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A Comparative Analysis of Local Content Policies in the North Sea and the Gulf of Guinea Regions

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This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Most resource-rich countries in Africa are introducing or reinforcing Local Content Policies (LCPs) and regulations to propel socio-economic development since its introduction in the North Sea. Local content is now a prerequisite for granting exploration license to international oil companies (IOCs) and suppliers in the Gulf of Guinea region (GGR). The paper analyses and compares LCPs - successes and impediments factors - from two perspectives: the North Sea – Norway, UK, and Denmark; and the Gulf of Guinea – Angola, Nigeria, Ghana, Liberia and Equatorial Guinea to glean policy lessons for the Gulf of Guinea countries. The study of the comparator countries found that the policy implementation in the GGR is constrained, inter alia by inadequate infrastructure, industrial base and supplier base, technical and financial capacity of domestic firms and weak regulatory institutions. Also, the LC policy is overly ambitious and prescriptive which ignores the GGR's state of industrial development. To engineer resource-based development in the GGR these countries must move beyond its preoccupation with local content regulations to addressing the above challenges conducive for the development of linkages.

Keywords: Local content policies; oil and gas; the North Sea; The Gulf of Guinea.

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1. INTRODUCTION

Natural resources have the potential to spur socio-economic development in host countries as happened in America, Canada, Norway and Australia. These same resources have the potential to deepen underdevelopment as the seminal work of Sachs and Warner [1] found a negative correlation between natural resource abundance and economic growth. In Africa, petroleum and mineral resources have been a major catalyst of underdevelopment, political instability, and environmental pollution termed as the resource curse. The resource curse, according to Obiri et al. [2] is a paradox which connotes that, countries with more natural resources turned to be underdeveloped than countries without natural resources. The predominant justification for resource curse is Dutch disease, coined as a result of the immediate hardship in Netherlands that followed the discovery of O&G in the North Sea, Europe [3].

Dutch disease is a concept where improvements in one sector lead (i.e. extractive industry) to a decline in others (i.e. agriculture sector and manufacturing sector) [4]. Other studies posit different explanations to the resource curse theory: Ross [5,6], Jensen and Wantchekon [7], Collier and Hoeffler [8] and Hodler [9] argued that there is always a negative relationship between quality of the governance system and resource wealth and; Robinson et al. [10] postulated that resource-rich countries with accountable institutions and state competence tend to achieve positive impacts from the use of their natural resources. Put differently, the effect of a natural resource on an economy is dependent on the institutional quality of the resource country.

To address this resource curse, countries in the Gulf of Guinea region are implementing Local Content Policies (LCPs) to maximise benefits and build linkages in the economy through four main pillars: employment creation, procurement of goods and services, knowledge transfer and skills development. Despite the increasing adoption of this policy, Veloso [11] argued that little empirical evidence available on the policy's impact on economies are mixed. Proponents of LCPs argue that the policy correct market failure and creates value addition [12] and protect infant industries and with time local companies can partner multinationals [12,13]. The policy has the potential to generate sustained and inclusive growth through economic diversification and employment opportunities [14].

On the other hand, others counter these arguments that the policy violates World Trade Organisation rules (the General Agreement on Tariffs and Trade, the agreement on Trade-Related Investment Measures, the Agreement on Trade in services, and the Agreement on Government Procurement). However, there is a consensus that a well-drafted LCPs cognizant of the developmental state of the host country could impact the economy positively. Consequently, the paper compares local content policies in the comparator countries to determine the factors that impede LCP implementation, and what causes the LCPs to be successful. The central focus of the paper differs from previous studies which focused on local content implementation, monitoring and enforcement of regulations on employment and training etc. from the perspective of the oil companies. This comparative analysis is to glean successful lessons to improve policy implementation in GGR, West Africa. Qualitative analysis is used to identify the thematic issues occurring in the case countries which subsequently serves as a policy recommendation for LCP improvement in GGR. In nutshell, this paper contributes to the literature on the subject by highlighting policy lessons from the comparator countries which emphasise the importance of addressing local content challenges in the Gulf of Guinea region. In this respect, the paper is divided into four sections: section one introduces the topic, section two and three analysis LCPs from the comparator regions with justifications for the adopted countries. Section four and five deal with findings and discussion, and conclusion respectively.

2. LOCAL CONTENT DEVELOPMENT IN THE NORTH SEA

Local content policies (LCPs) as an industrial policy in the oil and gas sector to support broad-based economic growth were first introduced in the North Sea, Europe in the 1970s which comprised restrictions on imports to direct state intervention in the oil sector [12]. In addition to being the source of this policy in the petroleum sector, another consideration given for the choice of the underlisted countries is the successfulness of the policy implementation. The policy analysis of these countries is discussed next.

