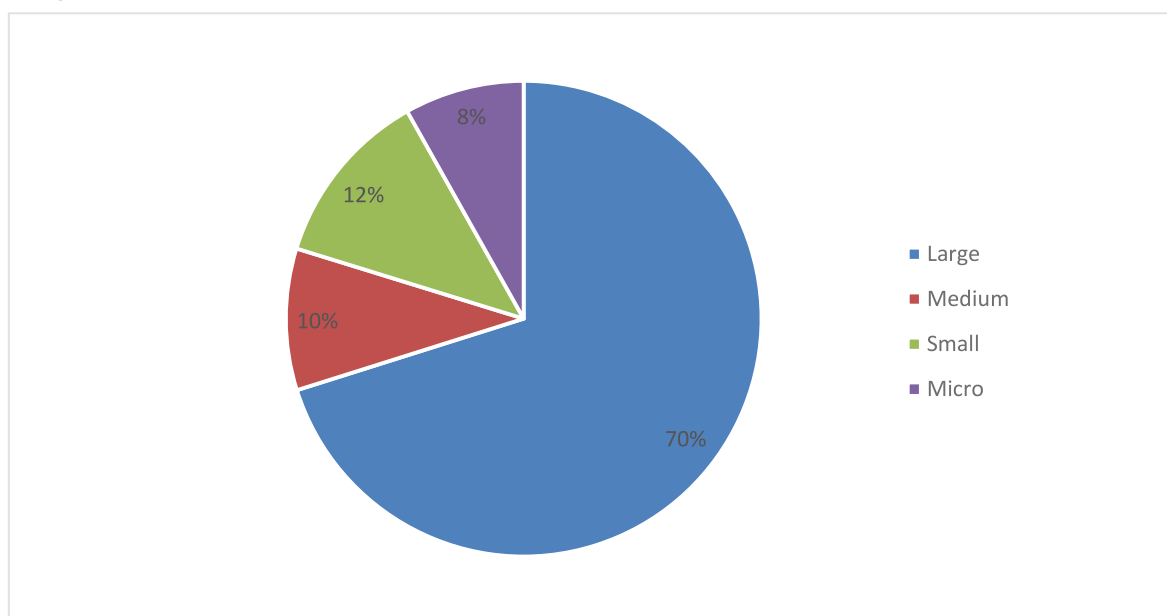
Size of Establishment	No. of Establishments	No. of persons engaged
1-4	4,250	10,642
5-9	1,415	8,605
10-14	290	3,321
15-19	144	2,374
20-24	90	1,938
25-29	58	1,555
30-49	146	5,597
50-99	125	8,423
100-199	67	9,026
200+	66	36,391
<b>Total</b>	<b>6,651</b>	<b>87,872</b>

Source: IBES Summary Report (2015)

According to Table 6, all the 87,872 persons employed in the construction sub-sector were found in about 6,651 establishments. The size of these establishments ranged from employing between 1 to 4 people to employing over 200 people. Table 6 shows that majority of the establishments (4,250) in construction employs between 1 and 4 persons. These establishments employed a total of 10,642 persons. The establishments employing over 200 workers were 66 in all but employing about 36,391 persons. The least number of people employed in the construction sub-sector can be found in establishments with size 25 to 29. With about 58 firms, they employed about 1,555 persons in the year 2014.

In Ghana, firms are classified in terms of Micro (employing 1-5), small (employing 6-30), medium (employing 31-100) and large (employing more than 100). The report in Table 6 however, is fraught with overlaps. One limitation the consultants encountered was their inability to have access to the raw data to have done the kind of categorisation that would have been consistent with the definitions of micro, small, medium and large enterprises. Be that as it may, the table still gives interesting details about the sizes of firms engaged in the construction sub-sector. The inference that can be drawn is that firms within the construction sub-sector are predominantly micro and small in nature.

**Figure 10: Distribution of Jobs Created by Micro, Small, Medium and Large Establishments**



Source: IBES Summary Report (2015)

According to the IBES 2015 report, 1,547 new entities had been created. Of this number, Figure 10 shows that 70 per cent (1,085) were large firms, while 12 per cent representing 187 establishments were small establishments. The least number of firms were created in the micro establishment, which represented 8 per cent (126) of construction firms. The large sized establishments are those with more than 100 employees. Medium sized establishments are those establishments with 31 to 100 persons engaged. Small sized establishments are those establishments with a total of more than five persons engaged but not exceeding 30 i.e. (6-30). Micro sized establishments are those establishments with 1-5 employees.

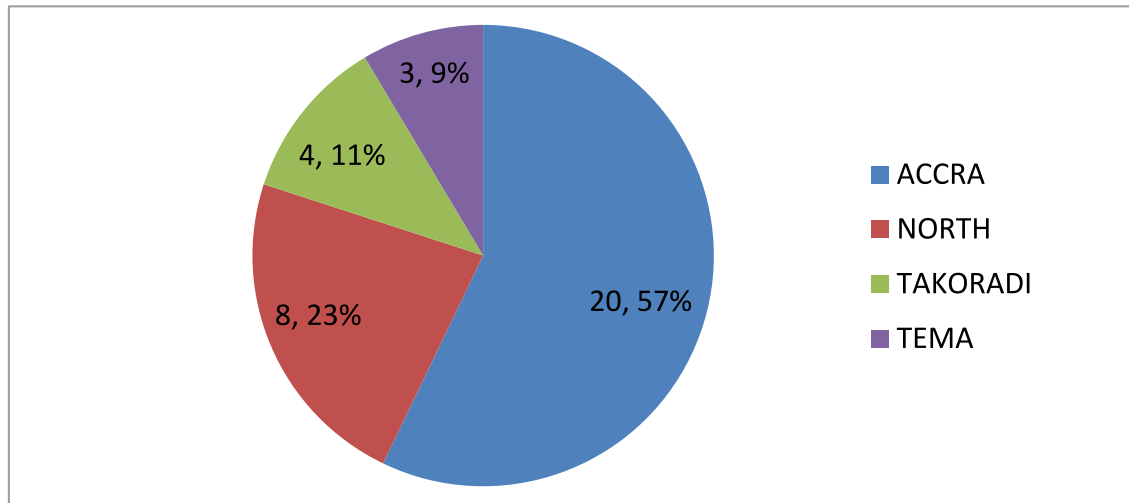
**Table 7: Number of Net Jobs Created by the Construction Sub-sector by Skill and MSML**

Type	Skills	Construction
Micro	Skilled	200
	Unskilled	(74)
	Total	126
Small	Skilled	313
	Unskilled	(216)
	Total	187
Medium	Skilled	170
	Unskilled	(21)
	Total	149
Large	Skilled	807
	Unskilled	278
	Total	1085

Source: IBES Summary Report (2015)

In terms of the skills development, Table 7 shows that in the micro establishments, while 74 jobs were lost in 2014 in terms of the unskilled workers, 200 new jobs were also created given a net total of 126 new jobs. The small firms also lost 216 unskilled jobs but created 313 new ones. The medium firms also add their share of job losses with 21 unskilled jobs being lost. These losses can be attributed to the hard times firms in Ghana went through as a result of the power crisis in the country. The highest gainers were in the large sector where a total of 1085 new jobs were created with 807 of them being skill jobs.

