



BOOSTING INDIGENOUS GHANAIAN COMPANIES' PARTICIPATION IN TECHNICAL AREAS OF GHANA'S UPSTREAM OIL AND GAS INDUSTRY: A LESSON STUDY

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LIST OF ABBREVIATIONS

- ACEP:** Africa Center for Energy Policy
ACET: African Center for Economic Transformation
AOGC: Accelerating Oil and Gas Capacity-Building
E&P: Exploration and Production
EDC: Enterprise Development Centre
FEED: Front End Engineering and Design
- GoG:** Government of Ghana
GOSPA: Gas Service Providers' Association
GUSIP: Ghana Upstream Internship Programme
IGC: Indigenous Ghanaian Companies
IOC: International Oil and Gas companies
JV: Joint Venture
- LCF:** Local Content Fund
LI: Legislative Instrument
OGBDLCF: Oil and Gas Business Development and Local Content Fund
PA: Petroleum Agreement
PC: Petroleum Commission
R&D: Research and Development
TPA: Technical Partnership Agreement
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EXECUTIVE SUMMARY

Local content requirements have gained currency in resource rich countries, especially developing countries, because of the perceived greater benefits they bring which fiscal take alone does not secure: job creation, skills and technology transfer, growth and sustenance of infant industries, and the resultant local economic development through forward and backward linkages. Ghana's Petroleum (*Local Content and Local Participation*) Regulations, 2013 (L.I 2204) defines local content in the oil and gas sector as

"the quantum or percentage of locally produced materials, personnel, financing, goods and services rendered in the petroleum industry value chain and which can be measured in monetary terms."

The Regulations stress on local participation in both technical and non-technical areas of upstream operations with the overarching objective that after a decade, indigenous Ghanaian personnel and businesses would lead and effectively manage the entire value chain of petroleum extraction in Ghana and also become internationally competitive.

Existing literature and data from the Petroleum Commission (PC) shows that the country is on course in achieving local content targets on employment and supply of goods and services in non-technical areas. There is little evidence, however, of how indigenous Ghanaian companies (IGCs) in particular are taking advantage of mandatory minimum equity participation to embrace technical roles and become competitive as expected. Data from the Petroleum Commission shows that as at April 2019, only 51 IGCs held valid contracts to supply technical services to operators. This represents a paltry 7% of the 701 companies who were registered with the PC and awarded valid permits to operate in Ghana's upstream oil and gas sector. This phenomenon threatens the overarching objective of local content implementation in Ghana's upstream oil and gas industry. It is against this backdrop that ACEP conducted this study to understand stakeholders' understanding of the rationale for equity participation provisions in L.I 2204, understand the factors behind the successes and challenges of IGCs' participation in technical areas of upstream operations, and to draw lessons and make recommendations that will position IGCs well to venture into technical areas of upstream oil and gas activities. This study used the qualitative approach to enquiry; interviews were conducted with key players from the industry. To ensure representativeness, respondents were selected using purposive and snowballing sampling techniques from industry associations, financial institutions, IGCs working in E&P activities and IGCs providing support services to E&P companies. Other groups of respondents included IOCs in

E&P activities, foreign companies providing support services, government institutions, industry regulators and individuals who have in-depth knowledge in the oil and gas sector.

The results of the research indicate that respondents' understanding of the rationale for equity participation follows a cause and effect pattern. Through equity participation, IGCs will develop their capacities, and this will lead to increased IGC participation in the petroleum sector for maximum beneficiation of Ghana's resource extraction. Respondents were generally optimistic about the 10 percent equity participation owing to its minimal level of risk and the availability of support from financial institutions which is driven by their trust in IOCs.

However, the politics of replacement of IGCs when new governments come to power and the limited activity in the upstream sector could inhibit the success of the 10 percent equity participation. The 5 percent equity participation on the other hand presented issues that related to the practicality of the local content regulations and the lack of management control.

The research identified three major stakeholders directly involved in the local content provision: the government which is mainly the regulator, the IGCs and the foreign companies. Contributions of government to local participation included monitoring and enforcement of the LI and building capacities of the IGCs in addition to facilitating networks for IGCs.

The IGCs' contributions were generally placed into two main categories namely attitudinal which involved leadership capabilities, credibility with clients and their adherence to standards. The second category, known as the sustainability strategies involves making the right partnerships, having the financial capabilities and a deliberate effort at capacity building among others. Contributions of foreign companies to equity participation was related to their enhancement of local human resources capacity and mentorship as well as assistance to local companies within their joint ventures.

General barriers to indigenous participation were financial challenges and market related challenges. Financial challenges stemmed from limited financing options and high lending rates offered by financial institutions. The market related challenges resulted from inactivity over oil blocks and the cost as well as the risks in participating in the sector.

IGCs were found not to be collaborating among themselves in the sector. In addition, there was the problem of inadequate knowledge concerning the sector both in technical skills and non-technical or soft skills. Other issues such as the lack of properly designed corporate governance structures and fronting were seen as barriers to IGC participation that were as a result of the short-comings of the IGCs themselves. Shortcomings of foreign companies included poorly structured payments and their attitude towards skill/technology transfer among JVs. Shortcomings of the regulator included the lack of plan for skills transfer, bureaucratic processes and challenges with their capacity development efforts.

The study, having documented these challenges and experiences, notes that Ghana's objective to achieve maximum beneficiation of her oil and gas resources can still be met if certain measures are put in place and adhered to by all stakeholders.

The study recommends that foremost, a comprehensive technology transfer plan must be developed, and thorough audits of businesses in JVs must be done to detect fronting. It also recommends that IGCs must be encouraged to combine forces through collaborations and strengthen their management structures to inculcate strong corporate governance principles in their businesses. We also recommend that government must invest in institutions and programs that are earmarked to provide training for the industry. These programs must also be informed by the needs of the industry in covering both technical and non-technical areas of the upstream sector.

CHAPTER ONE - INTRODUCTION

1.0 Background

Local content, although a fairly old concept, is gaining currency especially in resource-rich developing countries¹ due to the realization that without strong linkages between the extractive industry and the rest of a country's economy, policies that focus on maximizing rents and taxes from natural resource extraction will not lead to the required economic growth and human development.² Local content, sometimes referred to as national content, involves, but is not limited to, policy strategies and actions undertaken by countries to ensure that foreign companies doing business in their economies procure local goods and services, use local labor, and partner with local companies,³ thereby creating economic and other opportunities for citizens. The OECD in its policy paper on local content in mineral exporting countries views local content as the development of upstream supply chains, workforce development leading to domestic employment, transfer of technology, and research and innovation.⁴

The World Bank, through its publication, *Local Content Policies in the Oil and Gas Sector*, suggests that local content should be understood within the considerations that local content should be consistent with other economic policies, address market inefficiencies, promote competition and the emergence of an efficient domestic economy,⁵ foster technology transfer, and grow local skills to the host economy. The end game of local content is therefore to maximize the benefits of resource extraction for the local economy.

According to the McKinsey Global Institute, about 90 per cent of resource-endowed countries have some form of local content requirements.⁶ Local content objectives of countries may differ depending on internal and external circumstances of a country. It is therefore important for a country, based on its context, to clearly define what direction local content should take and the means of achieving same.

¹<http://ccsi.columbia.edu/files/2014/03/Local-Content-Uganda-Petroleum-CCSI-July-2017.pdf>

² Ramdoo, I. (2016). *Local Content policies in Mineral Rich Countries*. European Centre for Development Policy Management.

³ Sigam, C. and L. Garcia (2012), *Extractive Industries: Optimising Value Retention in Host Countries*, UNCTAD, Geneva.

⁴ Organization for Economic Cooperation and Development (2017) *Local Content Policies in Mineral Exporting Countries*, Paris: OECD Publishing. Available at: [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=TAD/TC/WP\(2016\)3/PART1/FINAL&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=TAD/TC/WP(2016)3/PART1/FINAL&docLanguage=En)

⁵ Tordo, Silvana, Michael Warner, Osmel E. Manzano, and Yahya Anouti. 2013. *Local Content Policies in the Oil and Gas Sector*. World Bank Study. Washington, DC: World Bank. doi:10.1596/978-0-8213-9931-6. License: Creative Commons Attribution CC BY 3.0

⁶ McKinsey Global Institute. (2013). *Reversing the Curse: Maximizing the Potential of Resource-Driven Economies*. Washington DC: McKinsey Global Institute.

1.2 Local content in Ghana's oil and gas industry

The Columbia Centre on Sustainable Investment has identified Ghana as "one of the few countries to have a dedicated regulation dealing with local content."⁷ Under Ghana's Petroleum (Local Content and Local Participation) Regulations, 2013 (L.I 2204), "local content" means "*the quantum or percentage of locally produced materials, personnel, financing, goods and services rendered in the petroleum industry value chain and which can be measured in monetary terms*".⁸ Ghana's view of local content places economic interest at the heart of local participation in both technical and non-technical aspects of upstream operations, and raises the responsibility on government, through the appropriate agencies, to measure and account for the share of local input in the petroleum sector.

Indeed, through L.I 2204, Ghana seeks to ensure that local expertise, local goods and services, local businesses and local financing are used in the petroleum industry value chain in order to achieve value addition, job creation, local employment, and value retention in-country. Also, in order to sustain economic development, Ghana's local content regulations seek to link the petroleum industry to other sectors of the economy by creating supportive industries in other sectors for the petroleum industry and vice versa.

Data from the Petroleum Commission shows that 2,319 Ghanaians (representing 74% of total workforce of 3,118 people) were employed in 30 companies operating in Ghana's upstream oil and gas industry as at April 2019. Ghanaians also occupied 64% of the total management positions available in all 30 companies, although expatriates occupied 50% or more of management positions in 11 of the 30 companies. Ghanaians also formed 58% of the total number of technical core staff (1,529) across all 30 companies although 8 companies still had expats in 50% or more of technical positions. Ghanaians, however, occupied 98% of non-technical roles (2,304) within the 30 companies. The trend in employment data shows that while good progress has been made, technical and managerial competencies of Ghanaians must be continually built to meet the employment targets set in the L.I 2204 which some researchers and industry players have described as ambitious and/or lacking basis.⁹

Along the supply chain, seven oil and gas companies¹⁰ spent \$13.78 billion between 2010 and 2018 on the procurement of goods and services from Indigenous Ghanaian Companies (12%), joint ventures (54%) and foreign suppliers (34%).¹¹ This implies that only 12% of expenditure by international oil companies has been retained in-country, not exactly a good depiction of competitiveness and ability of indigenous Ghanaian companies in taking up opportunities in the petroleum sector.

⁷ *Local Content-Petroleum-Ghana, CCSI, (2014)*

⁸ *Regulation 49 of the Petroleum (Local Content and Local participation) Regulation, 2013 (L.I 2204).*

⁹ *Imani Centre for Policy and Education. (2018). Is Ghana Ready for More Local Content? Lessons from Eight Comparator Countries in Five Economic Sectors. Available at <https://imaniafrica.org/wp-content/uploads/2018/09/Imani-Report-Ghana-2.pdf>*

¹⁰ *Aker (Hess), Kosmos, Eni, Tullow, Medea, Springfield, and GOSCO*

¹¹ *Derived from data shared by the Petroleum Commission, Ghana at ACEP's request.*

Local business opportunities remain limited to ancillary services such as materials procurement and transportation services among others.¹²

Knowing that the petroleum industry is very technical and requires industrial knowledge and competence for local individuals and businesses to effectively L.I 2204 also requires that local capacities are developed in the petroleum industry value chain through education, skills transfer and expertise development, transfer of technology and know-how, and active research and development programmes. It has been argued that the burden of building technical competence has been placed on international oil companies without corresponding responsibility placed on government to provide an enabling environment.¹³ There is also a lack of direction to comply with Research and Development (R&D) provisions of local content policy.¹⁴ In response, the Government of Ghana implemented the Ghana Upstream Internship Programme (GUSIP) to, through collaboration with international oil and gas companies as well as service companies, provide a 24 month practical training for university graduates.¹⁵ The government also established the Accelerating Oil and Gas Capacity Building (AOGC) Programme in 2017 to train individuals, companies and educational institutions in various technical and vocational aspects of the oil and gas industry to enhance their skill set.¹⁶ The initiative has received the buy-in of international oil and gas companies (IOCs) as evidenced by Aker Energy's commitment to invest \$4.5 million in this capacity building initiative.¹⁷ In July 2019, five (5) Ghanaians were selected under the AOGC programme to receive specialized training in upstream welding at Northern Alberta Institute of Technology, Canada to boost their skill set in the oil and gas sector.¹⁸

¹² African Center for Economic Transformation (2015). *Local Content and Value Addition in Ghana's Mineral, Oil, and Gas Sectors: Is Ghana Getting it Right?* Available at: <http://acetforafrica.org/acet/wp-content/uploads/publications/2016/07/GTF-Local-Content-MOG-in-Ghana-SR-formatted.compressed.pdf>

¹³ Osei-Tutu, J. K. (2015) *A Study of Ghana's Oil and Gas Industry Local (Ghanaian) Content Policy Process*. Available at: https://www.researchgate.net/profile/John_Osei-Tutu/publication/321184435_A_STUDY_OF_GHANA%27S_OIL_AND_GAS_INDUSTRY_LOCAL_GHANAIAN_CONTENT_POLICY_PROCESS/links/5a13fabd0f7e9b1e5730acff/A-STUDY-OF-GHANAS-OIL-AND-GAS-INDUSTRY-LOCAL-GHANAIAN-CONTENT-POLICY-PROCESS.pdf?origin=publication_detail