2.1 Norway

The country's upstream petroleum activities started in the mid-1960s, and the first offshore field came on stream in 1971. The key principle

that drove oil exploration is the idea of collective ownership of petroleum resources within Norway by the state. This principle is reflected in subsequent legislation such as Norwegian Petroleum law in 1965 and later, the Petroleum Act (Act No. 72 of 29 November 1996) and the National Petroleum Regulations (Regulation No. 653 of 27 June 1997) which provided the basis for licenses acquisition. This became necessary as a result of government oil policy to create domestic suppliers and thereby ensure maximum benefit from natural resources in the Norwegian Continental Shelf (NCS). Subsequently, in 1971, the Sorting (Parliament) of Norway produced what is now known as the “the 10 Oil Commandments” comprising the following:

- The exploitation of petroleum in NCS should ensure energy security for the country;
- Development of new industry based on petroleum;
- The oil industry must be cognizant of existing industrial activities and the protection of nature and the environment;
- The involvement of the Norwegian state at all appropriate levels of the oil industry and creation of an integrated oil community with a focus on national and international participation;
- Future large-scale discovery present new tasks for Norway’s foreign policy [15]; and others.

These general principles resulted in a new administrative structure based on different functional responsibilities in 1972:

- Policy-making - The Ministry of Petroleum and Energy deals with decision-making and award of licenses. All development plans are finally approved by parliament.
- Technical control and resource management - The Norwegian Petroleum Directorate is responsible for technical oversight of the fields and advises the sector ministry.
- Commercial participation - the establishment of a state-owned oil company, Statoil in 1972 to take care of commercial interest on behalf of the government, and to counterbalance the IOCs operating in Norway [16]. In 2015, it was estimated that Statoil controls about

70% of oil production in Norway [17]. In 2001, Petoro and Gassco were established to manage the State’s direct financial interest (SDFI) in the industry and manage the gas transport network from NCS respectively.

All the institutional structure and the policy framework helped developed competitive domestic suppliers. In making room for local firms to compete, decrees (article 54, §54) were passed to ensure local goods and services are given preferences when goods are competitive in price, quality, service and schedule [2]. This is similar to British firms having ‘full and fair opportunity’ (FFO) to compete for business. Here again, Goods and Services Office was established as in the case of Offshore Suppliers Office (OSO) in the UK to monitor and assist local firms in partnering IOCs and establishing a target for indigenous participation in the industry. Furthermore, a Supplier Development Program was established by the government to enhance production links between Norwegian firms and IOCs which helped created industry clusters [18]. According to Obiri et al. [2], through government interventions and existing infrastructure and industrial based, local companies were able to develop and propelled to international standards. These industry competencies were easily adjusted and extended into the oil and gas industry which consists of the following:

- The shipbuilding industry, manufacture of ship equipment and shipyards for handling offshore operations,
- Availability of large process facilities,
- The mining industry existing skills were relevant to the oil and gas industry. For instance, geological competence was relevant for O&G mapping and interpretation of seismic data [16].

In addition to the above, Norway had an advanced academic environment at the time of the discoveries which provided a base for domestic knowledge. Again, oil companies were encouraged during concessions negotiations to enter into R&D projects with local universities and research institutions (ibid). This helped enlarged local knowledge base and provided the industry with the requisite personnel. Table 1 lists local content incentives in Norway.

Table 1. Norwegian local-content incentives

1. Norwegian local-content incentive focussed on the production chain.
2. Foreign firms were required to transfer technology to their Norwegian counterparts, as enshrined in the licenses.
3. Petroleum multinationals acted as technical assistants to Statoil and smaller Norwegian firms that were legally the operators of the oil and gas assets-essentially fast-tracking Norwegian companies to competent operators.
4. Firms were required to conduct at least 50% of the research for the technology needed to develop assets at local Norwegian institutions.
5. The preferences for local firms – when competitive regarding price and quality- continued until 1996, when EU legislation required the Government to give equal access to all operators regardless of origin.

Source: Acheampong et al. [19]

2.2 United Kingdom

The United Kingdom until its ascension into the European Single Market has been implementing a loose form of local content policy in the North Sea since the 1960s. In other words, the local content was less interventionist as happened in Norway which was a state-led policy at the early stages of oil production [20]. UK implemented a discretionary licensing system for petroleum contracts with an emphasis on rapid exploration and development (E&P) programme and the companies' usage of local suppliers [21]. Despite the country's long-established O&G industry supply chain, it was small and limited in offshore capability. The 1970s witnessed demand for an increased in local content in the North Sea due to the following events:

- The discovery of large oil fields in the northern North Sea;
- Concerns for the security of oil supply from the Middle East due to unstable events;
- Labour militancy in the coal mining industry threatening domestic energy supplies;
- Decline viability in heavy engineering and shipbuilding industries in the host communities in Scotland;
- Nationalist sentiment in Scotland on the increased resulting in the saying "It's Scotland's oil [21,22,23]."