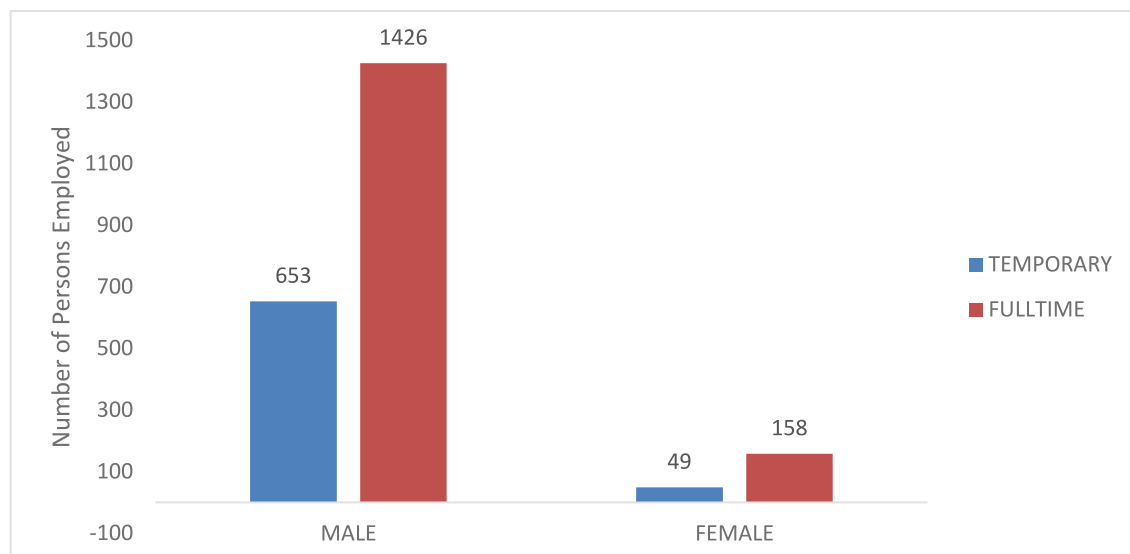
**Figure 11: Distribution of Construction Firms by Region**



Source: Authors' computation (2017) from GHENT 2013

Figure 11 shows the regional classification of the establishments with the sample of 35 construction firms. About 57 per cent of the firms were located in the Accra, 23 per cent in the North, made up of firms in Kumasi and Tamale. Eleven per cent were located in Takoradi, whilst nine per cent of construction firms were located in Tema. Thus, this gives an indication that the most (66 %) construction firms are dominant in the Greater Accra region.

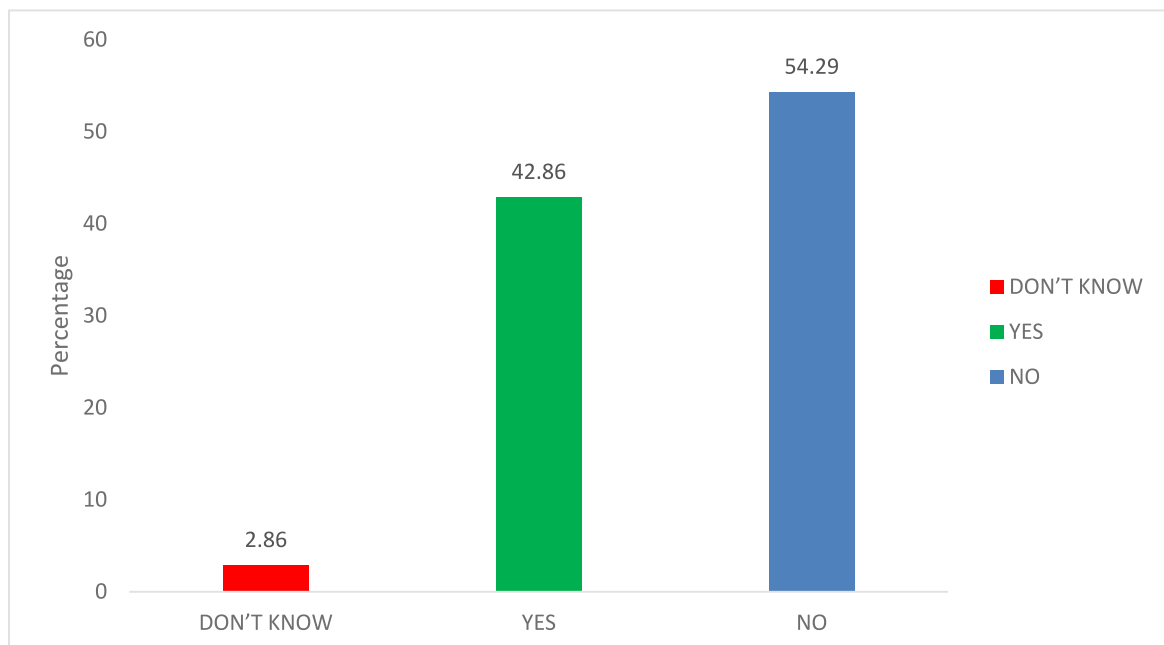
**Figure 12: Distribution of Employment by Full-time and Temporary Workers by Sex**



Source: Authors' computation (2017) from GHENT 2013

The 2013 Ghana Enterprise Survey demonstrates that the construction activities in Ghana are mainly dominated by men in both full time and temporary employment. The Enterprise Survey defines full-time employees as paid employees that are contracted for a term of one or more fiscal years and/or have a guaranteed renewal of their employment contract and that work up to 8 or more hours per day. Whereas temporary employees are defined as all paid short-term (i.e. for less than a fiscal year) employees with no guarantee of renewal of employment contract) and work 40 hours or more per week for the term of their contract. From Figure 12, males make up 90 per cent and 93 per cent of total employment of full-time and temporary employment, respectively. However, the females account for approximately 10 per cent and seven per cent of full-time and temporary employment, respectively. The figure seem to reflect the opposite of what is naturally the case in terms of the number of temporary workers vis-à-vis the number of full-time workers in the construction sector. The scenario could be attributable to the categories of construction workers surveyed for the study.