Senoo, J. E. (2014) *Assessing the Implementation of Local Content Legislation in Oil and Gas*. Available at: <https://air.ashesi.edu.gh/bitstream/handle/20.500.11988/118/jennifer.senoo---Senoo%20Emefa%20Jennifer%20-%20Thesis%20319.pdf?sequence=1&isAllowed=y>

¹⁴ Africa Center for Energy Policy (2017) *The Implementation of Ghana's Local Content Regulations in the Upstream Sector: Achievement, Challenges and Way Forward*. Available at: <https://s3.amazonaws.com/new-acep-static/reports/LOCAL+CONTENT+PAPER.pdf>

¹⁵ Reporting Oil and Gas (2015). *The Ghana Upstream Sector Internship Programme (GUSIP)*. Available at <http://www.reportingoilandgas.org/the-ghana-upstream-sector-internship-program-gusip/>

¹⁶ Available at <https://www.petrocom.gov.gh/about-aogc/>

¹⁷ Aker Energy (2019). *Aker Energy announces \$4.5 million capacity-building support in Ghana*. Available at <https://www.akerenergy.com/media-centre/news/2019/aker-energy-announces-4-5-million-capacity-building-support-in-ghana>

¹⁸ Petroleum Commission. (2019). *Five Ghanaians benefit from gov't's AOGC Programme in Canada*. Available at <https://www.petrocom.gov.gh/2019/07/five-ghanaians-benefit-from-govts-aogc-programme-in-canada/>

It is also Ghana's ambition for Indigenous Ghanaian Companies (IGCs) to own and control a minimum of 5% equity in petroleum agreements for upstream operations, and 10% minimum equity in joint venture partnerships along the supply chain. It can be inferred that the policy rationale for local ownership/equity participation is geared towards increasing the capacity and international competitiveness of the IGCs. By gradually building the industry knowledge, technical competence, and financial muscle through active participation in upstream and supply chain activities, IGCs would be empowered to operate on their own in the long term to retain the full value of petroleum extraction in-country while engaging in petroleum activities outside Ghana.

1.3 Problem statement

Under regulation 4(2) of the Petroleum (Local Content and Local Participation) Regulations, 2013 (L.I. 2204) an IOC seeking to enter into a petroleum agreement is required to partner with an indigenous company which must own a minimum of 5% equity. As technical and capital intensive as the oil and gas industry is, it follows that a local partner must have, among other things, strong technical competence, financial muscle, and social corporate management structures to effectively participate in a petroleum agreement. The implication of Regulation 4(2) of L.I. 2204 is that, notwithstanding Ghana's offshore and on-shore oil potential and the looming opportunities they present to Indigenous Ghanaian Companies (IGCs), petroleum exploration and production may delay if an International Oil and Gas Company is unable to find a credible local partner to secure a petroleum agreement. Also, the country risks losing the objective of local equity participation in petroleum agreements if IOCs can afford to hand-pick indigenous Ghanaian companies as partners to merely fulfil the requirement of the law in order to conclude a petroleum agreement with the government.

Ghana's petroleum industry supply chain presents another opportunity to achieve other local content objectives such as value addition and creation of linkages between the petroleum sector and other sectors of the Ghanaian economy. The supply of technical services in particular also helps in preparing local companies to learn the in-roads of the sector and to build competence for bigger opportunities, whether in petroleum agreements or within the supply chain. However, Ernst & Young's assessment of Ghana's local supplier market in all 10 areas of local content show that local companies have low to moderate capacity to take up opportunities in the very technical areas where IOCs tend to spend more. These include well drilling services, Front End Engineering and Design (FEED) services, detailed engineering and other engineering services, and fabrication. Many local companies tend to focus on the low-hanging non-technical areas of transportation, supply, and disposal; Environmental Health and Safety; and I.T and Communications.¹⁹ At the 2019 Ghana Energy Summit held in July 2019, the Deputy Minister for Energy lamented the "... over-concentration of local companies on the low-hanging fruit, and less participation in the high-quality petroleum and technological intensive services".

An even more worrying trend is the limited opportunities available to IGCs and how that impacts on their ability to build technological competence for more opportunities. As at 25th April 2019, 701²⁰ companies were registered with, and held valid permits from, the Petroleum Commission (PC) to provide technical and non-technical inputs to the operations of international oil and gas companies.²¹ These companies comprised of Indigenous Ghanaian Companies operating with foreign partners; fully Indigenous Ghanaian Companies operating without foreign partners;²² and Joint Venture (JV) companies.²³ Although the PC's data shows that 105 companies held active contracts as at April 2019, 20 of these companies were either foreign companies or companies not found among the list of 701 companies with valid permit from the Petroleum Commission. Thus only 85 companies, representing 12% of the total number of companies (701) that are registered with the PC, have active valid contracts along the supply chain (See Figure 1).

²⁰ The Petroleum Commission's data base showed 702, but one company (AOS Orwell Charay Limited with permit number PC/JVC/000131/A/02-19) was counted twice (P7). We rectified the double count.

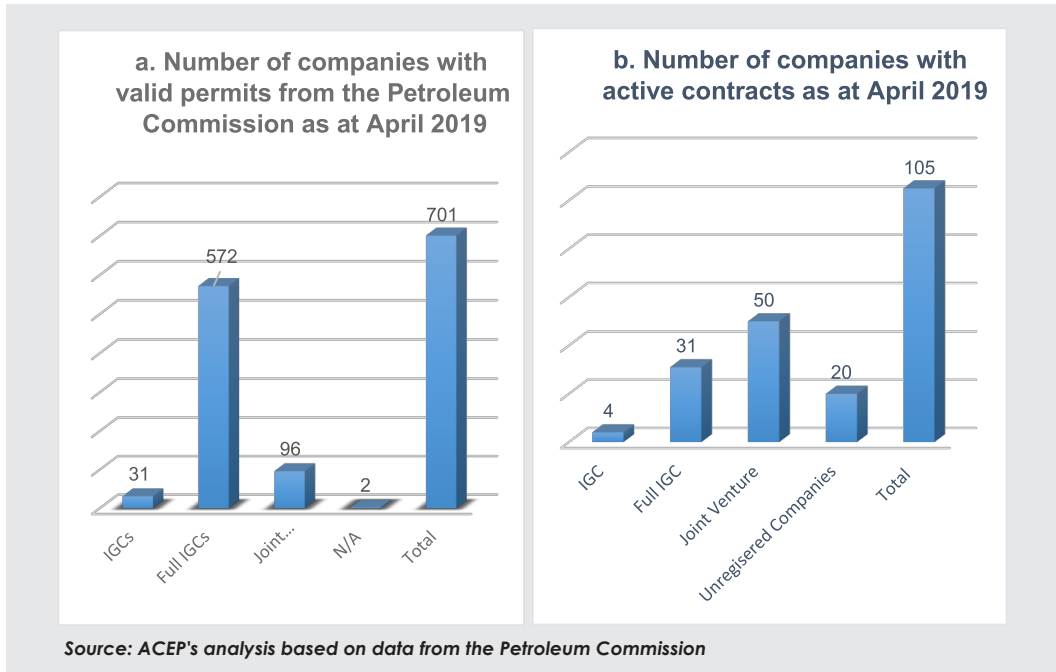
²¹ Regulation 49 of the L.I 2204 defines an Indigenous Ghanaian Company as "... a company incorporated in Ghana under the Companies Act, 1963 (Act 179) that has at least fifty-one of its equity owned by a citizen of Ghana, and has Ghanaian citizens holding at least eighty percent of executive and senior management positions and one hundred percent of non-managerial and other positions."

²² We interpret the categorization by the Petroleum Commission of a fully indigenous Ghanaian company to mean a company that has 100% equity owned by a Ghanaian citizen and also that 100% of staff, including those at executive and senior management levels, are Ghanaian citizens.

²³ Per regulation 4(6) of the L.I 2204, a joint venture company can be described as one comprising of a non-indigenous Ghanaian company and an indigenous Ghanaian company, where the latter holds at least 10% equity in the joint venture company.

Figure 1

Number of companies with valid permits from the Petroleum Commission versus number of companies with active contracts²⁴



The lack of opportunities for the remaining 616 companies is largely the natural consequences of inactivity on oil blocks in Ghana. Moreover, Joint Venture (JV) Companies tend to dominate in technical services while the fully indigenous Ghanaian companies dominate in non-technical services (Table 1). Overall, only 51 companies registered with the PC have valid contracts to provide technical services to IOCs. This represents 16% of the 318 companies with valid permits to provide technical services, and 7% of the 701 companies registered with the PC.

²⁴ IGCs means Indigenous Ghanaian Companies within the meaning of section 49 of the L.I 2204 which provides that "indigenous Ghanaian company" means a company incorporated under the Companies Act, 1963 (Act 179) (a) that has at least fifty-one percent of its equity owned by a citizen of Ghana; and (b) that has Ghanaian citizens holding at least eighty percent of executive and senior management positions and one hundred percent of non-managerial and other positions. Flowing from this, fully indigenous Ghanaian company means a company that is 100% owned by Ghanaians and where 100% of the managerial and non-managerial staff is Ghanaian.

Table 1

Type of Service supplied by category of suppliers

	IGCs	Full IGCs	Joint Venture	Unregistered
Technical Services	2	10	39	16
Non-technical services	2	21	13	4

Source: ACEP's analysis based on data from the Petroleum Commission

Because indigenous Ghanaian companies are involved mainly in non-technical areas where oil and gas companies spend less, only 12% of IOCs' expenditure went to indigenous companies between 2010 to 2018, compared to foreign companies (33.74%) and joint venture companies (53.6%). Thus, although some successes have been achieved with the implementation of L.I. 2204, there still remain challenges with Ghanaian participation in technical aspects of the petroleum upstream sub-sector that militate against the bid to attain the policy objective of local participation in all aspects of the oil and gas value chain of at least 90% by 2020.²⁶ It is against this backdrop that ACEP conducted this study to understand the successes and challenges of Indigenous Ghanaian Companies in building their technical competencies in Ghana's upstream oil and gas industry to take advantage of the 5% and 10% minimum equity requirements under L.I 2204 in petroleum agreements and along the supply chain respectively.

1.4 Research objectives

The objectives of this research are to

- 1.** Document stakeholders' understanding of the rationale for equity participation in both petroleum agreements and the supply chain;
- 2.** Investigate how IGCs have fared in terms of developing technical capacities to take up technical roles in equity participation and the factors that account for their experiences;
- 3.** To make recommendations, based on findings, that contribute to achieving the interests of stakeholders.

²⁵ Three JVs provide both technical and non-technical services.

²⁶ Local Content and Local Participation in Petroleum Activities – Policy Framework, 2010, Ministry of Energy

1.5 Relevance of the research

This research is the first of its kind to attempt to document the successes and challenges of indigenous Ghanaian companies in building their technical competencies in Ghana's upstream oil and gas industry through the 5% and 10% minimum equity requirements under L.I 2204. It thus adds to the body of knowledge that contributes to local content enhancement as it helps to address concerns of the Government and the Petroleum Commission about the problem of fronting, oversubscription to non-technical and low-hanging fruit areas, as well as tracking the progress with technical skills development.

The oil and gas industry in Ghana looks promising for Ghanaian companies, as Government's implementation of the open and competitive bidding and selection of a winner would come with procurement opportunities and joint venture formation. The findings of, and recommendations from, this research are timely as they provide valuable insight to indigenous Ghanaian companies, particularly companies yet to secure contracts, to aid them position themselves well for opportunities in the sector.

1.6 Methodology

The research approach used for this study was the qualitative approach. Interviews were conducted with key players from the oil and gas industry. To ensure representativeness, respondents were selected from various entities within the oil and gas sector who have been classified into ten groups:

1. Industry associations: These are advocacy, lobbying and compliance groups with membership of oil and gas services providers. These groups among other activities are recognized voices in the facilitation and promotion of local content and local participation in the oil and gas sector.
2. Financial institutions
3. IGCs working in upstream Exploration and Production (E&P): These are wholly owned Ghanaian companies with the required equity participation in petroleum agreements.
4. E&P International Oil Companies (IOCs): These are foreign companies that have partnered IGCs with the required equity for participation in petroleum agreements.
5. Indigenous suppliers of goods and services: These are Ghanaian companies who provide goods and services to E&P companies. There are two sub categories in this group; companies that have the required minimum 10% equity participation in a joint venture with a foreign company and those without any joint ventures.
6. International Oil Service Companies: These are foreign companies that have formed joint ventures with local companies to provide goods and services to E&P companies.

7. Government

8. The regulator of Ghana's upstream oil and gas industry

9. The media

10. Individual energy consultants

Table 2 below provides information on the groups' organization and the number interviewed from each group. A total of 37 respondents from 26 organisations were engaged, out of which seven companies were Indigenous Ghanaian companies who were suppliers to the upstream oil and gas operators. The largest number of respondents were interviewed from this group. Interviews were recorded, transcribed and analysed thematically using Atlas.Ti as the software for the data analysis.