Consequent to the above the Heath administration published IMEG Report on the potential industrial benefits of North Sea development and the following recommendations were adopted:

- Establishment of an organisation to improve the performance of the British offshore industry;
- A confidential quarterly report by operators and contractors outlining their purchases,

staff employment and sub-contractors explaining purchases and tendering practices and future requirements;

- A means of assessing whether British firms have 'full and fair opportunity' (FFO) to compete for business in the United Kingdom Continental Shelf (UKCS) O&G licensing system;
- Providing credit facilities to British firms to counter cheap export credit from overseas suppliers;
- Encouraging joint venture between domestic firms and foreign suppliers to 'plug' gaps in British industrial capability; and
- Availability of information and advice service to British suppliers [22,23].

Accordingly, Offshore Suppliers Office (OSO) was established in 1973 to put into effect the adopted recommendations. Among some of its touted success is the incorporation of FFO clause in all license application and monitoring its compliance. A non-binding Code of Practice was latter agreed between the United Kingdom Offshore Operators Association (UKOOA) and the Department of Energy which stipulated tender documents should be readable by UK firms, OSO with authority to suggest additional bidders, bidders make estimates for UK contents and established criteria for bid evaluation among others [23].

The OSO and National Enterprise Board provided subsidised credit to support British firms. Also, Offshore Energy Technology Board provided funding for offshore related R&D. The Universities also received support in developing science and engineering programmes fit for the industry. Before restructuring the oil industry in Scotland, it was estimated that of the investment goods and services deployed about 30 per cent

was domestically sourced. It was argued that this figure could be increased to 70 per cent thereby reducing imports and creating job opportunities in Scotland and north-east England (ibid). In assessing OSO's impact after its formation, Civitas [23] argued that the organisation reached its target of 70 per cent UK content in 1979 and helped domestic companies in overcoming barriers to entry.

2.3 Denmark

The overall strategy of the policies of Denmark's oil and gas industry is to provide for the appropriate use and exploitation of the country subsoil [24]. In terms of ownership of oil reservoirs, the Danish state is the sole owner under the Subsoil Act. However, the current emphasis is on energy security and an increase in the share of renewable energy. The country has considerable reserves of O&G in the North Sea which has been exploited since the early 1970s. In 1962, A.P. Moller was offered a 50-year concession by the Danish government to explore and produce oil and gas which subsequently led to the discovery of oil in Kraka field, North Sea by Dansk Undergrounds Consortium (DUC) joint venture [25]. After the first Danish oil crisis triggered by the Arab oil embargo in the 1970s, the government put in the necessary measures to ensure supply security. In 1976, the government of Denmark and A.P Moller entered an agreement granting the Danish National Oil and Gas Company (DONG) special privileges or pre-emption rights to gas (ibid).

The second Danish oil crisis started in 1979 as a result of the Iranian revolution in the Middle East. Consequently, the Danish government renegotiated the terms and conditions of the concession with A.P.Moller which led to the latter giving up parts of the Sole Concession area (ibid). Since then, there have been about 7th licensing rounds in Denmark. In 2005, Denmark established a state-owned oil and gas companies called Nordsofonden and Nordsoenheden which manage the state participation in O&G exploration and production in the country. Nordsdonden replaced Danish Oil and Natural Gas Company's responsibility as the state participant in licenses after the partial privatisation of DONG. The Danish North Sea Fund (Nordsofonden) which is non-operator owns 20 per cent of the DUC and all recent licences on behalf of the Danish government. Denmark increased its stake in the oil industry through ownership of various aspects of the value chain. For instance, the oil pipeline from

the North Sea to the onshore processing facilities on the Jutland peninsula is owned and operated by the partially state-owned company, Ørsted [24].

In Denmark, there are no local preference or domestic purchasing policies demanded of international oil companies for oil exploration [21]. They further argued that from the onset of the oil industry, most of the oil and gas-related work was performed locally which subsequently, import restrictions and domestic preferences became irrelevant due to EU rules (ibid). The Subsoil Act (1981) provides the principal legal framework regulating oil and gas exploration and production activities in the country [24]. The Ministry of Energy, Utilities and Climate is responsible for the overall strategy and policy (including oversight and supervision) for the development and regulation of the energy sector. In Denmark, there are no minimum requirements for the use of locally sourced goods, services, capital or personnel and neither are there any social programme payment made by an oil company (licensee) (ibid). EU regulations prohibit the legislation of local content requirements.