**Figure 13: Formal Training Programmes for Full-time Employees in Construction**

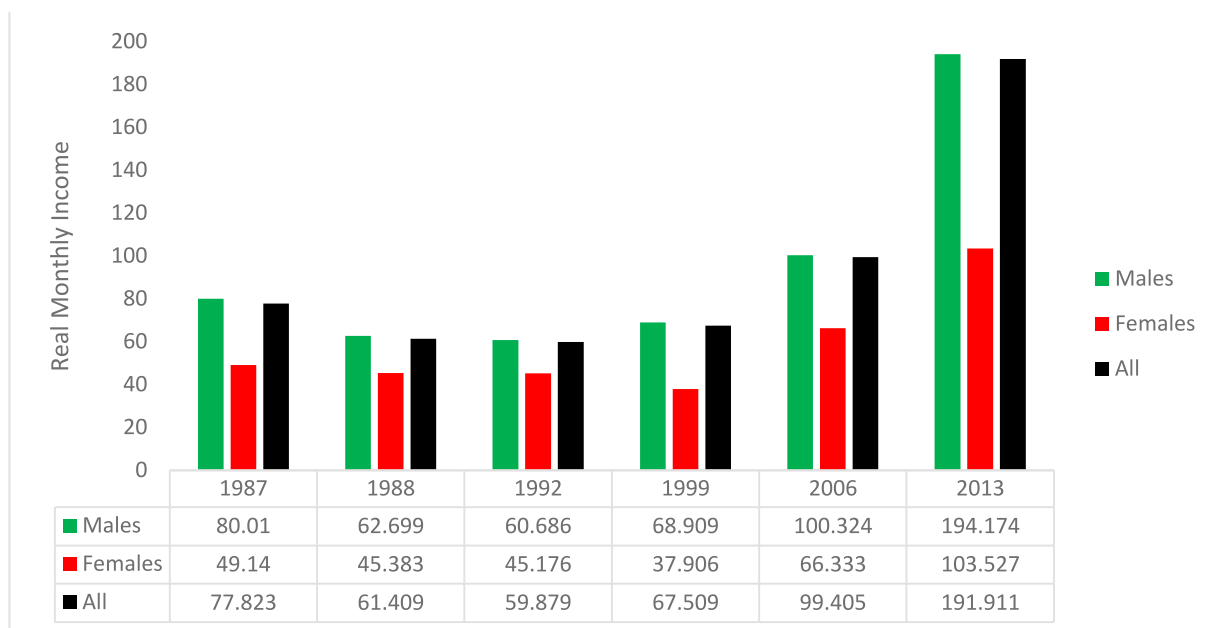


Source: Authors' computation (2017) from GHENT 2013

Figure 13 represents the construction firms that organise formal training programmes for their fulltime employees for which the responses include Yes/No. Such programmes may include classroom work, seminars, lectures, workshops, and audio-visual presentations and demonstrations. More than half of the sample 35 representing about 54 per cent (19) reported to have no form of any formal training for their fulltime employees, whilst about 43 per cent representing 15 of the sample had on record to had had formal training for the employees. The turnover in the sub-sector is likely to increase since those receiving formal training are less than half of the establishments.



**Figure 14: Real Average Monthly Earnings by Sex in Ghana Cedis (GH¢)**



Source: Authors' construct (2017) from GLSS 1-6

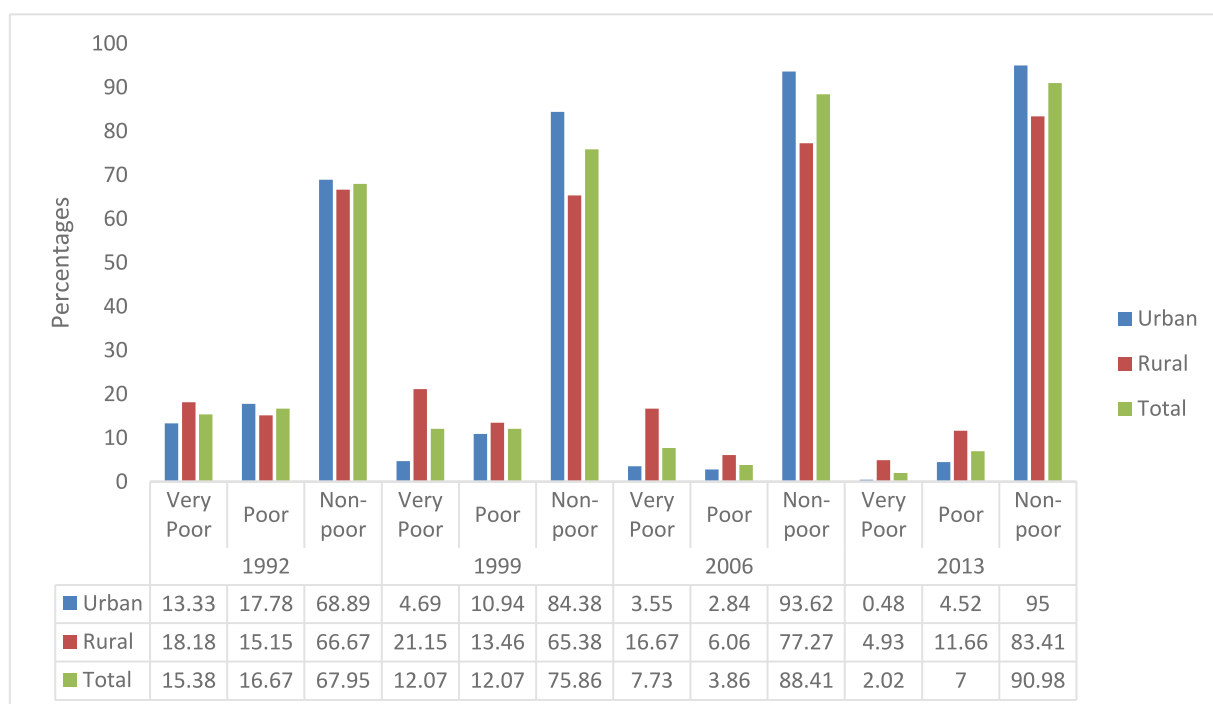
Figure 14 presents the real earnings of employees in the construction sub-sector. The figure shows that, monthly real earnings declined in the first three rounds of the GLSS for both males and females, i.e. from 1987 to 1992 (GH¢77, to GH¢61 and further declined marginally to GH¢59). However, monthly real earnings increased for the latter rounds of the GLSS from 1999, 2006 and 2013 i.e. GH¢67, GH¢99 and GH¢192, respectively.

For males, the monthly real earnings showed similar trend where there was a decline for the first three rounds of the GLSS and an increasing trend for the subsequent three rounds. Males in this sector earned about GH¢80 in 1987 but declined through to GH¢61 in 1992 and increased to about GH¢69 in 1999, GH¢100 and further to GH¢194 in 2006 and 2013, respectively.

For females, the monthly real earnings declined further to the fourth round of the GLSS i.e. from 1987 through to 1999. However, it increased in the latter years in 2006 and 2013. The declined in real earnings were marginally from GH¢49 in 1987 to GH¢37 in 1999. However, the average monthly real earnings for females increased substantially for 2006 (GH¢66) and 2013 (GH¢103).

However, the average monthly earnings from 1987 through to 2013 shows that men earn more than their female counterparts in the construction sub-sector which implies a gender gap in favour of men. Imperatively, between 1999 and 2013, males earn almost twice as much as females.

**Figure 15: Poverty Status in the Construction Sub-sector by Location**



Source: Authors' construct (2017) from GLSS 1-6

Figure 15 presents the poverty status in the construction sub-sector. In relation to poverty, Ghana measures poverty using two poverty lines in accordance with international standards - upper poverty line and lower poverty line. Lower poverty line focuses on the nutritional requirements of household members. Individuals whose total expenditure falls below this line are considered to be in extreme poverty, since even if they allocated their entire budgets to food, they would not be able to meet their minimum nutrition requirements. However, the upper poverty line focuses on both food and non-food consumption. Individuals consuming at levels above this can be considered able to purchase enough food to meet their nutritional requirements, and to be able to meet their basic non-food needs.

The upper poverty line as at 1992 was GH¢17.1205 per year, per equivalent adult in constant May 1992 Accra prices, and an extreme or lower poverty line of GH¢12.8404 in the same units (GSS, 1995). As at 1999, the lower and upper poverty lines were set at ¢70 and ¢90, respectively (GSS, 2000). By the year 2006, Ghana's lower poverty line was set at GH¢288.47 and an upper poverty line of GH¢370.89 per adult equivalent per year (GSS, 2007). Currently, Ghana's poverty line as at 2013 are set to be within GH¢792.05 and GH¢1314.00 per adult per year for both lower and upper poverty lines, respectively (GSS, 2014).

Overall, over 60 per cent workers in the construction sub-sector were classified as non-poor between 1992 and 2013, thus about 68 per cent, 76 per cent, 88 per cent and 91 per cent respectively. Thus, on the average, the number of construction workers who are not poor have been on the rise likewise those who are very poor have been declining over time i.e. from 15 per cent, 12 per cent, 7 per cent and to 2 per cent for 1992, 1999, 2006 and 2013, respectively.