Table 2

Table 2: Respondent categorization

Group	Number Of Organisations	Number Of Respondents
Industry Associations	2 (8%)	2 (5%)
Financial Institutions	3 (12%)	3 (8%)
IGCs in upstream E&P activities	3 (12%)	2 (5%)
E&P International oil companies	2 (8%)	3 (8%)
Indigenous suppliers of goods and services	7 (27%)	15 (41%)
International Oil Service Companies in JV	4 (15%)	5 (14%)
Government	2 (8%)	4 (11%)
Regulator	1 (4%)	1 (3%)
Media	1 (4%)	1 (3%)
Energy Consultant	1 (4%)	1 (3%)
Total	27	37

Source: ACEP field visit, 2017

1.7 Structure of the paper

This paper is in four chapters. The first is the introductory part of the paper which exposes the basis and methods for the research. The second chapter presents a review of literature that covers an overview of local content regulation in Ghana and other countries. The third chapter presents the findings of the study as it addresses respondents' view of the rationale for equity participation in Ghana's upstream oil and gas, explores the various roles of stakeholders in building the technical competence of indigenous Ghanaian companies, and discusses the success and challenging factors that affect the development of indigenous Ghanaian companies in technical areas of the oil and gas industry. The final chapter presents a summary of the research and makes recommendations to stakeholders on ways to maximize local participation in technical areas of the upstream oil and gas industry in Ghana.

CHAPTER TWO – LITERATURE REVIEW

2.0 Introduction

This chapter reviews the laws and existing literature on local content targets, implementation, and achievements in Ghana, particularly in technical areas of upstream petroleum activities. The challenges of achieving local content targets, with specific focus on regulatory capacity, state-led capacity building, research and development (R&D), and the role of economic development and industrialization have been discussed, with lessons drawn from Norway and Brazil for Ghana on how similar challenges were addressed in both countries.

2.1 Local Content in Ghana's Petroleum Sector: Targets and Achievements

In 2013, Ghana's local content policy was enshrined in law. The Petroleum (Local Content and Local Participation) Regulations (L.I. 2204) outlines the objectives Ghana seeks to achieve with its local content policy as follows:

- Maximizing job creation through the use of local expertise, goods and services, businesses and financing;
- Developing local capacities in the petroleum industry through training and skills transfer, technology transfer, and research and development programmes;
- Promoting the patronage of Ghanaian goods and services and thereby increasing in-country spend;
- Increasing the capability and international competitiveness of Ghanaian businesses; and
- Sustaining economic development through the creation of petroleum and related supportive industries²⁷

In order to ensure that these objectives are achieved, the Regulations require entities involved in the petroleum industry to submit local content plans that set out their programme for the transfer of skills and technology, local procurement of goods and services, and recruitment and training of Ghanaians.

The Regulations set out in detail minimum local content targets that must be met by operators.²⁸ For instance, the Regulations require operators to obtain 50% of the goods and services they require for their operations locally within five years of commencement of operations and between 60-90% within ten years. For FEED, detailed engineering and other engineering services, the target is to achieve 50% within five years and up to 80% within ten years. The Regulations further require operators to recruit Ghanaians to occupy at least 50% of management and core technical roles within five years and at least 70% within ten years.

²⁷ Regulation 1 of LI 2204

²⁸ Regulation 10 and First Schedule

The L.I also requires that in awarding contracts or licenses to engage in upstream petroleum activities, preference must be given to indigenous Ghanaian companies. The Regulations further make it mandatory for any non-indigenous Ghanaian company seeking a petroleum contract or license to have at least five percent equity participation by an indigenous Ghanaian company. Non-indigenous Ghanaian companies seeking to provide services to exploration and development companies must enter into a joint venture with an IGC in which the IGC has at least ten percent equity.

Even though the Minister in charge of Energy is given the discretion to vary these targets,²⁹ it is laudable that the Regulations set out such clear and detailed targets. However, given that commercial production of oil and gas in Ghana commenced less than a decade ago, and also that prior to the commencement of petroleum operations, the Ghanaian economy lacked industries that would have afforded the opportunity to develop some of the required competencies, one may question whether some of the targets in L.I. 2204 are overly ambitious, and whether the Ghanaian workforce and service providers possess the skill set and competencies necessary to satisfy these requirements.

Six years into the implementation of the L.I 2204, the results may be described as mixed as the data from the Petroleum Commission reviewed in chapter one shows. The trend in employment data shows quite clearly that while good progress has been made in achieving the targets set by the Regulations, considerable ground remains to be covered in meeting the targets in the employment of technical and managerial staff and in the provision of highly skilled services such as detailed engineering services, fabrication and construction, and well drilling services. Needless to say, that in order to build a competitive indigenous oil and gas industry that retains significant value in-country, it is imperative that these high-end areas are dominated by the local workforce and indigenous companies. This means that competencies of Ghanaians must be continually built to meet the employment targets set in L.I 2204. Similarly, indigenous Ghanaian companies engaged in the provision of engineering, fabrication, well drilling and other services need to develop the requisite competencies in order to meet the standards demanded by the exploration and production companies.

2.2 Addressing the Challenges of Achieving High Value Local Participation: Lessons from Norway and Brazil

It is true that in the relatively short life span of the Ghanaian oil and gas industry, significant strides have been made in realizing the regulatory targets set by the local content regulations as detailed in the preceding section. However, it has been argued that realizing local content in Ghana's petroleum sector in a manner that ensures high value retention in- country continues to be elusive as the sector faces a number of challenges to the implementation of the policy. In a study on local content in selected African countries, the African Center for Economic Transformation (ACET) (2017) argues that legislation on local content alone is not

²⁹ Regulation 10(4)

enough.³⁰ The study argues that legislation must be balanced with the ability to enforce and deal with compliance costs. This section discusses the challenges that persist in ensuring local participation in the high-end segments of the industry where the bulk of the value generated in the industry is concentrated. It also discusses the proposals put forward for surmounting such challenges, drawing on lessons from the implementation of local content policies in more established petroleum producing countries such as Norway and Brazil.

2.2.1 Inadequate Regulatory Capacity

Osei-Tutu (2013) identifies one of the challenges of achieving Ghana's local content potential as inadequate state technical and administrative capacity.³¹ According to him, although the local content policy process in Ghana was seen by participants in his study to be fairly transparent and inclusive, significant doubt was cast on Government of Ghana's (GoG) ability to implement, monitor and review the local content policy. Kazzazi and Nouris³² argue that the political factor is the most important macro factor in the implementation of local content policies. According to them, this encompasses issues such as political will, regulatory capacity, and implementation capabilities of the responsible government agencies. In Ghana, it has been argued that regulatory capacity and implementation capabilities remain below expectations. It, thus, becomes imperative to learn how other oil producing countries like Norway have addressed this challenge.

Norway's success in developing an oil and gas industry that is the envy of many countries around the world is credited in no small way to the establishment of a robust institutional and regulatory framework. The Ministry of Petroleum and Energy, Norwegian Petroleum Directorate, and Statoil were established to manage the process of developing an oil industry that produced maximum benefit for its people. The Ministry of Petroleum and Energy was established as the policy making entity. The Norwegian Petroleum Directorate was established as the regulatory and advisory institution while Statoil was created as a fully state-owned national oil company to implement government policies and carry the government's commercial interests.³³ In Ghana, prior to the establishment of the Petroleum Commission, the Ghana National Petroleum Corporation effectively acted as both the national oil company and the regulator. The establishment of the Petroleum Commission and subsequent

³⁰ African Center for Economic Transformation (2017) *Comparative Study on Local Content in Mineral, Oil and Gas Sectors: Policies, Legal and Institutional Frameworks-Trends in Selected African Countries*. Accra: ACET.

Available at: http://acetforafrica.org/acet/wp-content/uploads/publications/2017/12/ACET_ComparativeStudy_Extractives_SynthesisLOCAL-CONTENT-July-2017.pdf

³¹ Osei-Tutu, J. K. (2013) *A Study of Ghana's Oil and Gas Local Content (Ghanaian) Content Policy Process*. Technical Report, NKOSOO 2015 Sub Project: Sustainable Growth of Oil Supply Industry in Ghana. Available at: https://www.researchgate.net/profile/John_Osei-Tutu/publication/321184435_A_STUDY_OF_GHANA%27S_OIL_AND_GAS_INDUSTRY_LOCAL_GHANAIAN_CONTENT_POLICY_PROCESS/links/5a13fabd0f7e9b1e5730acff/A-STUDY-OF-GHANAS-OIL-AND-GAS-INDUSTRY-LOCAL-GHANAIAN-CONTENT-POLICY-PROCESS.pdf?origin=publication_detail

³² https://www.researchgate.net/publication/271068845_A_conceptual_model_for_local_content_development_in_petrolium_industry

³³ *Ibid*, 36

enactment of the Petroleum (Exploration and Production) Act, 2016 (Act 919) ensured clearly defined functions for the two entities, with the Petroleum Commission assuming the mandate for delivering on the Government's local content objectives.

2.2.2 Government-led Capacity Building

Osei-Tutu (2013) posits that Ghana's local content policy places significant burden on the private sector, especially the international oil companies (IOCs). For instance, the local content Regulations require IOCs to procure 70% of detailed engineering services on deep offshore facilities by year ten of an oil company's operations.³⁴

However, according to Osei-Tutu, there is no corresponding responsibility on government to invest in the skill and know-how capacity of Ghanaians to enable them gain employment in the sectors of the industry, which is technology intensive and demands a highly skilled labor force. The government has also been criticized for not making any marked effort to create a Ghanaian private sector with internationally competitive management competencies.³⁵ The Africa Center for Energy Policy (ACEP) (2014),³⁶ in its analysis of local content implementation in the petroleum sector in Ghana, states that Ghana has achieved 81% in the employment of Ghanaians in the petroleum sector as at 2015. However, this achievement is in the area of middle management and other lower-end categories of employment. Employment positions in core technical areas, on the other hand, continues to be dominated by expatriates.³⁶ Senoo (2014)³⁷ in her study notes that technology, finance and human resources, especially in technical roles, remain areas of low local content and local participation. These findings echo those of the ACEP study that showed dominance of technical roles by expatriates as one area with local content gaps.

Following these research findings, the Petroleum Commission has implemented the Ghana Upstream Sector Internship Programme (GUSIP) and the Accelerated Oil and Gas Capacity-Building Programme (AOGC) to build the technical competencies of the Ghanaian workforce for the oil and gas industry. Operationalising the Oil and Gas Business Development and Local Content Fund (OGBDLCF), established to support education, training, and research and development is another way government can go beyond legislation to address the human resource capacity gap.³⁸

³⁴ Schedule 2 of LI 2204

³⁵ Ayine, D. (2010) "Consolidated Report on the Proposed Petroleum Bills and Local Content Policy for the Private Sector."

³⁶ Africa Center for Energy Policy (2017) *The Implementation of Ghana's Local Content Regulation in the Upstream Sector: Achievement, Challenges and the Way Forward*. Accra: ACEP. Available at: <https://s3.amazonaws.com/new-acep-static/reports/LOCAL+CONTENT+PAPER.pdf>

³⁷ Senoo, J. E. (2014) *Assessing the Implementation of Ghana's Local Content Legislation in Oil and Gas*, Senior Thesis, Department of Business Administration, Ashesi University College, Accra, Ghana. Available at: https://air.ashesi.edu.gh/bitstream/handle/20.500.11988/118/jennifer.senoo---Senoo%20Emefa%20Jennifer%20%20Thesis%20_319.pdf?sequence=1&isAllowed=y

³⁸ African Center for Economic Transformation (2017) *Synthesis Report, Mineral, Oil and Gas Sectors: Policies, Legal and Institutional Frameworks-Trends and Responses in Selected African Countries*. Accra: ACEP ibid

As ACET (2017) argues, it is not enough to make policies, but administrative processes have to be in place to back up policies and legislation.³⁹

2.2.3 Investment in Research and Development (R&D)

Norway offers a good country study of how government investment in R&D, together with private sector partnerships, helped the country's petroleum sector achieve high levels of local content. Financing research and development is a shared responsibility between the Norwegian government, oil companies and service companies. The government funds research through the Ministry of Oil and Energy, the Norwegian Petroleum Directorate and the Norwegian Research Council (NRC).⁴⁰ Between 1995 to 2002 an average of NOK 157 million was spent yearly on R&D in the offshore technology sector.⁴¹

In line with the Norwegian government's objective to promote research and development, the Oil and Gas in the 21st Century (OG21) strategy was established in 2001 by the Ministry of Petroleum and Energy. This strategy was designed to aid in mitigating the challenges faced in carrying out petroleum activities in an efficient and responsible manner. The strategy provided a platform where oil companies, the supplier industry, universities, research institutions, and the authorities could agree on a 'joint national technology strategy' for oil and gas. This strategy was revised in 2016.⁴² To achieve the objective of OG21, government investment in research and development is mainly spent on two main programs which are The PETROMAKS 2 and DEMO2000 research programmes, as well as research centers in Stavanger and Tromsø.

The PETROMAKS 2 programme is responsible for engaging in research to ensure that future business development and management of petroleum resources is done in the best possible way. This funding instrument is focused on education, competence building and other projects from basic university research to private sector innovation⁴³ projects. Investment in small and medium sized enterprises is also done to encourage innovation. In 2018, there were about 120 projects in the PETROMAKS 2 program with a budget of about NOK 270 million.⁴⁴ The DEMO2000 programme is targeted at reducing the petroleum industry's risks and costs by financing the testing of novel technology solutions in the industry.