In terms of the rural/urban distribution, most non-poor construction workers are mainly urban dwellers as compared to rural dwellers throughout GLSS 3 to 6. That is, 69 per

cent and 67 per cent for urban and rural dwellers respectively in 1992, 84 per cent for urban dwellers and 65 per cent for rural workers in 1999. Also, about 94 per cent of construction workers who dwell in the urban areas are not poor, while 77 per cent of their counterparts are not poor in rural areas in 2006. Similar results was observed in 2013 where about 95 per cent urban dwellers working in the construction sub-sector were not poor, while about 83 per cent were not poor in the rural areas. These results imply that, most construction workers lie above the upper poverty line i.e. they can meet their nutritional and basic non-food needs.

In relation to extreme poverty, there was a decline in construction workers who are very poor in urban areas from 1992 to 2013. Thus, from 13 per cent, through to about five per cent, four per cent and less than one per cent were recorded in 1992, 1999, 2006 and 2013, respectively. Again, in the rural areas, extreme poverty increased marginally from 18 per cent to 21 per cent between 1992 and 1999. However, it declined to about 17 per cent in 2006 and furthermore to five per cent in 2013. These results indicate that construction workers are likely to meet their basic nutritional or food needs and gradually their non-food requirements.

In terms of construction workers who lie within the lower and upper poverty lines, they were classified as poor. Overall, there had been a declining trend of poor workers in the construction sub-sector from 1992 through to 2006, however, it increased in 2013. Similarly, such trend was observed in terms of the rural/urban distribution.

## **SECTION 5: INVESTMENT IN INFRASTRUCTURE**

### **5.1: Introduction**

The importance of infrastructure in a country's development cannot be overemphasised. It has become increasingly imperative for more resources to be dedicated towards infrastructure development to facilitate growth and development in all sectors of the economy. Infrastructure development cuts across all sectors of the economy and thus, any programme or policies regarding infrastructure development must be very holistic.

The level of investment required for infrastructure development tends to involve huge capital outlay. Over the years, government had been initiating and undertaking most of the investment in infrastructure, but that has served to put a lot of strain on state resources.

It must be pointed out however, that existing data on investment in infrastructure seem woefully inadequate. This assertion stems from the fact that the details on specific infrastructure projects and their funding sources are often bunched together and therefore, giving details in disaggregated forms tends to be difficult. Notwithstanding, the study went ahead to make do with the ones available from the sources consulted.

A number of investments, both public and private, have been undertaken in the infrastructure sector over the years. They range from water infrastructure, energy infrastructure, road infrastructure, building infrastructure, railway infrastructure, among many others.

Generally, the Road Fund, the Consolidated Fund and development partners such as the World Bank, European Union, African Development Bank and other bilateral agencies have been the main source of financing and maintenance of the road sector (Ghana National Commission for UNESCO Report, 2010). In terms of road maintenance and urban road rehabilitation which feeds on the Ghana road fund, the country has had some inflows into the fund which has aided in the rehabilitation of some urban roads and the maintenance of others. The inflows into the Ghana road fund over the last 16 years (2000-2015) are presented in Figure 1.

For instance, the total funds disbursed for routine maintenance, periodic maintenance and minor rehabilitation and upgrading was estimated at 61 per cent of the maintenance needs of each modal network. Even though it marked an improvement over the 2012 situation, it fell short of the target of 70 per cent target set for 2013. In 2013, 45 per cent of roads were periodically maintained or rehabilitated. In addition, only 4,034kms of urban roads were maintained or rehabilitated in 2013 compared to the 4,461kms in 2012 (NDPC, 2014). Government's inability to meet the road maintenance targets limits the potential of the road construction industry to expand its employment generation capacity.

### **5.2 Investment in Existing and On-going Infrastructure Projects**

For government to boost national development, various projects have been undertaken to enhance employment generation, especially in the infrastructure sub-sector. Table 8 presents the number of projects in the building construction sub-sector, their estimated cost as well as the employment they generated from the period 1995 to 2016. This information presented here is based on the data gleaned from the Ghana Investment Promotion Authority (GIPA) per the investments channelled through its outfit.

**Table 8: Number of Projects, Employment and Estimated Cost in the Building Construction Sub-sector**

<b>Year</b>	<b>No. of projects</b>	<b>Estimated cost (US\$ M)</b>	<b>Ghanaian</b>	<b>Non-Ghanaian</b>
1995	3	0.86	79	40
1996	6	4.18	922	30
1997	3	0.71	276	10
1998	7	3.73	541	24
1999	3	2.91	372	7
2000	1	0.31	401	15
2001	2	0.30	187	9
2002	2	5.18	60	5
2003	4	0.91	136	19
2004	3	0.62	744	25
2005	5	8.77	556	52
2006	4	1.25	222	32
2007	3	1.14	117	10
2008	2	2,077.34	5248	302
2009	1	0.33	0	0
2010	5	6.04	545	28
2011	3	7.26	133	18
2012	15	699.92	1295	215
2013	11	21.89	711	154
2014	1	0.48	15	4
2015	3	6.72	200	16
2016	2	1.77	96	4
<b>Total</b>	<b>89</b>	<b>2,852.62</b>	<b>12856</b>	<b>1019</b>

Source: GIPC (2017)

Over the past 21 years, a total of 89 projects have been registered by GIPA with a total investment of US\$2,852.62 million. These projects generated 13,875 jobs of which 12,856 were Ghanaians and the remaining 1019 being non-Ghanaians. This implies that the ratio of investment to jobs created was about US\$205,594.23 to a job. From Table 8, it can be observed that 2008 recorded the highest level of investment of about US\$2,077.34 million which generated total employment of 5550. This implies that investment per job was about US\$374,295.50 in 2008 alone. The year 2012 also recorded an appreciable level of investment worth US\$699.92 million which generated a total employment of 1510 in Ghana. These figures were generated from 15 projects that were recorded by the GIPC in that year. These years were very recent election periods. This could be due to the huge capital investment programmes executed during this years. The periods 2010 and 2011 had a total of 9 projects with an estimated investment of US\$13.63 million generating total employment of 714. These were the periods when Ghana started exploiting oil.

Table 9 also shows other forms of investment which occurred in the infrastructure sector.

**Table 9: Infrastructure Projects and Level of Investment**

Project	Sector	Location	Cost	Status	Job created
Takoradi 2 Thermal Power Plant	Energy	Takoradi	US \$325,000,000.00	Completed (2013 -2015)	843
West African Gas Pipeline Project	Energy	Tema	US \$1,200,000,000.00	Completed (2003 -2005)	
Azito IPP Plant	Energy	Western Region	US \$430,000,000.00	Completed (2013-2015)	>1,000
Tema Port Expansion Project	Ports and Harbours	Tema	US\$1,500,000,000.00	Under Construction (2015-2018)	5000
Teshie Nungua Sea Water Desalination Project	Water	Teshie Nungua	US\$126,000,000.00	Completed (2011-2014)	400

Source: Authors' files drawn from some Government Ministries (2017)

The high ratio of investments to job creation as reflected in Tables 8 and 9 could be attributed to the projects in question involving some greater usage of capital than labour intensive methods.

### 5.3 Job Impact Analysis and Infrastructure Investments

An aspect of the 2017 budget statement that provides an indication of government of Ghana's intention to tackle the unemployment challenge has to do with the fact that all government of Ghana projects and initiatives, whether they are to be executed by public

sector contractors or private sector contractors, would be subject to job impact assessment. The objective of this new directive is aimed at ensuring that projects or initiatives undertaken by government on its own or in partnership with the private sector become an avenue for skills enhancement and job creation. This is to provide insight for government to provide incentives and stimulus packages into areas that would ensure the achievement of higher skill jobs and opportunities for Ghanaians (MoF, 2017).

Subsequent to this new direction, it is instructive to juxtapose the Job Impact Analysis with other policies and programmes earmarked to be undertaken, especially in the infrastructure sector. The government intends partnering the private sector in delivering jobs to the unemployed Ghanaian masses, while transforming the economy through an industrialisation policy known as 'one-district one-factory'. With an estimated cost of GH¢456.3 million dedicated to this policy, it aims at constructing 216 medium and large scale factories in all MMDAs in Ghana. By this policy, over 350,000 direct and indirect jobs are likely to be created. It must be noted however, that, this figure is rather on the low-side. Per the vision of the government, this amount is to be complemented through its PPP policy. Thus, the cost per job may be higher than the low figure the estimated figure above seems to suggest. The uniqueness of the Job Impact Assessment policy will find expression in the building of the capacities of local contractors that will either enable them take-over from their expatriate counterparts or compete favourably with them in executing public projects. This also implies that the potential jobs the factories would create for local contractors as well as how the local economies can be boosted through the induced jobs that the existence of these infrastructure projects would create. Thus, it is possible for the number of jobs this projected investment would generate to exceed what has been projected considering the induced jobs that would come out of the construction of these factories.

The other infrastructure project which is expected to generate jobs is the construction of dams in various agro-producing areas and the rehabilitation of existing ones to facilitate an all-year round production of food. The amount of GH¢94.5million budgeted for this purpose, is projected to provide job opportunities for a number of rural dwellers as well as local contractors who would be engaged to construct the dams and rehabilitate dried up ones. This would be very feasible, if the local content policy is passed and enforced as well as ensuring the effective implementation of the LiPW policy. If this becomes possible, then one would expect employment opportunities to be created for vulnerable groups such as women and youth as well as poor households.

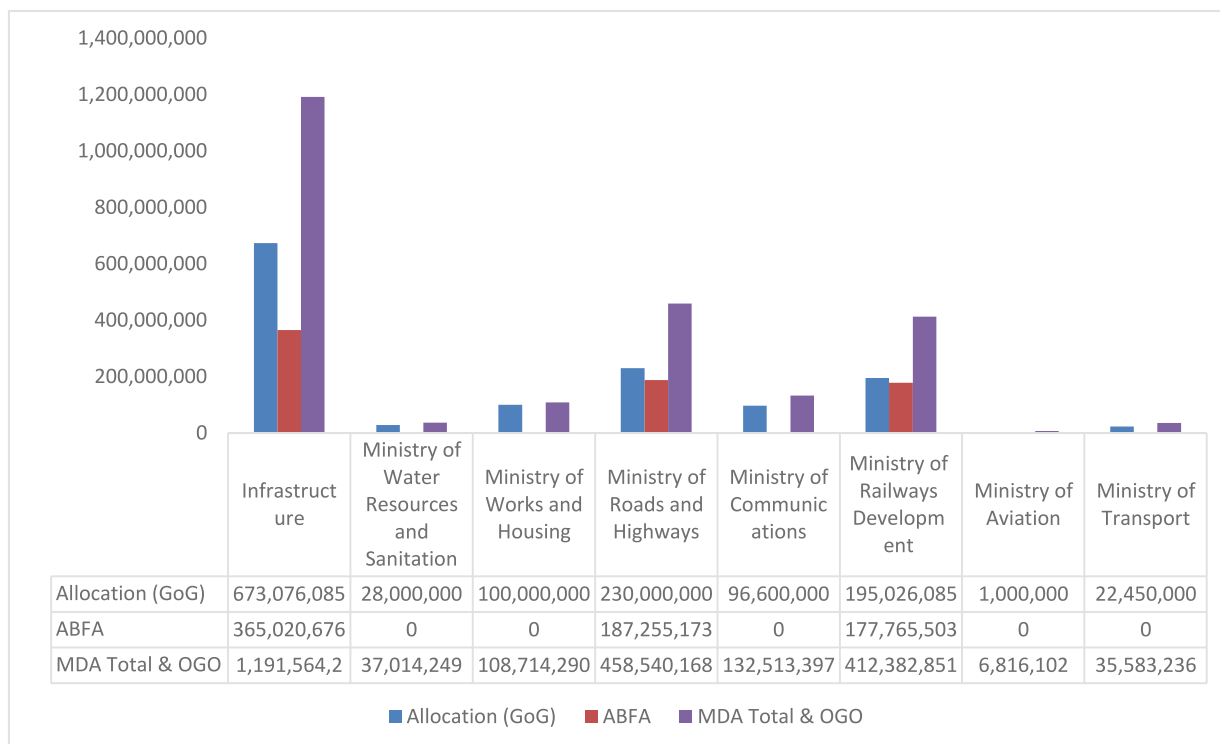
It must be pointed out however, that, the effectiveness of these policies in generating the needed employment will depend on the commitment on the part of all stakeholders in ensuring that the right frameworks are put in place.

#### **5.4 Allocation to the Infrastructure Sector for 2017**

The total capital expenditure allocation to the infrastructure sector by the GoG is GH¢1,191,564,293 for 2017. This amount is to be disbursed to the sub-sectors under the infrastructure sector. Figure 16 displays the disaggregated allocation to the infrastructure sub sector in the 2017 budget. The disaggregations are as follows:

For the MWRS, an allocation of GH¢37,014,249 was made, followed by the MWH with GH¢108,714,290, MRH with GH¢458,540,168, MoC with GH¢132,513,397, MoRD with 412,382,851, MoA with GH¢6,816,102 and MoT with GH¢35,583,236.

**Figure 16: GoG Infrastructure Sector Capital Expenditure Allocation, 2017**



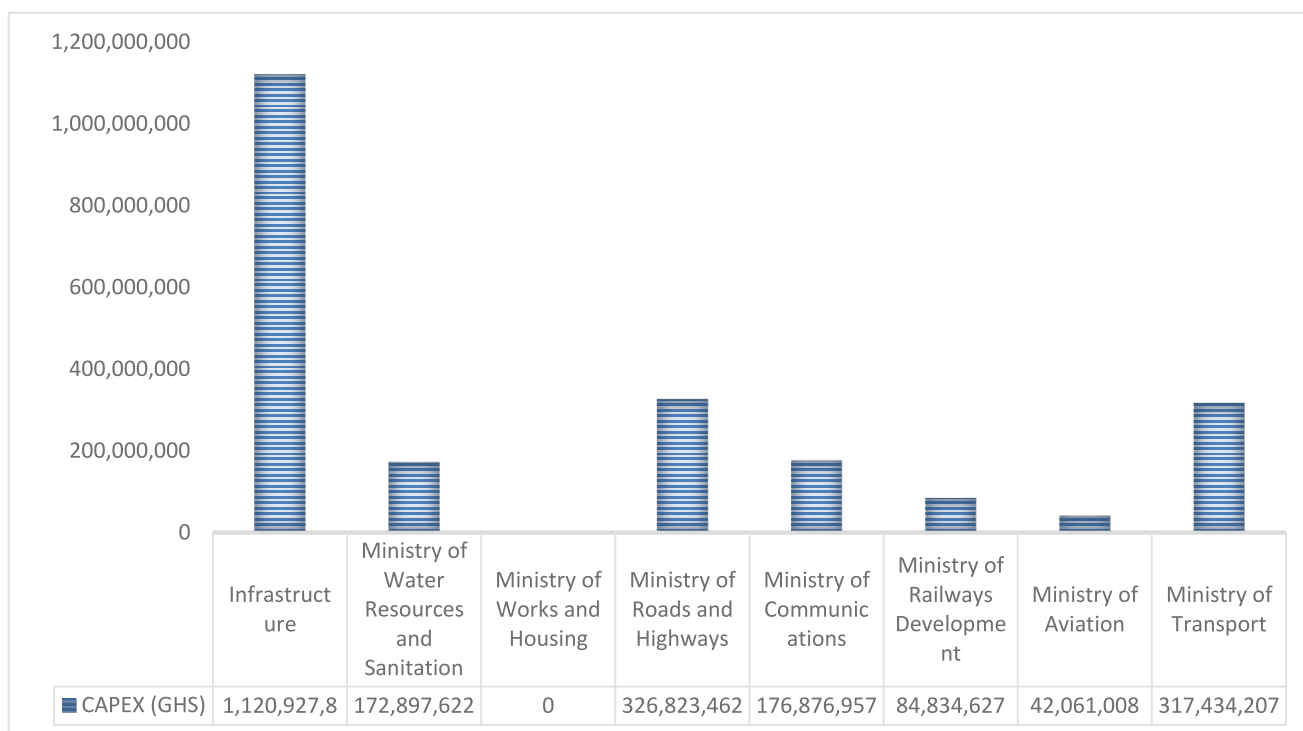
Source: Authors' construct from MoF (2017)