³⁹ Norwegian Petroleum. (2019). *PETROLEUM RELATED RESEARCH AND DEVELOPMENT*. Retrieved from Norwegian Petroleum: <https://www.norskpetroleum.no/en/environment-and-technology/petroleum-related-research-and-development>

⁴⁰ (Mikkelsen, et al., 2003)

⁴¹ Norwegian Petroleum. (2019). *PETROLEUM RELATED RESEARCH AND DEVELOPMENT*. Retrieved from Norwegian Petroleum: <https://www.norskpetroleum.no/en/environment-and-technology/petroleum-related-research-and-development>

⁴² The Research Council of Norway. (2017). *Large-scale Programme for Petroleum Research (PETROMAKS2)*. Retrieved from The Research Council of

⁴³ Norway: https://www.forskningsradet.no/prognett-petromaks2/Programme_description/1253980921389

⁴⁴ Norwegian Petroleum. (2019). *PETROLEUM RELATED RESEARCH AND DEVELOPMENT*. Retrieved from Norwegian Petroleum: <https://www.norskpetroleum.no/en/environment-and-technology/petroleum-related-research-and-development/>

It is available to Norwegian businesses that provide technologies to petroleum companies situated on the Norwegian shelf.⁴⁵ In 2018, there were about 70 projects in the programme, with a budget of NOK 70 million. ⁴⁶The grant of licenses, along with additional agreements were also used by the Norwegian government to achieve local content goals. These required training of Norwegian nationals and technology transfer arrangements to ensure local content between the mid 1970's to 1994.⁴⁷

2.2.4 Impact of Economic Development and Industrialization

Closely related to the challenges of inadequate local technical and financial capacity is Ghana's overall level of industrialization and economic development. In this context, Ghana's situation stands in sharp contrast to the situation in countries touted as local content success stories, such as Norway and Brazil. Ghana's modest level of development means that there is a huge gap between targets set in the local content regulations and what can be implemented and realistically achieved at present. Senoo (2014) notes, for instance, that local content implementation in Ghana is problematic as the time frames set for the achievement of local content targets are unrealistic. For example, while the Regulations require oil and gas companies to procure services such as banking and insurance from local banks and insurance companies, the reality is that local companies operating in the banking and insurance sectors simply lack the financial capacity required to undertake the financing of such complex, capital-intensive projects. ⁴⁸

Norway's success in the development of technical competence in the oil and gas industry can be attributed to its already developed industrial sector. Prior to the discovery of oil, Norway had a long -standing history in maritime and engineering expertise. Norway's industries were established and competitive internationally. This enabled the industrial sector to adapt easily and quickly to the technical requirements of the oil and gas sector. The capacity of the industrial sector to do so served as a solid foundation for achieving local content policy targets.⁴⁹ In Brazil, the 'Incentive Program for Supply Chain Competitiveness and the Development and Improvement of Suppliers to the Oil and Gas Sector' (PEDEFOR) was launched in 2016.⁵⁰ This program was designed to provide bonuses and incentives to

⁴⁵ The Research Council of Norway. (2010). DEMO 2000 (DEMO2000). Retrieved from The Research Council of Norway: https://www.forskningradet.no/prognett-demo2000/Programme_description/1228296565509

⁴⁶ Ibid, 45

⁴⁷ Columbia Center on Sustainable Investment. (2016). Local Content Norway - petroleum. Retrieved from Columbia Center on Sustainable Investment: <http://ccsi.columbia.edu/files/2014/03/Local-Content-Norway-Petroleum-CCSI-May-2016.pdf>

⁴⁸ Senoo, J. E. (2014) *Assessing the Implementation of Ghana's Local Content Legislation in Oil and Gas*, Senior Thesis, Department of Business Administration, Ashesi University College, Accra, Ghana. Page 59. Available at:

<https://air.ashesi.edu.gh/bitstream/handle/20.500.11988/118/jennifer.senoo---Senoo%20Emefa%20Jennifer%20-%20Thesis%20319.pdf?sequence=1&isAllowed=y>

⁴⁹ Olsen, W. H. (n/a). Norway – local content lessons learned. Retrieved from British Institute of Energy Economics : <http://www.biee.org/wp-content/uploads/Olsen-Norway-local-content-strategy2.pdf>

⁵⁰ with the Decree (No. 8.637/2016).

businesses to increase local content percentages in key areas such as technological innovation within Brazil, promoting exports, local engineering and generating skilled jobs.⁵¹

As the Brazilian economy expanded over the years it became increasingly more feasible for the local content requirements to be achieved. The oil and gas industry have experienced an evident increase in the participation of indigenous private equity in projects. Investments were seen from domestic funds that are both energy- focused and generalist. For instance, in 2011, a partnership was announced between BTG Pactual, a Brazilian financial company, and Brasbunker, a holding company that controls companies in bunker transport.⁵² Local companies also took advantage of the opportunity by carrying out mergers and acquisitions to increase finances available for investment.

The Brazilian local content journey has faced various challenges over the years. One major challenge was the unrealistic nature of targets. The new legislation introduced in 2016 led to a reduction in competition within the industry which reduced the quality of goods and services, increased delays in project delivery, and led to low quality output, high costs of services and skilled labor, and corruption.⁵³ Local content requirements were believed to be extremely stringent and unrealistic forcing many firms to choose between lengthening the period required to bring oil online or pay the penalty for not meeting the requirements. Most firms opted for paying fines to speed up production since the local content requirements were considered bottlenecks and failed at developing local industries. The revision of local content requirements has aided in resolving these issues in recent times. Importantly, local businesses were able to maximize the opportunity given by local content regulations enabling them to increase participation in all segments of the oil and gas supply chain as well as gain international exposure. Also, strong investments in research and development for technical advancement was done by the State as well as private players in the industry. Additionally, local businesses were willing to venture into mergers and acquisitions to shore up their financial capacities to take advantage of the opportunities that arose from the discovery of the 26 pre-salt oil fields.

⁵¹ *Ibid*,26

⁵² *Mergers Alliance*. (2013). *Brazil Oil and Gas M&A Update*. Retrieved from *Broadspan Capital*: <http://brocap.com/pdf/Energy/Brazil-Oil-and-Gas.pdf>

⁵³ *Christianna*. (2016). *Local Content in the Oil and Gas Industry in Brazil: What Next?* Retrieved from *GOXI*: <http://goxi.org/profiles/blogs/local-content-in-the-oil-and-gas-industry-in-brazil-what-next>

2.3 Conclusion

These are lessons Ghana can learn in its quest to ensure that it achieves the appropriate balance between attracting the required levels of foreign capital into its petroleum sector while ensuring that citizens develop the requisite technical and financial capacities to maximise benefits from the country's oil and gas endowment.

CHAPTER THREE – PRESENTATION OF FINDINGS

3.0 Introduction

This chapter presents the findings based on the data that was collected. The chapter is grouped into five main sections. The first section presents findings on the knowledge and perceptions on equity participation of indigenous Ghanaian Companies (IGCs) in upstream petroleum agreements and Joint Venture (JV) arrangements along the supply chain. In the second and third sections, the contributions of the regulator and foreign companies to local participation in technical areas of upstream petroleum activities are respectively discussed. The fourth section focuses on the success strategies of thriving IGCs in undertaking technical activities, particularly along the supply chain, in Ghana's upstream oil and gas sector. The final section presents findings on the challenges to local participation in technical areas of the upstream oil and gas industry in Ghana.

3.1 Knowledge and perceptions of equity participation in Ghana's upstream petroleum industry

This section seeks to understand respondents' knowledge on equity participation as prescribed by the local content regulations. The analysis is based on the two forms of equity participation for exploration and production and services; the 5% minimum equity for IGCs within exploration and production (E&P) activities, and the 10% minimum equity for IGCs in the provision of goods and services.

3.1.1 Rationale for setting minimum equity participation

Respondents' views on the rationale for equity participation can be grouped into three; boosting Ghanaian participation in the oil and gas sector, capacity development in E&P activities, and maximising benefits accrued from the oil and gas industry.

3.1.1.1 Boosting Ghanaian participation in the oil and gas sector

The Petroleum (Local Content and Local Participation) Regulations, 2013 L.I 2204 requires that Ghanaians have a share in the entire oil and gas value chain. This is a deliberate effort to ensure local ownership of part of the oil business. Boosting Ghanaian participation in the sector will allow Ghanaians to maximize gains beyond revenues to inclusive jobs and value addition through the use of increased number of local expertise as well as locally produced goods and services over time as required by regulations 9 and 11 of the L.I 2204.

"My understanding is that this equity participation requirement is there for Ghanaian companies to have a starting point and improve over time." [Media Group]

3.1.1.2 Capacity development in E&P activities

The oil and gas industry is fairly new to Ghanaians and therefore capacity to participate is limited. In the view of respondents, low capacity means limited knowledge, financial muscle, and technology to participate in the industry. This requires that effective strategies are implemented to improve local capacity to participate in the industry over time. Respondents agree with the regulations that participation in the industry is an important way of ensuring that capacity development is achieved in the shortest possible time.

They agree that partnerships with established international players in the industry allow the local partners to learn and acquire the necessary capacities to fully participate in the industry. Regulation 23 of L.I 2204 requires that foreign investors provide an adequate level of skills transfer to the IGCs they partner with in order to boost their capacity to become independent in the course of time. This will also make IGCs internationally competitive as the L.I envisages. The country can also benefit from setting up the right training institutions to produce the needed skills for the industry. This can position the country as a training hub for the development of oil and gas capacities in Africa. The industry can also produce experienced manpower for the region.

"Oil is being discovered around the world in many places, even within West Africa, so if you develop your capacities over the years, then you can also be an important human resource base for other countries." [Association]

"We are committed to sharing knowledge with Ghanaians and developing the skills needed to ensure that there's a pool of human resource we can rely on for our operations and leave as a legacy even when we are no longer here" [IOC]

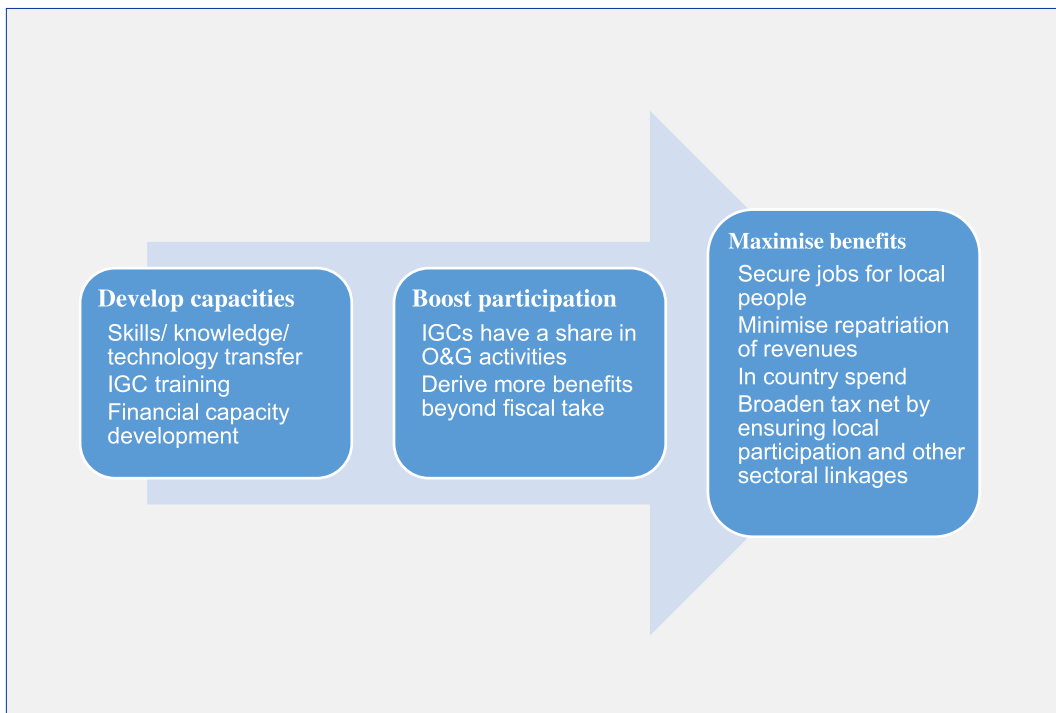
3.1.1.3 Maximize benefits of the industry

The dominance of foreign companies in the upstream sector often limits the country's benefits to state participation, royalties and taxes. Local business' participation in both E&P and supply chain services seeks to ensure that more benefits are derived beyond the fiscal take to the nation. These extra benefits are derived through industrial development, employment and value retention through in-country spend. Without a legal backing, there is the high chance that the industry will continue to be dominated by foreign companies, who will repatriate their profit to their parent countries. Thus, through the local content Regulations, the local stakeholder of the industry as well as the country in general maximize benefits.

"...If the local shareholder, for instance, has a 5% participation, in all the oil revenues that they make, he gets a 5% share. [With]that 5% share, he can use it to pay his employees and in that same vein, it trickles down to the ordinary Ghanaian citizens. So, it goes a long way to boost the Ghanaian economy." [Bank]

Respondents' perception of the rationale for the equity participation requirements follows a cause and effect pattern as identified in Figure 1 below. Thus, as local capacities are developed in terms of both technical and financial capacities, they lead to an increased local participation in the oil industry which in turn maximises the benefits accruing from the participation in terms of revenue generation and job creation.