These capital expenditure allocations to the various sub-sectors within the infrastructure sector when disbursed will ensure the provisions of water, sanitation, housing, roads, communications railways, aviation and transport infrastructure. The amount earmarked for the infrastructure sector by the GoG is woefully inadequate looking at the infrastructure gap deficit which the country has been enduring over the years. It is thus, expected that this amount would be complemented by inflows from donors. In the 2017 budget, development partners' funding for the infrastructure sector is projected to be GH¢1,120,927,883. This is shown in the figure below.

In undertaking these infrastructure projects, both public and private sector contractors would be engaged to execute them. This will lead to the demand for various categories of skills required to undertake the projects. There would thus be employment of both skilled and unskilled workers in terms of direct, indirect and induced jobs. ABFA in the figure stands for Annual Budget Funding Amount; while MDA stands for Ministries, Departments and Agencies; with OGO being Other Government Obligations.



**Figure 17: Infrastructure Investment from Development Partners (GH¢)**



Source: Authors' construct from MoF (2017)

Figure 17 shows the expected investments from development partners towards Ghana's infrastructure sub-sector. The figure indicates that much of development partners' support has been going into the roads and transport sector. This brings to the fore the significant contribution that development partners have been making towards the infrastructure sector in Ghana. These contributions translate into the direct, indirect and induced jobs that such investments engender.

### 5.5 Employment Generation Capability Challenges in the Construction Sub-sector

The infrastructure sector in Ghana is bedevilled with myriads of challenges which stifles its employment generation capacity. Some of these challenges are enumerated below:

- i. Contractors lack capacity to execute high grade infrastructure contracts. This capacity includes finance human skills, equipment and logistics
- ii. Long gestation period of donor loans
- iii. Low inflow into the road fund
- iv. Perennial problem of arrears in payments to road contractors and building contractors
- v. Improving local consultancy and contracting capacities

## **SECTION 6: CASE STUDIES ON THE VARIOUS TYPES INFRASTRUCTURE PROJECTS**

### **6.1 Analysis of Selected Construction Firms in Ghana - The Case of Tacoa Construction Company Limited**

Tacoa Construction Limited is a private building construction company which has won quite a number of contracts from private firms and state institutions such as Social Security and National Insurance Trust (SSNIT), Bank of Ghana (BoG) and the University of Cape Coast (UCC) to construct both private and public buildings. Tacoa is currently constructing two buildings. The first is for the Business School of UCC, which is located on UCC campus at a cost of GH¢6.5 million. The second one is for the College of Distance Education located at Jumapo in the Eastern region at a cost of GH¢14.5million.

Tacoa has staff strength of 150 workers. In terms of tenure, 20 are permanent; made up of project managers, structural engineers, surveyors and the remaining 130 are temporary staff. With regard to skill level, 30 of the total staff strength are skilled, while the rest (120) are artisans. These include masons, electricians, plumbers, carpenters and tile setters. The temporary workers are usually basic school leavers and holders of National Vocational Technical Institute (NVTI) certificates.

Tacoa does not directly recruit its temporary staff, but has rather outsourced that component to an agency to do that on its behalf. Tacoa thus, relies on the employment agency to recruit the workers. The employment agency is paid on a commission basis and the amount paid depends on the quality of the skill set and the number of workers provided to Tacoa. When the temporary workers are introduced to Tacoa, a contract is signed which serves as a legal tool regulating the labour relationship with them. A crucial part of the legal agreement is the mode of payment which is usually negotiated upon before a final agreement is made. Masons are paid GH¢40 and labourers are paid GH¢30 as daily wage rates.

The signing of contracts between the temporary workers and Tacoa guarantees some degree of decent work since the workers' legal rights are showed to have been upheld. The contract between the workers and Tacoa guarantees an opportunity for workers to seek legal redress when the contract content is being breached. Secondly, the workers gain an amount which is 3 times more than the Ghanaian daily minimum wage level. This thus, meets the first strategic pillar of decent work which emphasises productive work and reasonable earnings.

Thirdly, the social security for the temporary workers are paid. However, the social protection dimensions of decent work seem not to be upheld since there is no sick leave coupled with minimal opportunities for them to unionise.

Even though Tacoa is making inroads in the construction sub sector stemming from the high standing contracts it receives from well-known state institutions, it is usually confronted with challenges which include:

- I. Delay in the payment of contract sums. State institutions usually delay in the payment of amounts of money due Tacoa after the contract has been executed. This has implications for employment generation and decent work because it reduces Tacoa's ability to hire workers and pay them on time.
- ii. Politicisation of contract awards. Tacoa suffers from some political labelling. It is

usually labelled as winning contracts on the altar of political party affiliations. Such labels reduce their chances of winning contracts when there is a handover of power from one political party to the other.

From the facts presented and the analysis made, it can be safely contended that workers enjoyment of decent work is not fully achieved. Even though workers were enjoying their legal rights and earnings, some conditions which define their social protection, as set by ILO, were lacking and would require some reconsideration.

There are also indications that the ability on the part of private actors in the construction sub sector can expand and subsequently promote employment opportunities will depend largely on the speedy nature with which contract sums are paid, coupled with a shift from the emphasis on political party affiliations to an emphasis on rational criteria such as contractor's efficiency and capabilities as basis for awarding contracts.

The study posits that, the issue of low levels of decent jobs even cuts across other construction firms just like the Tocoa case and thus, the relevant stakeholders such as the MoELR, TUC, MoT, MoWH, etc. should find ways of seeking and guaranteeing decent jobs for workers within the sector.

This validates the information that the existing datasets such as the GLSS 1-6 provided on the declining status of decent work in the construction sub-sector.

## SECTION 7: CONCLUDING REMARKS

This study has attempted to tease out the level of investment in the infrastructure sector vis-à-vis employment generated in the sector. In conducting the study, a number of issues were identified which we discuss subsequently.

One of the key challenges identified in the course of conducting this study had to do with the scanty, scattered and inconsistent data on employment in the infrastructure sector. The data consulted for the study were lumped together in most instances and therefore, made it difficult to tell the employment generated in the various sub-sectors of the infrastructure sector. In view of this limitation, the study had to present most of the analyses on the construction sub-sector of the infrastructure sector. The Consultant also had difficulty in accessing data from the respective institutions.

The Consultant is of the view that, there is the need to build a national employment database in the infrastructure sector and, by extension, all other sectors of the economy to serve as a knowledge production hub which will serve as a formidable reference for interrogating the employment dynamics in the economy of Ghana.

The Consultant approached this study by making use of datasets and reports that were nationally representative to tease out the employment dynamics in the infrastructure sector. The study made use of the Population and Housing Census report to show the level of employment in the construction sector between the period 1970 to 2010. The report indicated that, over the period of 36 years, there was an increase in employment in the construction sub-sector on the average. An interesting aspect of this analysis had to do with the drop in employment in the sub-sector from 72,060 to 65,069 between 1970 and 1984. It is difficult to tell what might have accounted for this drop, but one could suffice to say that this could have been due to the economic (oil price hikes, high inflation, increasing balance of payments deficits (BoP), negative real investments, etc.) and political crisis (frequent *coupe de tats*) that bedevilled the country during the 1970s and early 1980s which led to an economic slowdown.

Further to using the PHC report, the Consultant also observed from the GLSS data sets spanning 1987 to 2013 that, the proportion of employees in the construction sub-sector to the total labour force increased from 1.2 per cent in 1987 to 1.87 per cent in 1988. The proportion however, dipped to 0.95 per cent in 1992 after which it improved appreciably to 1.44 in 1999; 1.58 in 2006 and 2.25 in 2013. The expansionary works in the infrastructure sector have accounted for this rise in the proportion of the workers in the construction sub-sector.

The data sets drawn from the GLSS 4-6 show a persistent male dominance as the proportion of females in the construction sub-sector declined from 3.82 per cent in 1999 to 2.90 in 2013. In this regard, the implementation of the LiPW Policy, which seeks to ensure gender equity/balance in recruitment and remuneration in the construction sub-sector, is likely to improve the proportion of female workers in that sub-sector.

The Consultant recommends to the MoELR and MMDAs to effectively implement the LiPW Policy. Furthermore, it is recommended to these state institutions to make use of affirmative action to improve the representation of women in terms of opportunities for employment in the construction sub-sector.

The construction sub-sector is a highly labour-intensive enterprise, and thus, requires

very able-bodied persons to cope with its demands. The study, using the GLSS 1-6 datasets, identified that majority of the people found in this sub-sector were within the age bracket of 25-50 years, indicating how youthful the sector is. Strengthening the implementation of the local content and LiPW policies by all government ministries and MMDAs can serve as a potential mass job-creating avenue for the construction sub-sector.

The phenomenon of decent work gained attention in the project. The data gathered indicated high degrees of work vulnerability which cuts across both sexes. Throughout the periods under consideration (1999-2013), workers in the construction sub-sector have been enduring working conditions which fall short of the criteria for measuring decent work by the ILO standards. Much of this is inextricably linked with the high levels of informality that characterises the construction sub-sector and the fact that, the majority of the workers are basic school leavers. This significantly low number of workers in the construction sub-sector without decent work has the potential of putting the sustainability of work in jeopardy. Increasingly, more and more workers are taking up jobs in the sub-sector by signing short-term contracts which do not entitle them to receive social security, strong bargaining power, union backing, paid leave, etc. which increase their exposure to exploitation by employers. The Trade Union Congress, National Labour Commission and National Commission for Civic Education need to intensify educational campaigns on decent work and ensure the effective enforcement of labour laws in order to protect workers from indecent employment.

These notwithstanding, the GLSS datasets gave very good insight into how the construction sub-sector is gradually attracting workers with tertiary education into its domain due to the increasing degree of the deployment of sophisticated technology in the infrastructure sector which requires highly qualified skilled personnel. At the same time, this phenomenon can potentially threaten the future of work for lowly skilled workers, and thus, urgent steps must be taken to build the capacity of such workers, so that they do not end up in the unemployment pool. The NVTI should be adequately resourced to continue to train more highly skilled workers capable of being absorbed by the infrastructure sector. Furthermore, the proposed legislation of the local content policy related to the awarding of contracts and skills enhancements must be sped up to enhance the capacity building of locals.

Details of employment from the Integrated Business Establishment Survey (IBES) Report indicate that employment about 87,872 are employed in the construction sub-sector of Ghana. This further buttresses the importance of the sub-sector in employment generation. Again, construction is heavily concentrated in the Greater Accra Region of Ghana. For example, about 60,617 persons were engaged in the sub-sector in Accra alone, while that of all other regions summed up to 27,255 persons. This is a bit worrying, and can further fuel increased migration of construction sub-sector workers from all other regions into the national capital. There is the need for government in collaboration with the private sector to spread infrastructure development projects equitably across all regions to provide more opportunities for other unemployed workforce in those regions. It is thus, important to note that the NIP being put together by the NDPC is facilitated and implemented effectively to arrest this tide.

The report also affirmed the male dominance in the sector which showed a ratio of 79:21 per cent of males to females. This wide disparity should be bridged and the study is of the view that the LiPW policy would help in dealing with the disparity. The categories of firms with the largest employment are the large-sized ones, followed by small-sized firms, medium-sized firms, and then micro.

The last dataset used in this study was the GHENT which also portrayed the huge potential of the construction sub-sector in serving as conduit for more job creation. It also indicated that there were aspects of the construction sub-sector that ensured permanent jobs, while there are also categories where the jobs created are temporal. For these temporary workers to remain in employment, it means construction projects must consistently be undertaken for such to have secured livelihoods.

The study found out that a number of investments have also been undertaken at different time periods in the infrastructure sub-sector which led to the creation of a significant number of jobs.

In considering the future of work in this direction for more secured jobs to be guaranteed, government must provide the enabling environment such that, much of infrastructure projects would adopt a more labour-intensive method. This would go a long way in ensuring that, technological advancement does not threaten to reduce employment of the mass of persons in the sector.

The current policy direction of the government to partner the private sector to construct factories and rehabilitate existing ones in every district is expected to gravitate towards the use of labour-intensive technology to create more jobs. The local content policy as well as the LiPW policy can help in making this a reality.

The current employment census being conducted by the GSS is thus in the right direction, but the design of the instruments must be looked at again in order to capture all relevant characteristics of employment in the infrastructure sector. It would be helpful, if the infrastructure sector is clearly delineated to show all the various sub-sectors and the employment they generate. More resources must thus be dedicated to commissioning a comprehensive national employment census for all sectors of the economy in order to build a reliable national database for the country.

The following questions need to be answered by key stakeholders:

1. Are datasets on employment generated by the construction sub-sector in Ghana adequate to inform policy?
2. Do the National Employment Policy and Labour Laws of Ghana address the issue of decent work adequately?
3. How can decent work be conceptualised with the increasing spate of informalisation in the construction sub-sector?
4. Is the employment generation capacity of the infrastructure sub-sector underestimated?
5. How do we create a real picture of the extent to which investments in the infrastructure sub-sector translates into employment generation?
6. What factors are accounting for the increasing spate of temporary jobs relative to permanent ones?
7. Is there a comprehensive national database on employment in the infrastructure sector and by extension all sectors of the economy?

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# APPENDICES

## Appendix A: Interview Guides

### ***INTERVIEW GUIDE FOR KEY INFORMANT FEBRUARY-MARCH, 2017 INFRASTRUCTURE SECTOR IN GHANA***

- 1. To assess the employment characteristics in the infrastructure sector; and  
Delineate the main existing infrastructure employment data into sub-sectors, size, etc.,  
in order to understand the frequency, trends in employment in these units and their  
relative importance;**
  - i. What are the various sub-sectors in the infrastructure sector in Ghana?
  - ii. What kind of companies/firms are involved in the sector (small, medium or large)?
  - iii. Among these sub-sectors, which of them employs large numbers of works? Do you have an idea of how many people employed under each sub-sector?
  - iv. What is the level of involvement of women and the youth in each of the sub-sectors?
  - v. What are the skills profiles in the sector (formal and informal)?
  - vi. What have been the income distributions levels? [if necessary, prompt with the following area: skill profile, sub-sectors, gender, employment type]
  - vii. What is the level of growth in the sector (past versus present)?
  - viii. We should consider the direct, indirect and induced jobs created in the infrastructure sector.
  - ix. In your opinion, what is the trend of employment in this sector?
  