Figure 2
Rationale for equity participation flow diagram



3.1.2 Perceptions towards local equity participation

The perception of respondents on specific provisions in the local content regulations was generally mixed. Some were positive, others were not. On the positive side, respondents were generally of the view that the equity participation regulation provides Ghanaian companies with a voice and influence as the law grants them the option to participate in petroleum activities. With the necessary support systems in place, the policy was described as achievable, especially within the supply chain aspects of the industry.

Respondents noted, that there is the commitment from government and the regulator to enforce the regulation which makes it necessary for companies to comply with.

However, on the negative side, the story is different. Issues that were raised were based on the fact that the regulation was unrealistic and lacked proper implementation plans. The Regulations has much focus on equity participation and relegated other relevant issues such as technical development and technology transfer to the background. Some respondents noted the need for a roadmap that covers the entire business from start to finish. The ensuing subsections provide respondents' perception of the regulatory requirement for the 5% equity participation in the E&P services and the 10% participation in the supply chain services.

3.1.3 Perceptions of the 5% equity participation

L.I 2204 prescribes that the award of petroleum blocks should be to companies that have a minimum 5% local interest, unless the Minister waives the requirement on stated grounds, in line with the guiding principle on the exercise of discretionary powers under article 296 of the Constitution of Ghana, 1992. Four themes can be drawn from the perceptions of respondents on the 5% equity participation. These are, constraints to IGCs in taking up the 5% minimum equity; lack of management control by IGCs; and the practicality of the local content regulation.

3.1.3.1 Constraints to IGCs in taking up 5% minimum equity:

The main challenge that constrains participation in the E&P contracts is the difficulty in accessing finance to pay for the equity. Very few Ghanaian companies have the capacity to absorb the risk of exploration on cash call basis. In the early days of the industry non-monetary contributions, mostly in the form of labour, also known as sweat equity was accepted. This has changed and much premium is placed on financial capacity to respond to cash calls. This poses significant risk to the finances of indigenous Ghanaian businesses who seek to participate in upstream exploration activities. The risk of no discovery in an exploration campaign can adversely impact on the sustainability of struggling local businesses.

3.1.3.2 Lack of management control by IGCs:

Having a five percent equity participation as a result of cash contribution gives the Ghanaian company little or no representation at the board level where decisions are made. In most cases the Ghanaian companies are merely used as a means of obtaining petroleum agreements and not allowed adequate participation in decision making and operations of the JV denying them the opportunity of acquiring the requisite skills. This undermines the very purpose of the regulation in ensuring skill and technology transfers through the establishment of JVs. Some respondents who noted these recommended that a transition should be made from a JV perspective to a Technical Partnership Agreement (TPA) perspective. Under the TPA, the contract is owned by the Ghanaian and the execution is done by the foreign company. This puts the Ghanaian in the driving seat, in order to have some level of say, or control over the operations.

3.1.3.3 Young nature of the industry:

Others noted, that given the nature of the industry which is perceived to be young, the system has not matured yet. The 5% equity is thus a useful guide for businesses. However, it may take some time for most IGCs to fully participate in the E&P activities. Ghanaian companies still have a long way to go in terms of raising the requisite cash and capacities for participating in the oil exploration and production. This may put off many reputable international companies if the requirement is strictly applied

"In terms of raising cash for exploration, production, that will take a while. And even our national oil company [GNPC] is not entirely strengthened to be able to take on full load of a project." [Bank]

3.1.3.4 Practicality of the local content Regulations:

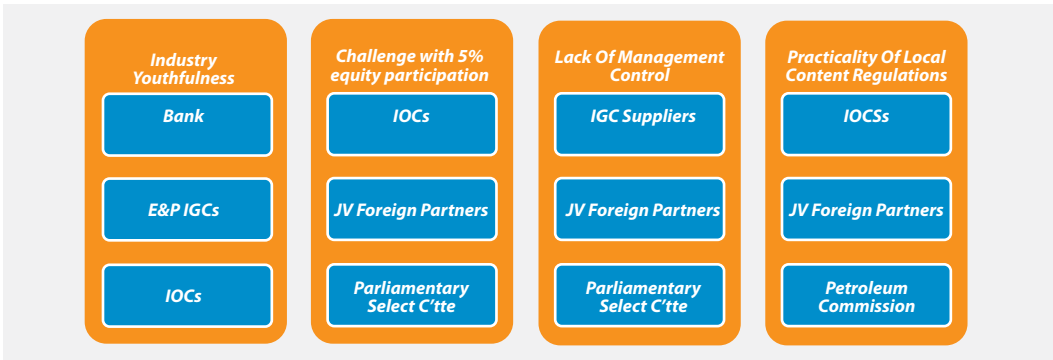
In spite of the listed challenges, the PC was of the view that the Regulation was workable. According to the PC, the financial challenges are expected as the industry is relatively young. However, there needed to be a starting point where Ghanaian companies could begin to build capacity. The regulation is workable as Ghanaians are beginning to generate interest in the activity.

"If you don't start it now, when can you start? I remember when we started local content, some argued that the industry is young, Ghanaians don't have the capacity, it will restrain foreign investors from coming in, we have to wait and build capacity. But if you don't go in, how do you build capacity?" [Regulator]

The 5% minimum equity participation looks challenging to many stakeholders in the current structure of the Regulations and the capacity of levels of the industry. However, while the regulator is optimistic concerning its possibility of being achievable, industry players have different mind-sets on the possible outcomes. Figure 2 presents a mapping of the various thematic areas, with respect to the issues that were raised in relation to the 5% equity participation.

Figure 3

Classification of respondents' perceptions on 5% equity participation



3.1.4 Perceptions on the 10% equity participation

Regulation 4(6) of L.I 2204 requires that foreign companies who provide supplies and services to E&P operating companies in Ghana must have a joint venture with an indigenous Ghanaian company with minimum equity of 10%.

Generally, respondents noted that the 10% equity participation is achievable. Foreign companies within the supply chain business finds local companies easier than the E&P companies to form joint ventures with. The supply chain side of the oil and gas industry is less risky, and less cost intensive as compared to the E&P aspect of the industry. Companies are assured of income as it does not depend on whether the IOCs find oil or not. Another respondent explained, that the 10% equity for suppliers was more manageable as both parties in the joint venture already own their assets, unlike the operator whose major asset is in the prospect of oil yet to be drilled for. The assets of the suppliers include the vessels and the rigs which give them revenue as they are used by the E&P companies. Banks and other financial companies are able to fund because of the less risk involved and their confidence in the international oil companies that are involved in the contract, which is, different when it comes to the situation of exploration and production.

"Some of the services are not all that capital intensive. And in most cases, most of these [service companies] fully settle until they have a contract. And once you have a contract, it's very easy to build up the necessary fund proposal. Because, you go to the bank and you show them marks, numbers etc. and they say that ok, let's give you this because they know that these E&P companies are credible companies.... So, they know they will pay. So, for the service part, yes, unless you want to put in the infrastructure, you don't require huge capital [E&P IGCs]."

With the increase efforts of the IOCs in the E&P activities, contracts awarded to the supply chain is expected to increase. The supply chain is wide ranging and include technical and non-technical services provided to the E&P companies. The 10% of the volume of contract is significant to provide the needed platform for the local businesses to learn.

"...we have awarded contracts from the company for about 1.8 billion dollars and I think there are more than 300 contracts given to indigenous companies so our impact on the local content I think is very big, because we have tried to maximize the contract awarded here in Ghana" [IOC].

On the negative side one of the issues is political change, which poses significant risk for local businesses who have 10% equity participation in the oil industry. It was noted, that political actors and changes in government affect the 10% stake of companies perceived to belong to an opposition political party. In an instance, a foreign company can leave a JV with a local partner due to the local company's inability to push for contracts because perhaps there has been a change in government and the local company does not have the favour of the ruling government. Respondents argue that this situation drives the sole sourcing of high value contracts. It is important that the role of government and political actors be streamlined in a way that does not undermine the activities of the regulator especially with changes in governments. The constitution mandates Parliament to ratify rights or agreements for the exploitation of the nation's natural resources. But for the regulation of the utilisation of such resources, the constitution requires that regulatory commissions in this case, the Petroleum Commission is mandated to do so (See Article 268 and 269 of the 1992 Constitution of Ghana). It is therefore important for the regulator to be independent in the discharge of that responsibility.

"... the issue I have with that level is a situation where another government comes and those who have been in it and gained some experience are weeded out and new companies emerge to partner the foreign companies. And I know of a situation where even the foreign company divorce the local partner and marry another local partner. because of change in government, and I think that does not go a long way to helping us. [Government]"

3.2 The role of the regulator in boosting equity participation of IGCs in technical areas of upstream oil and gas industry in Ghana

On the 10% equity participation, the PC has a two-fold role to play. First, the PC ensures that the competencies and the expertise of local companies match that of the foreign companies. For instance, a foreign company that provides engineering services must form a joint venture (JV) company with an IGC that provides engineering services to ensure effective skills and technology transfer from the foreign company to the IGC. Secondly, within the agreements, the PC ensures that roles and responsibilities are jointly shared between the IGC and the foreign company.

On the other hand, the PC does not have much control over the implementation of the 5% equity participation by IGCs in exploration and production activities. Regulation 4(4) vests powers in the Minister for Energy to determine qualified IGCs to enter into petroleum agreements. In addition to this, the Minister can vary the 5% equity requirement if an IGC is unable to satisfy this requirement to enter into a petroleum agreement (regulation 4(3)). It is therefore at the discretion of the Minister to consult PC on decisions relating to the 5% minimum equity participation of IGCs in upstream exploration and production activities.

As the regulator of the upstream oil and gas industry, the PC is presumed to have the technical expertise to fully and adequately determine the competence and capacity of IGCs to whom it provides permits for operation in Ghana's upstream oil and gas industry. The PC can be an important instrument to develop a database of E&P companies who can take up the 5%. This data must lead to competitive selection of capable companies to annex opportunities in the industries.

It is important, therefore, for the Ministry responsible for energy to consult the PC for technical advice to inform decisions on selecting a desirable IGC to enter into, or partner with a foreign company for, a petroleum agreement, especially where the discretion in regulation 4 (3) needs to be exercised.

"... though the Petroleum Commission, by our mandate in Act 821, we act as the technical advisor to the minister, and one should expect that in such matters, the minister should consult the commission, but it is at the discretion of the minister, where in certain activities, the minister is mandated to consult the commission in taking certain decisions; in others, it is at the discretion of the minister to consult the commission. But I believe that as the technical advisor of the minister, in such matters, especially in evaluating the desirability of the local partner, appropriate consultation should be made with the commission, even though the final decision lies with the minister, but he should also consider the commission's technical advice before he also decides" [Regulator].

Respondents have lauded the Petroleum Commission for its efforts at improving local participation. Based on the responses, the contributions of the PC have been classified into three thematic areas: monitoring and enforcement of L.I 2204; building capacity and facilitating networks; and keeping and updating a database of IGCs.

3.2.1 Monitoring and enforcement of L.I 2204

The foremost contribution of the regulator is its ability to enforce the regulations of the local content law. By monitoring activities within the sector periodically, the PC has been successful at enforcing

the Regulations. Companies are required to submit local content plans which the PC ensures compliance with. Respondents attest that the PC has been firm on the local content plans every year, and the same is made available to IGCs for their planning purposes. Respondents also emphasize that monitoring is not done only on IOCs; the PC monitors the IGCs too. The Commission makes periodic visits to the Ghanaian companies to check for their adherence to industry standards in their operations. Thus, in their monitoring, the Commission is not seen to rely solely on information that is given by the companies. The PC visits company premises to check for discrepancies in the information reported.

"So, a team comes around. I think about a month ago [November 2018], they [Petroleum Commission] were with one of our companies. In July, they came around. That was a big exercise for the whole of Takoradi. So, they went to all our companies and I was with them throughout. With all the companies, their job was to ensure that the reporting we do is what is on the ground. And if there are any discrepancies, they question it. And so, yes, they rely on the information we give them, but they also come around." (IGC supplier)

3.2.2 Building capacities and facilitating networking

The PC creates avenues for the development of the capacities of the IGCs. The PC also has training programs, which are part of a greater objective to transfer knowledge and technology to the Ghanaian companies.

"We have been through various phases. Initially, it was just finding our way. There wasn't a lot of training organized by PC and government, and so things were compartmentalised. But now, especially over the past 2 or 3 years, there has been the effort to actually get knowledge transferred, to get technology transferred to Ghanaian companies. So, I wouldn't be able to say this is what has been, because it is dynamic. The situation is dynamic. But definitely, you can see" [Association].

The PC also facilitates events, including conferences, which provide IGCs with an avenue for networking and first-hand information on procurement opportunities from the international oil companies. The contacts help the IGCs to identify current trends in the oil industry as well as experiences from industry players.

3.2.3 Keeping and updating database of IGCs

Finding the right IGCs to work with could prove difficult without a database of players in the sector. This is because most of the local companies do not have the industry pedigree to sell themselves to the international companies. The PC therefore registers companies with interest and reasonable capacity to play specific roles in the sector to guide investors/IOCs. IGCs sometimes receive referrals to work with IOCs and these are facilitated by the PC especially for services that can be sole sourced. i.e. services whose value is less than US\$ 100,000.

"well for once, after a long period...a company, two companies just contacted us and then made reference to petroleum commission that they got referral from petroleum commission to contact us" [IGC].