- 2. Identify the level of public investment and employment generation capacity in the  
infrastructural sector;**
  - i. What has been the budget of your organisation towards the advancement of infrastructure?
  - ii. Does your budget have any bearing on the national budget?
  - iii. What is the source (s) of funding for the infrastructure projects?
  - iv. Do you form partnerships with the private sector?
  - v. Who are these partners?
  - vi. What informs this partnerships? Or how do you identify your partners?
  - vii. Who normally undertake the project? Do you have an in-house experts or you contract other companies?
  - viii. On what bases do you select one company over the other?

- ix. Do have any idea of (on the average) how many people are directly employed in the infrastructure sector in Ghana annually? What about those who get indirect jobs from the infrastructure sector?
- x. How many people (on the average) get direct employment from your projects annually?
- xi. Do you have any idea of the number of people who indirectly get jobs because of your projects annually?

**3. Pool data and other relevant information and documents that are on employment in the infrastructure sector in Ghana;**

- i. Could you list various datasets which addresses issues on employment infrastructure in Ghana?
- ii. Do you know of any national policy documents on infrastructure in Ghana? Could you list them?
- iii. What are the position of these policy documents on employment and employment creation?
- iv. Which programmes and other practices were particularly helpful for job creation in this sector?

**4. Provide in-depth analysis in the roads and building construction sub-sectors in Ghana aimed at assessing their relative strengths, weaknesses, opportunities and threats vis-a-vis their capability to create employment.**

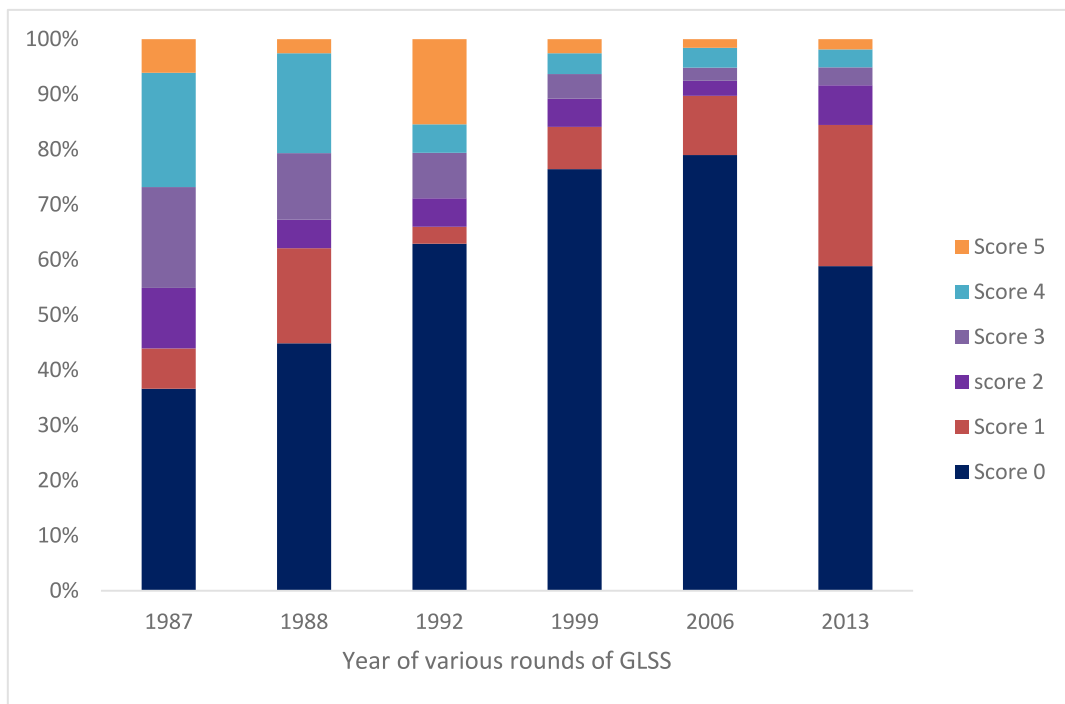
- i. In your opinion what are the strengths and weakness of this sector in the creation of employment?
- ii. Are there any practical opportunities in this sector?
- iii. What are the possible challenges / threats found in this sector?
- iv. Are there any (national or your institution) future plans to improve this sector? And what should be done to improve employment creation in this sector?

***INTERVIEW GUIDE FOR FOCUS GROUP DISCUSSION FEBRUARY-MARCH, 2017  
INFRASTRUCTURE SECTOR IN GHANA***

- i. What are the employment characteristics in the infrastructure sector? [Prompt with the following areas: sub-sectors, size, formality, income distribution, gender, skill profile, labour accessibility/mobility].
- ii. What is the level of public investment and the employment generation capacity in the infrastructure sector in Ghana? [Prompt with the following areas: budget, sources of funding, partnerships, seasonality of jobs, job-switching, temporary jobs, permanent jobs, direct jobs, indirect jobs, induced jobs, on-going and future work].

- iii. To what extent do existing data and reports address issues on the heterogeneity relative to employment data among different groups within Ghana? [Prompt with the following areas: identification of some existing data, reports, policy documents in the sector with key interest on employment, strengthen and weakness of the policies]
- iv. What are the attributes of the major players in the infrastructure sector? [Prompt with the following areas: ownership, location, size, turnover, skill sets, employment history, partnerships, suppliers]
- v. What are the strengths, weaknesses, opportunities and threats found in the roads and building construction sub-sectors in Ghana?

### Appendix B: Decent Work Scores in Construction



### Appendix C: Distribution of Employment by Region and Sex

REGION	GLSS 4						GLSS 5						GLSS 6					
	URB AN		RUR AL		TOT AL		URB AN		RUR AL		TOT AL		URB AN		RUR AL		TOT AL	
	MAL ES	FEMAL ES	MAL ES	FEMAL ES	MAL ES	FEMAL ES	MAL ES	FEMAL ES	MAL ES	FEMAL ES	MAL ES	FEMAL ES	MAL ES	FEMAL ES	MAL ES	FEMAL ES	MAL ES	FEMAL ES
Western	11	0	9	0	20	11	0	0	7	0	18	54	0	37	1	92		
Central Greater	7	0	8	0	15	15	0	0	7	0	22	52	1	29	1	83		
Accra	29	0	1	1	31	52	0	0	8	0	60	161	1	33	6	201		
Volta	6	1	14	5	26	7	0	0	8	0	15	36	1	49	1	87		
Eastern	11	0	9	0	20	16	1	5	5	0	22	50	1	33	0	84		
Ashanti	16	0	21	0	37	42	0	22	0	0	64	63	3	36	1	103		
Brong Ahafo	4	0	3	0	7	8	1	4	4	0	13	31	0	17	0	48		
Northern	1	0	0	0	1	7	2	3	3	0	12	28	0	10	0	38		
Upper East	0	0	0	0	0	1	0	13	4	4	18	22	4	52	10	88		
Upper West	0	0	0	0	0	1	0	5	2	2	8	14	1	18	3	36		
<b>Total</b>	<b>85</b>	<b>1</b>	<b>65</b>	<b>6</b>	<b>157</b>	<b>160</b>	<b>4</b>	<b>82</b>	<b>6</b>	<b>252</b>	<b>511</b>	<b>12</b>	<b>314</b>	<b>23</b>	<b>860</b>			

Source: GLSS 4, 5 and 6 data sets



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