3.3 Contributions of foreign companies to local participation in Ghana's upstream oil and gas industry.

Under the law a foreign company who partners with an indigenous Ghanaian company for a petroleum agreement, or who forms a joint venture company with an indigenous Ghanaian company to operate within the supply chain is required to enhance the technical capability of the IGC by transferring an appreciable level of skills and technology. This section documents efforts of foreign companies in enhancing technical participation of indigenous Ghanaian companies and Ghanaian citizens.

3.3.1 Human resource capacity building through Corporate Social Responsibility (CSR) activities

Some CSR activities of foreign companies include disbursing money towards enterprise development activities. One company is reported to have spent about \$250,000 on enterprise development programs in the country. In terms of building human capacities, CSR activities have been noted to have taken place where the primary interest was to provide scholarships for students and offer training for teaching faculty in some selected universities in Ghana.

"... We have spent 200,000 dollars so far on university scholarships and for students in oil and gas from University of Ghana, University of Mines and Ashesi University. In terms of faculty development, we had twelve lecturers and MSc students across the selected universities costing almost about 10,000 dollars to attend our capacity development program." (Foreign Service company)

CSR expenditure on human capacity development is opportune to build capacities for the industry, with the hope that upon completion of their studies, students will work in existing indigenous Ghanaian companies, form their own indigenous companies, or work with IOCs and JVs within the sector. There must therefore be more activities in Ghana's upstream oil and gas industry to create more local content opportunities.

3.3.2 Building staff competencies

International oil and gas companies have Ghanaians who work in various departments within these companies through the Ghana Upstream Sector Internship Programme (GUSIP) and as full-time employees. The capacities of staff are built through training to be able to deliver on the job requirement. These Ghanaian workers are therefore afforded the technical capacity to set up their own business in future or facilitate further in-country capacity development. Thus, this form of in-house training by the foreign companies has long term impacts on Ghanaian technical participation in the upstream sector.

3.3.3 Mentorship and training

One of the effective approaches to technology transfer is through mentorship, where workers of IGCs understudy their experienced foreign counterparts. Respondents in joint ventures indicated that Ghanaian workers are paired with foreign workers in order that the latter transfers skills and knowledge to the former. Mentorship and training require a deliberate effort by the IGCs too, to provide strong systems that ensure continuity and enhanced learning.

"For any project that we get, we are going to have specific people with drilling or petroleum engineering knowledge who are going to shadow the rig managers. So, their role is to learn and understand how to manage a rig operation. The idea is there are going to be four people; one person is offshore, learning from the tub-pusher and one person is onshore learning from the rig manager and then one person is offshore learning from the OIM and then one person is onshore learning from the technical superintendent and then they swap. So basically, the idea is to get people to know and understand how the management and staff facility is" [IGC].

3.3.4 Assistance in document processing

The oil and gas industry, as already noted, is a cost and standards intensive industry which requires strict adherence to industry regulations. As noted by respondents, the local companies in the joint ventures are trained in quality assurance processes and how to ensure that the right documentations are done especially when it comes to bidding for contracts.

3.4 Contributions of IGCs to indigenous participation in technical upstream petroleum activities

Indigenous Ghanaian Companies are not left out in boosting their participation in the technical areas of upstream petroleum activities. Although the regulation provides that foreign companies provide an appreciable level of technology transfer, it is imperative that IGCs do not consider this as an end in itself but a means to an end. This subsection highlights the best practices of the few IGCs who have made strides in ensuring indigenous participation in the oil and gas industry amidst the prevailing challenges that exist, which are discussed in latter sections of this chapter. The best practices are given in two broad thematic areas namely attitudinal attributes and sustainability strategies of IGCs.

3.4.1 Attitudinal attributes of IGCs

Attitudes form the foundations of the best practices of indigenous Ghanaian companies. This study views that the right attitudes such as leadership capabilities, leverage of technical expertise from other industries, credibility with clients, and adherence to industry standards, lead to the right competences which yield the best results.

3.4.1.1 Strong leadership with strong vision

The IGCs interviewed are conscious of the leadership skill and commitment required to participate in the industry. Although they are learning from their foreign counterparts, leaders of successful IGCs have the technical track record and strong knowledge of the oil and gas industry, having previously worked with multinationals for not less than a decade. Taking advantage of local content opportunities in technical areas of Ghana's upstream oil and gas industry is therefore a well-informed decision that is based on proper understanding of the requirements for successful operation in Ghana.

They leverage on their rich knowledge and strong network to enter into the right partnership arrangements with the right foreign companies, and to raise equity. A founding director of an indigenous Ghanaian company in a JV, who has more than a decade-long experience in the oil and gas industry in Texas, explained that his knowledge and understanding of the sector helped him to discover and form a strategic joint venture with a foreign company without having to invest huge capital outlay in company assets. The IGC holds majority share of 51% equity. These leaders see the local content regulations as an opportunity to justify participation and not a gift to lazy around.

These leaders are also conscious about properly managing staff, clients, and the sustainability of their companies. Respondents noted that the successes some IGCs within the supply chain have chalked result from the leadership prowess that their top management have demonstrated. During rainy days when there were no contracts, leaders of some IGCs disregarded personal comfort to, instead, prioritise staff salaries and plough back profits in order to ensure growth and sustainability of their businesses.

"...because we were expecting that for about a year, we won't have anything ...and during that time I wasn't paid, none of my partners were paid" [IGC].

The sustainability of the ICGs' business is also linked to their ability to grow their companies to take advantage of the sub-regional industry and beyond. This was evident in the conversations with the IGCs for this research.

"In our case, we are growing a company. It is not an opportunistic place. We are growing a company that will be exporting its services internationally. We are growing, that I can tell" [IGC].

Leaders expressed commitment to aggressive learning from their partners. They are learning to take measured risks with courage. This requires teachable leadership who optimise pieces of advice from the regulator, IOCs and other industry experts to correct their mistakes and make the right decisions in the future.

3.4.1.2 Leverage of technical expertise from other industries

Successful IGCs leverage on transferable skills from other sectors for their operations in the oil and gas industry. For instance, an IGC providing engineering services to IOCs in Ghana's upstream oil and gas industry possesses about 20 years of experience in supplying engineering services to multinationals in the mining and consumer industries. The IGC operates independently (100% Ghanaian owned and managed; the kind the PC describes as a full IGC) and attributes its successes in the oil and gas industry to honing its skills in other sectors and leveraging on same to meet the demands of IOCs.

"Oh, don't forget I said that we were with Tema oil refinery, Ashanti Goldfields [where] the safety level is a little higher, that is why I said it is just a little upgrade from the oil industry and when the opportunity came, we didn't waste time at all. We were consulted by a foreign partner: they were looking for good local content we can deliver as the foreigners" [IGC].

3.4.1.3 Credibility with Clients

The IGCs are increasingly becoming conscious about building credibility with their clients. For any particular contract, the multinational companies spend millions of dollars and therefore expect timely deliverables that suit their business needs. Issues of deadline are therefore important to IOCs. IOCs emphasised that IGCs who do not deliver on schedule cannot be trusted with further opportunities. Successful IGCs work beyond the expectation of their clients by providing prompt delivery of services and upholding their core values in their dealings with clients.

"...So, always issues of deadlines are very important, you know, we have this deadline, we cannot fail. So, you have to be able to deliver and you have to believe in you that you can deliver. It's a balance of power" [IGC].

3.4.1.4 Adherence to standards

There are some critical standards that cannot be compromised on and the adherence to these standards is critical for international oil companies. These include conforming to best safety practices, the right bidding processes, using the right equipment required by the operator, and ensuring that the quality standards are always met. Examples of such standards are the ISO and the TRACE certifications. The ISO 9000 certification for instance ensures that the company has good management systems where there is a seamless flow of activities in the operations of the company. TRACE certification ensures that the company adheres to anti-corruption practices. IGCs with the right certification of this nature hold on to their core values with the responsibility and the positioning that make them attractive to the world. Respondents noted that having the right industry certifications guarantee trust by the IOC as well as other foreign companies that would like to enter a JV with the local company. It is in this light that there are some IGCs that have multiple JVs with foreign companies while others do not.

"...Also, you have to ensure that as an organization, you position yourself such that you become attractive to the outside world. For example, we are certified in ISO 9000 2015. This means that we have good management systems... We are also TRACE certified, and this is an anti-bribery and anti-corruption certification which shows that we don't involve ourselves in those kinds of things. And if you look at foreign companies, these are some of the things they look out for. So, if you are a local organization, don't just be a business, registered in Ghana. Make sure that you equip yourself with the business to be ready to take advantage of opportunity when it comes" [IGC].

3.4.2 Sustainability strategies of IGCs

This thematic area refers to the positioning of the company and traits that make them resilient. They include leveraging on experience and track record, forming the right partnerships, capacity development and having contingency measures.

3.4.2.1 Experience and track record

Most of the interviewed respondents from IGCs indicated that their owners had worked in the sector for a long while and hence had gained experience in the industry. This makes it easier for IGCs to adapt to the business environment. These industry experiences could even be gained from other streams of the sector such as the midstream or the downstream. The transition from these streams into upstream operations is easier because of the experiences gained. As will be discussed in later sections of the text, it is noted that companies without the necessary industry experience are less likely to have full knowledge of the environment within which the upstream oil and gas company resides and the expectations of IOCs. Industry experience is thus an antecedent to meeting customer expectations.

"The founder has an extensive industry experience. He had worked with one of the service providers for most of his adult life. And he was one of the big boys within the service industry for the oil and gas. So, when oil was found, he decided to leave and come and help as it were. And by way of helping, he established the company" [IGC].

"Actually I gained my understanding of oil and gas business from the downstream sector. The downstream people; those who run refineries have a comprehensive understanding of the oil and gas sector. Those who produce oil properly understand oil production but those who refine the oil understand the production and the refinery as well" [IGC].

Other businesses have been in the system for a longer period and based on their experience and successes they are tipped to deliver the best. This opens doors for the IGCs, giving them the ability to transfer skills and knowledge that have been accrued from decades of work experience. The track record of some indigenous Ghanaian companies makes them a preferred option for joint venture formation.

"We were able to leverage on our success and you know JVs, when organizations are coming into our country to look for companies to partner with, they don't just come and pick companies on the street; they look at your performance within the industry, your reputation and things like that. We have positioned ourselves in such a way that we don't go looking for partners. They come looking for us, so we become very attractive to the outside world that they want to always come and partner with us" [IGC].

Throughout the interview process for the study, names of some reputable indigenous Ghanaian service companies who have acquired experience and reputation were mentioned repeatedly. Their success is even noted by their competitors.

3.4.2.2 Right partnerships

The argument is that a foreign company that has decades of experience in the industry would have proven records in the oil and gas industry and its affiliated services. The experiences of the international service company in the JV help in securing contracts from international oil companies for some services. One respondent recounted how they had not won any contract yet as a lone company but began to win some contracts when they formed a joint venture with a foreign company. IGCs that partner competitive foreign service companies are better positioned to obtain contracts and thereby gain the needed experience.

3.4.2.3 Financial capabilities

Typically, an indigenous Ghanaian company must have enough capital in order to partner with a foreign company. There are huge financial requirements to be made for a minimum of 5% equity participation in the upstream E&P services. For instance, for an exploration activity that requires an initial investment of \$100 million, an IGC is required to make financial contributions based on the level of equity it holds, resulting in a payment of at least \$5 million when cash calls are made. Ghanaian companies with the right financial muscle are able to participate in equity. As expressed by a respondent, companies who have higher equity are more likely to have an appreciable level of management control with more representation on the board and can push for decisions on behalf of the local companies.

The antecedents to financial capabilities include experience in industry and sound financial management practices. Some indigenous Ghanaian companies had been in operation for a while and hence have accrued enough capital to support equity financing. These companies are also capable of raising funds from financial markets. Some respondents noted that their companies had to plough back their profits in order to fund their projects and equity. Other sources of funds used for meeting equity included shareholders' contribution and internally generated funds.

"We are used to financing ourselves other than being pre-financed. You can imagine, we are a company that has been in existence for 20 years, we have enough investment to be able to take on new opportunities in business" [IGC].

3.4.2.4. Training and capacity building

The local content provision has been noted to be an addition to the efforts of IGCs to boost their participation in the upstream oil and gas sector. It is thus necessary for these companies to strive to continuously improve on their services by building their own capacities to meet the requirements of the sector. Respondents from IGCs emphasized the deliberate effort at training staff within the IGCs, with a long-term view of ensuring that they build the needed competencies to take over operations in the future. A huge proportion of the training is done on the job while others are held outside the country and in the classroom.

In addition to training workers, some IGCs train students who are prospective workers in the upstream oil and gas sector. Summer trainings and internship opportunities are organized for engineering students from tertiary institutions and national service personnel to help them acquire the needed skills.

Local aid to other local companies is seen as important. In this situation, some IGCs that have developed the skills and experience over time are able to transfer such knowledge to other IGCs that are up-and-coming in their efforts. An IGC noted that as part of its corporate social responsibility, it provides free training to other smaller indigenous Ghanaian companies. This is also advantageous for the company providing the training as it receives services, in one way or another, from these smaller IGCs. Thus, a well-trained and smaller IGC will provide quality services to the bigger IGC. Other efforts at promoting continuous improvement is the training centre that was constructed and commissioned in 2017 by an indigenous Ghanaian company. The centre offers training including health and safety management for the oil and gas sector. The presence of the training centre in Ghana has reduced costs to IGCs for similar training abroad.

“And that's why we as an organization also saw an opportunity there to build a training centre so that we can be able to do most of the training that they're having to send people outside the country to do, because it is costlier and also, to be able to let the ordinary Ghanaian afford it. Because if we're having to travel to South Africa [or] Copenhagen to get just a simulated training, maybe on top of your training costs, you are going to have maybe flight tickets, hotel and all that. So that's why we're leveraging on that to build training centres” [IGCs].

3.4.2.5 Contingency measures

The nascent nature of the industry limits available opportunities for indigenous companies which leads to financial difficulties for some of the IGCs. To be more sustainable and financially stable during lean seasons in upstream activities, some companies have vertically integrated or ventured into other income generating activities. These companies look out to identify opportunities in other related industries in order to take advantage of them. Although they do not rake in as much funds as compared to their core activities, the side-businesses help to sustain operations until such a time when activities increase in the sector and more opportunities are created. Other IGCs have diversified services in the industry and are, therefore, able to sustain their business.

"Our business is varied. We don't just do one thing. We just try to identify possible ways of solving or giving solutions to clients in the upstream industry. So, everyday something new comes up" [IGC].

3.5 Barriers to achieving indigenous participation in Ghana's upstream oil and gas

This section highlights the challenges to local equity and technical participation in the upstream oil and gas sector. The challenges arise from a plethora of sources that range from financial challenges, market issues, shortcomings of indigenous Ghanaian companies themselves, shortcomings of foreign companies, and shortcomings of the regulator.

3.5.1 Financial challenges

Financial challenge is one of the main barriers to effective participation among indigenous Ghanaian companies. Though some IGCs have capacity to raise funds particularly for the service sector, most of them are small in nature, and generally have low capital that hinders their ability to bid for big-ticket contracts. Certain procurement rules require that IGCs demonstrate the ability to have at least 10% of the contract value in order to begin work but many IGCs are unable to meet this requirement. Two key factors compound the capital mobilization plight of IGCs: limited financing options and higher interest rates.

3.5.1.1 Limited financing options

Financial institutions in Ghana that could potentially meet the financing needs of IGCs source their funds from short to medium term cash deposits. It does not make business sense for banks to invest those funds in long term, high risk oil and gas activities.

Funding options such as contract-based lending are not very developed in Ghana. In contract-based lending, the financial institution lends money to the IGC based on the receivables from the contract. The financing arrangement is typically based on two things: first, the profitability of the contract, accounting for the interest rate of local banks against that of their partners who come from low interest rate regimes; and second, the credit worthiness of the giver of the contract which in this case could be the international oil company. There are also no specialised investment banks to deal with long term financing in the oil and gas sector like that which exists in the agriculture sector through the Agricultural Development Bank. Long term investment options reduce interests on loans as amounts are spread over time for a commercially viable project. However, banks in Ghana provide short term financial support facilities and do not have the capacities to lock huge sums of money to IGCs for the long term.

"Things like contract base lending is not very well developed in Ghana. In other jurisdictions where people will lend you, the banks will lend you money on the basis of the receivable from the contract, that is something which is also not very well developed in Ghana. So, these are challenges when it comes to raising equity. It is very, very tough for Ghanaian businesses" [Energy Consultant].

In reality also, the local banks in Ghana lack the capacity to raise the needed funds for companies in the oil and gas sector. Recently, most banks in Ghana faced difficulties in raising a minimum capital of GHS 400 million which was a requirement by the Central Bank of Ghana. Banks that are able to provide support to upstream oil and gas activities in Ghana are banks that have parent banks outside the country; this further impacts on the ability of the indigenous banks to participate in the industry.

It was noted from the interviews that IGCs have lost credibility with banks over time. There are companies that default on loans and even abandon contracted projects. This raises the level of scepticism of banks to provide the needed capital. As a way of mitigating such risks banks demand that the IGCs show evidence of contract won before loans could be granted or provide collateral which must match the value of money requested by IGCs. However, many local companies do not have such collaterals.

"Tell me how many houses are worth over several millions? Very few. So, collateral is a major issue. Now, normally what the banks here will want is that you should get your contract, then you come to them. Then you ride on the back of the contract because they want certainty of payment. They don't want to come and take your collateral and sell" [Association].

The PC is currently developing guidelines to operationalize the Local Content Fund (LCF). This fund is meant to provide financial assistance to IGCs to help them compete in the sector. A local bank is yet to be appointed as manager of the fund. The LCF is supposed to be funded by a percentage (1%) of every contract in the sector. However, there has been very little cooperation from companies in putting the money into the fund. The PC is also in discussions with the sector ministry for government's funding of LCF aside the contributions from contracts.

3.5.1.2 High lending rates

Respondents argued that the lending rates in Ghana are comparatively too high. Banks in Ghana lend to IGCs at interest rates as high as 30 percent, compared to the lower interest rates of between 2 percent to 5 percent lending that foreign companies incur for lending from foreign banks. The high cost of capital makes IGCs less competitive compared to their foreign counterparts. On the other hand, there are other Ghanaian companies that would rather source funding from other markets due to the high interest rates in Ghana. For instance, if a Ghanaian company is supposed to contribute up to 10 percent in a JV and is required to make such financing available, the company finds incentive in sourcing finance from a foreign market than in a local market. This means that banks in Ghana may only benefit from such payments when the monies are routed through their banks to the foreign entities who gave the loan at a lower rate. Thus, whereas access to finance in itself is a problem, the cost of finance is another hurdle for indigenous Ghanaian companies working in a capital-intensive environment such as the oil and gas sector.

"The other thing is that, if you look at raising funding in Ghana, the scenario is even worse now than when the LI was formed. The financial sector in Ghana is now in turmoil and prior to that turmoil period, most of the banks in Ghana were charging interest rate around 30%.

How do you compete in an industry where someone from outside is benefitting from foreign exchange loans of about 2% interest rate and you are borrowing money in Ghana at 30%? Right from the onset, you are behind and you can't compete. So it makes it very difficult for our local companies to actually raise money and that continues to be a challenge. It is even worse now, because now the whole financial system is upside down (Energy Consultant)."

3.5.2 Market issues

Market issues relate to the challenges resulting from activities in the oil and gas market. The two main issues that arise are inactivity on oil blocks in Ghana's upstream sector and the high costs associated with upstream operations.

3.5.2.1 Inactivity on oil blocks

The oil industry in Ghana is still young with only few operating fields. Over the past decade, attempts to increase exploration activity within the industry have not yielded the desired results largely due to inefficient operators who failed to deliver on their minimum contractual obligations (ACEP, 2019).⁵⁴

The lack of activity results in a choked market that increases competition and leaves many IGCs without opportunities. Data from the Petroleum Commission as at April 2019 shows that only 51 companies, representing 7% of the 701 companies that are registered with the PC and have been issued valid permits to operate, have active contracts to provide technical services. There are also 34 companies that have active contracts in non-technical areas. This leaves 616 companies without contract. The choked market situation and the lack of opportunities get more alarming when smaller companies continue to pay for renewal of licenses in order to conform to standards although some may not have won any contract, getting practically nothing out of their spending.

"The problem we have in Ghana is that a number of oil blocks have been awarded but not performing. That must have created an issue with local content. Can you imagine if these blocks were assigned to international companies that really performed the work? Today we would have been in a situation where not only Jubilee and TEN and OCTP are the only producing fields. You would have had more fields to improve on supplies and opportunities for local companies" [IOC].

⁵⁴ Petroleum contract monitor, 2019: A public interest report. Available at <http://www.acepghana.com/reports/>

3.5.2.2 High costs associated with upstream operations

Beyond the financial risks that exist at the upstream level, high regulatory charges and costs of certification are huge hurdles for IGCs. Respondents were of the view that the regulator charged exorbitant fees for registration. In addition, getting the right documentations for a certification such as the ISO certification could be financially demanding and time consuming for a financially struggling local business. Although certification provides advantages for the IGC in terms of being recognized as one that adheres to standards, the processes of obtaining them are tiresome and costly.

"And then the cost [for certification]. When it comes to raising up the cost, we had to sweat to raise it... the documentation itself takes us a whole 9 months flat to get us ready for that" [IGC].

The emerging concern was for government to show interest in supporting local companies in the acquisition of the certificates. The regulator was also seen not to be engaging on the registration charges.

3.5.3 Shortcomings of indigenous Ghanaian companies

This section highlights the barriers to indigenous participation that are caused by the IGCs themselves. They can be grouped into four areas namely the lack of collaboration among IGCs, inadequate knowledge of the oil and gas sector, lack of proactiveness of IGCs in pursuing opportunities, inadequate technical capacities, corporate governance challenges, and fronting.

3.5.3.1 Lack of collaboration among IGCs

It was gathered from the respondents that IGCs work in silos; there is a limited drive for them to come together to form a consortium and/or have a common voice. Reasons cited from respondents indicate that joint ventures along the supply chain have been viewed from the perspective of a local company partnering with a foreign company. Hence, much attention has not been paid to the possibility of forming joint venture companies among indigenous Ghanaian companies. Consequently, IGCs are largely able to take advantage of the "low hanging fruit" opportunities as they are not able to garner the necessary funds for technical services upstream which require huge financial investments

It is a fact that foreign companies have more improved capacities, richer experiences and funds as compared to indigenous Ghanaian companies within the sector. A small IGC is therefore less likely to be more competitive than a multinational company. There is a minimal probability that a single local company will meet all the requirements necessary for a contract compared to the chances that two or three companies that have joined capacities, experiences and funds will meet the same requirements. Working in silos increases fixed costs for the local companies and does not make the IGC financially sound. According to some respondents, it is better for local businesses to pool resources to form stronger companies than owning 100% stake in small and less competitive companies.

"Our people's partnership attitude, you know most Ghanaians don't partner. It is always a difficult one. Sometimes when you come together, you understand each other, you trust your partner, you pull resources together, you have bigger equity, you pull the expertise together and then you have much broader expertise to do big ticket business but they are not willing at all times to come together even when the synergies are clear, that becomes a challenge" (Association)

3.5.3.2 Inadequate knowledge of the oil and gas sector

The oil industry is very complex and technical; one needs to deeply understand the business dynamics before venturing into the industry. Respondents mentioned that businessmen venture into the sector without proper research and consultations to gain knowledge and better understanding of the sector. They enter because they presume that having the financial capacity is the most important requirement to participate, without recourse to investigating other important aspects of the oil and gas business. For instance, respondents mentioned the inadequacy in knowledge of certification requirements, legal specifications, contracting processes and the calibre of specialized staff needed for successful operations.

Research and due diligence are lacking among many IGCs. The local content Regulations creates an entitlement mind-set in these companies to the extent that companies enter joint venture agreements without understanding the issues and regulations that surround the venture. IGCs are noted to rush to secure contracts with foreign partners without thorough checks of the contracts for the finer details, including the terms, conditions, and the financial implications of the contracts. Such haste in signing contracts without recourse to due diligence results in suboptimal outcomes for the IGCs.

"I think the biggest mistake is that they don't do their research well. They are always in a hurry to sign contracts, but the question you ask yourself is do you have the capacity to be able to run the contract? So, you realize that people will land contracts alright but once it is approved, do you have that capacity to run that contract in the first instance?" [IGC].

Moreover, there is the situation where companies put much credence on building hard core technical abilities such as welding or fabrication of metals than other relevant soft skills. Soft skills such as consultancy, financial and legal expertise and negotiation skills are necessary

parts of the capacity building in the upstream oil and gas sector which is mostly overlooked by some IGCs. A greater value is obtained when the capacity development is viewed through the lenses of both tangible and intangible capacity building.

3.5.3.3 Lack of proactiveness of IGCs in pursuing opportunities

IGCs are not proactive in pursuing contracts as they do not seek knowledge of activities of potential clients or to know when relevant tenders are published. Some IGCs wait until there is an announcement of a tender before they begin to pursue it. This affects their preparedness and sometimes they are unable to meet the requirements within the application window. International service companies on the other hand are more proactive in seeking information on the opportunities in the sector through proper research.

3.5.3.4 Inadequate technical capacities

The IGCs do not have the adequate technical capacities to participate in more rewarding engineering services. This makes IGCs place more focus on less technically intensive areas, termed *low hanging fruits*, by some industry players. Inadequate technical capacity for IGCs arise as a result of several challenges, including financial challenges and a narrow focus of their businesses.

For more specialized services such as aviation, it had been difficult in getting Ghanaian helicopter pilots who meet the required amount of flight hours for the oil sector. Unfortunately, such training institutions are not available in Ghana, except the Ghana Air Force that trains helicopter pilots for the State. This allows for the use of more expatriate workers in these fields. Other capacities in technical services such as welding and fabrication are woefully inadequate, hence the need to hire the expertise of expatriates.

Admittedly, it takes a while to build capacity both in school and even on the job. The industry is fairly new in Ghana with capacities of individuals and training institutions still budding. This requires IGCs to make deliberate efforts to build these capacities. However, the financial position of the IGCs is burdened as some have had to spend more money in training their staff abroad in advanced technical programmes.

"...One of the universities, TECH [KNUST] started petroleum and gas courses, about 4 or 5 years ago. So if you say technical, local partners. We don't have it" [IGC].

3.5.3.5 Corporate governance challenges

Some of the IGCs were noted to have weak corporate governance structures. The powers of the board and management team of IGCs are undermined because decision-making usually emanates from the owners and financiers of the companies with minimum involvement of board members and management teams. In some cases, family members who do not have the needed competence occupy important positions in the companies. IGCs are therefore likely to fail due diligence checks necessary for access funding.

"You know a lot of these Ghanaian companies are not well structured, somebody's wife, his nephew or niece is the finance manager and a lot of them are not very well structured, so it is very difficult for them to raise any funding" [Energy Consultant].

The above statement has empirical support in the Ghanaian context. Affum-Osei (2015) finds that non-executive directors are rendered practically inactive during decision making in family businesses. The lack of proper corporate structures short-changes effective governance and risk mitigation. While it is not wrong to have family members in a business, it is important to have independent directors to ensure accountability. According to Fischer and Stevenson (2007),

"To create the ideal board for your company, you need outside directors who will hold you accountable. You should have the right mix of talents, personalities, and experience. Above all in a family company, you need people with high emotional intelligence."

3.5.3.6 Fronting

Fronting is an admitted challenge in the oil and gas sector in Ghana and in recent times the regulator and the government have indicated strongly their willingness to effectively enforce the local content regulations, LI 2204 (Petroleum Commission, 2018). LI 2204 criminalises fronting. Regulation 46 of the L.I states that *"A citizen who acts as a front or connives with a foreign citizen or company to deceive the Commission as representing an indigenous Ghanaian company to achieve the local content requirement under these Regulations, commits an offence and is liable on summary conviction to a fine of not less than one hundred thousand penalty units and not more than two hundred and fifty thousand penalty units or to a term of imprisonment of not less than one year and not more than two years or to both."*

The real cause of fronting is the limited financial and technical capacity of IGCs, coupled with political interference. Political interference is usually in the form of political actors pushing local companies to form JVs with foreign companies in fulfilment of the Regulations. This does not give foreign companies the room for them to do due diligence in selecting competent local partners. This does not foster effective knowledge transfer as the foreign JV partner fully performs operations of the JV on behalf of the local partner. Fronting hinders technical participation and undermines the underpinning concept of the local content regulations.

"... when it comes to even the joint venture arrangement, people take it for granted and I have seen several reports where they are just fronting. Because it is a requirement by law, the foreign company comes, and it gives you 5% or even 10% and then you become a sleeping partner and don't care what happens afterwards. Meanwhile that was not the purpose. The purpose is that you must be an equity participant, get a certain percentage and therefore have a say in the business, see what is going on in the business, and build knowledge and capacity instead of just signing documents and staying somewhere and letting the companies do their own thing. You never learn and then also because you are not actively part of it, you can't monitor the cost. So, at the end of the day, whatever they declare as dividend that is what you get" [Regulator].

3.5.4 Shortcomings of foreign companies

This section evaluates the challenges to indigenous participation arising from the shortcomings of foreign companies. The issues identified as shortcomings of foreign companies include the poorly structured payment agreements, dominant management control by foreign companies in JVs, and lackadaisical attitude towards skills and technology transfer.

3.5.4.1 Poorly structured payment arrangements

Respondents from IGCs complained of delays in payments by IOCs. They noted that they were only paid for services rendered after as long as 60 to 150 days. The delayed payments means IGCs pay more in the cost of capital because they are unable to repay bank loans on time. Moreover, the business sustainability of IGCs is threatened if payments for work done have to be made between 60 to about 150 days after the work has been completed.

"If you talk about payment for example, there is no rule on payment, on how quickly local companies should be paid. So, you have a local company who is working here and this foreign company who gets loans from their foreign countries for as low as 3% interest rate come here and they don't pay people for 60 days, 90 days, 120 days, sometimes 150 to 200 days. If you find a local company that is paying interest rate of between 23% and 30% to local banks, will that company survive?" [IGC].

Unfortunately, the poorly structured payment arrangements arise from lack of proper negotiation skills and the fear of losing a contract on the part of IGCs. Also, IGCs are unable to properly cost their services to cover costs arising from delayed payments. It is for this reason that the study advocates that IGCs should not only focus on building tangible technical capacities but also build soft skills in the areas of contract negotiations. This paper argues that companies that have the right legal expertise are able to negotiate favourable contractual terms to avoid getting the short end of contracts.

3.5.4.2 Lackadaisical attitude towards skills/technology transfer

Respondents noted that foreign companies would have loved to operate in the Ghanaian upstream sector without regulations surrounding the mandatory need to have a local partner. Some companies see the formation of joint ventures as a distraction, especially for those companies who do not need a local partner to understand the business climate of the country. The struggle for Ghanaian companies to do business partially arises from the unwillingness of IOCs or foreign companies to spend resources to train them in order to become competitive.

The lackadaisical attitude to skills transfer could also be explained by the non-alignment of business operations between the foreign company and the IGC within the JV. From the perspective of the regulator, technology and skills transfer are accelerated when the line of business of both companies are closely aligned. For example, if a sub-sea company forms a JV with a catering services company, there will be no technology and skills transfer from the sub-sea company to the catering company. The local company then becomes a sleeping partner in the JV.

3.5.5 Shortcomings of the regulator

The Petroleum Commission as a regulator has made great strides in implementing the local content regulations. Helping local companies to obtain work, fostering interactions between IGCs and IOCs, and removing superfluous requirements by IOCs are but a few of the ways the PC has helped to ensure local participation. However, there is more room for improvement. This section outlines the challenges in local participation in upstream oil and gas that are caused by regulatory shortcomings.

3.5.5.1 Bureaucratic processes

Processes for registration are neither simplified nor automated. The PC as a regulator can cut down on the red tapes by automating systems for easier documentation. This can reduce the time that is taken for companies to access administrative services from the PC. In an environment such as the oil and gas sector, decisions are to be made quickly and delays have excessive cost implications. Bureaucracy on the part of the regulator is therefore a big problem for both IGCs and foreign companies to deal with. Though these complaints are made to the PC, not much improvements have been made.

"I will give you a typical example. We need maybe for agreement sake; we need a 1000cubic gallons of marine gas oil to keep subsea equipment up otherwise it will freeze. The law says that we write to the PC because that transaction is likely to be over 100,000 dollars. We write to the PC, we notify them, they come back, we go onto the market, we check who's available, write to them, get 3 or more quotations, we evaluate, we come back to them, and then PC says "it is okay", then we buy it. This process I've outlined, can you give me an idea of how long it will take you? [Foreign partner in JV]

3.5.5.2 No plans for technology transfer

Regulation 23 of L.I 2204 indicates that technology transfer shall be carried out by contractors, subcontractors or licensees in accordance with a national plan on technology transfer. This plan on technology transfer as explained in Regulation 22 of the L.I is to be developed by the Petroleum Commission in consultation with the National Development Planning Commission and other relevant MDAs and published in the Gazette and the dailies. Since the inception of the L.I in 2013, there has not been any national technology transfer plan rolled out by the PC. This implies that monitoring the progress of technology transfer becomes difficult as there is no associated benchmark against which technology transfers carried out by foreign companies to locals are measured. Plans carried out by foreign companies are based on what they think would promote local content development, while serving their operations effectively.

“So, if it is local content and we are talking about technology transfer plan, and there's the need for technology transfer plan, we should all know and take that blueprint and there's no double interpretation. It is black and white. So, there's a clearly stated outcome in terms of what the technology transfer should entail, what school it should be” [Foreign Company].

This leaves the concept of technology transfer so ambiguous and undefined. The L.I has not provided any clear definition of technology transfer and that leaves stakeholders confused. Throughout the course of this study, industry players could not converge on the meaning of technology transfer.

3.5.5.3 Challenges with capacity development efforts

The Enterprise Development Centre (EDC) was one of the opportunities created by the Jubilee partners to build the capacity of Ghanaian companies. The centre was to be managed and funded by the Jubilee partners for a period of 5 years, after which the government was to take over. However, since the Jubilee partners handed over to government in 2016, the centre has not been operational. At the Ghana Oil and Gas Service Providers' Association (GOSPA) forum in October 2018, the CEO of the Petroleum Commission indicated the PC's intentions to revive the EDC,⁵⁵ but this is yet to be realised.

The Accelerated Oil and Gas Capacity (AOGC) Programme was instituted in 2017 to build capacities of Ghanaian individuals and businesses in the oil and gas sector. The programme apprenticeship programme for individuals, capacity building for SMEs, capacity building for public institutions and capacity building for educational institutions. The programme was meant to train 1000 individuals, 200 SMEs and 300 employees in the public institutions annually for 5 years.⁵⁶ The question some respondents asked was the state of the programme and how many people have been trained. Since it was launched, not much progress was made until

⁵⁵ <https://www.petrocom.gov.gh/2018/10/proin-massa-sem-tempor-eu-lacus-ut-tempor-imperdiet-purus-cras-at-molestie-velit/>

⁵⁶ <http://www.ghananewsagency.org/economics/ghana-s-accelerated-oil-and-gas-capacity-programme-gets-a-boost-137997>

Aker announced an investment of \$4.5 million to support the programme which, according to the PC, marks the beginning of the operationalization of the programme. The concern this raises is the sustainability of the programme beyond Aker's investment and whether this may not be another EDC in the making.

CHAPTER FOUR - CONCLUSIONS AND RECOMMENDATIONS



Local content requirements have become a relevant policy instrument for many resource rich countries to optimise the benefits of resource extraction beyond fiscal take. Ghana's Petroleum (Local Content and Local Participation) Regulations, 2013 (L.I 2204) encourages a gradual uptake of Ghanaian businesses in E&P operations, and the supply of goods and services in the oil and gas sector through the minimum 5% equity participation in E&P contracts and 10% in Joint Venture Companies along the supply chain.

This study sought to document the experiences of both IGCs and foreign companies, regulators and other stakeholders in the upstream oil and gas sector, highlighting successes, challenges and what could be done beyond legislation to improve local participation in technical areas of upstream oil and gas operations in Ghana. This research noted that some IGCs have been able to adapt to ethics required in the industry. These IGCs have been able to build strong credibility with clients through adherence to industry quality standards and timely delivery of services. These IGCs are also characterised by strong leadership that has rich experiences in the oil and gas industry, thereby demonstrating clear understanding of the technical requirements of the oil and gas industry which inform management decisions. Some IGCs have also been successful at bringing to the oil and gas industry some transferable knowledge/skills from decades of operating in technical areas in other industries. They have also gained knowledge and experiences to adopt strategies that make them sustainable over time. This is done through diversification into related industries, leveraging on successes and forming the right partnerships. There has also been significant knowledge acquisition through transfer from partners and their own investments in formal and informal training.

However, challenges to local participation abound in the midst of these successes. Key among the challenges are the access to financing, low technical capacity of IGCs, fronting and weak corporate governance structures. There are also noticeable challenges with regulation. The PC's processes are saddled with bureaucracies and unilateral prescriptions. The unavailability a national plan for skill transfer makes it difficult for proper assessment of skills transfer that is meant to be conducted. Some respondents have complained of hefty charges by the regulator which poses a barrier to entry into the sector.

To optimise the benefit of resource extraction and to ensure effective local participation, this study has outlined the following recommendations:

1. The regulator must develop and implement a holistic technology transfer plan. This should clearly define what technology transfer entails and serve as a benchmark to which the technology transfer by foreign companies can be assessed. In developing a holistic

national technology transfer plan, it is important to involve all relevant stakeholders including IGCs, foreign companies, industry associations and civil society organisations.

2. The PC must conduct thorough audits of businesses engaged in joint ventures to detect and eliminate fronting. This can be achieved by working with the security and financial intelligence agencies and the Central Bank to track the transactions of these businesses. In addition, IGCs must be required to submit their progress on technology transfer and these should be benchmarked against the national technology transfer plan while appropriate sanctions are meted out to operators and joint venture companies who are found to be in violation of the PC's regulations.

3. The PC must speed up the review and approval processes for registration and certifications. This can be done by leveraging on technology to provide automated systems that help in reducing delays in processing documents based on which the companies will make decisions.

4. IGCs must strengthen their management structures and adopt sound corporate governance principles to make them more credit worthy and sustainable. Sound corporate governance of IGCs will also make them attractive to foreign partners. Corporate governance must also be part of the assessment of IGCs by the PC.

5. Government and the PC must promote stronger collaboration among IGCs. IGCs must be encouraged to pool resources together, and leverage on each other's strengths in order to build financially and technically robust consortiums to be competitive as well as being able to attract greater participation in joint ventures and E&P contracts.

6. The PC must help eliminate the entitlement mindset of some local business regarding local content regulations. Through regular stakeholder engagements, the PC must deepen the mindset of IGCs that the local content regulation is not an end in itself but a means to an end. This also requires that IGCs are oriented on the fact that it requires resilience to survive in such a risky environment.

7. It is also recommended that IGCs take advantage of events organized by stakeholders such as the regulator, oil and gas associations, international oil companies and civil society groups to gain more knowledge of current trends in the industry, requirements from IOCs, new possibilities for joint ventures and upcoming contracts.

8. Government and the PC should stimulate increased exploration and production to create more opportunities for local content implementation. This requires aggressive implementation of the open contract requirements of the E&P Act to attract efficient companies for the award of petroleum blocks.

9. To resolve the access to finance challenges, government and the PC must expedite action on operationalizing the local content fund to support the operations of IGCs. Again, in order to avoid this fund being used for political patronage, the fund should be handed to competent banks to manage and disburse on behalf of the state.

10. Government must sustainably invest in institutions and programs that are earmarked to provide training for the industry. Such training programs should be informed by the needs of the industry and cover both technical and non-technical areas.

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