3. LOCAL CONTENT DEVELOPMENT IN THE GULF OF GUINEA

The Gulf of Guinea, West Africa is renowned for natural resources ranging from petroleum resources to minerals. Paradoxically, these resources have led to underdevelopment which is hoped will be remedied through the adoption of local content policies. The countries chosen for the analyses are based on a combination of long years of experience (i.e. Nigeria) and newcomers (i.e. Liberia) ostensibly to gauge the policy implementation in different periods.

3.1 Nigeria

The Nigerian Oil and Gas Industry Content Development Act 2010 Act (NOGICD), is defined as "the quantum of composite value added to or created in the Nigerian economy by a systematic development of capacity and capabilities through the deliberate utilization of Nigerian human, material resources and service in the Nigerian petroleum industry" [26]. The NOGICD seeks to ensure substantial usage of domestic goods and services, and human capital (focus on value addition, and technology transfer) in all activities carried out in or connected with the Nigerian oil and gas industry. The act establishes the Nigerian Content Development and Monitoring

Board (NCDMB) and the Nigerian Content Consultative Forum to guide, monitor, coordinate and implement LC provisions and to serve as a forum for sharing ideas and experience on LC respectively. This law is an improvement on the previous laws on local content since the 1950s. For instance, the 1969 Petroleum Act stipulates protection for indigenous companies and the development of human capacity for the oil and gas industry. Again, the 1969 Petroleum Drilling and Production Regulations (PDPR) postulated nationalisation of petroleum resources in Nigeria.

The intent behind these various laws was to domesticate the needs of the oil industry in Nigeria and reduce the domination of the industry by the international oil companies and their suppliers. Adewuyi and Oyejedi [27] argued that by 2005, the local content requirement had increased beyond a basic preference for domestic goods and services to the issuance of 23 directives mandating the use of specific domestic goods and services. However, these LC regulations have never had any significant impact on the economy and as a result, yielded minimal returns. This is because, no provisions in the early PDPR for training required by indigenes employed in petroleum industry nor were there any set benchmarks (e.g., percentage) during licenses acquisition [19]. Also, it was noted that the provisions lacked guidelines for succession planning which resulted in a lack of uniformity in the application of the regulations from one entity to the other.

The new act is comprehensive that outlines clearly defined strict enforcement of the LC policy and monitoring. The NCDMB argues that the policy has been successful in attracting foreign direct investment (FDI) above \$500m between 2010 to 2015 [28]. It is estimated that 70.87% of the contract value awarded in the upstream between 2010 and 2012 went to Nigerians, \$110.8 million expended on domestic training of Nigerians (ibid). Going forward, the NCDMB is to pursue one hundred per cent fabrication of Floating Production Storage and Offloading (FPSO) in the next ten years and also increase indigenous oil production from current 10 per cent to 30 per cent in the next 5 years [28]. However, there remains an array of issues constraining local content policy implementation: weak infrastructure and industrial base (insufficient power supply, poor transportation telecommunication network, and inexistent public utilities etc.) in the country is inadequate to support industrial development, financial support

to local firms; political instability, corruption and technical expertise [29,30,31].

3.2 Angola

Obiri et al. [2] postulate that local content implementation in Angola focusses on two broad areas: Angolanization of the workforce in the oil industry; and local sourcing of goods and services. Local sourcing of goods and services within the local content framework is based on a three-level typology: exclusivity, semi compliance and competition [32]. The rule of exclusivity implies that all activities that do not require non-specialized know-how and high capital investment should only involve foreign companies at the sole request of Angolan companies. The semi compliance requires that for foreign companies' involvement in all E&P activities that require a reasonable level of capital and specialized know-how, can only be permitted in association with national companies (ibid). And lastly, the competition system specifically encourages competition in the E&P industry which require a high level of capital and in-depth specialised know-how except under the conditions described above. However, the possibility of a partnership between local firms and foreign companies should not be excluded.

The above areas have been legislated through laws such as Law 10/79 empowering Sonangol, the state-owned oil company to lead in the exploration and production of O&G, and train indigenes. The decree 20/82, law 14/03, and decree 127/03 deal with Angolanization of the workforce, promotion of local private enterprises, sourcing of domestic goods and services respectively [33]. The primary legislations are the Petroleum Activity Law 2004 (Law 10/04), law for the Promotion of Business for Local Private Companies 2003 (Law 14/03). It also has the General Regulatory Framework for Hiring of Services and Goods from national companies in the oil industry (127/03). Decree 48/06 is on Open Tender Procedures in the oil industry, Decree Law 17/09 on the rules and procedure to observe in recruitment, integration, training and development of workers from the oil sector, and Decree 39/08 establishing a fund for the promotion of entrepreneurship [32]. In 2008, a fund for the promotion of entrepreneurship was established to support the creation of local companies.

Apart from the above primary legislation and regulations, local content provisions are inserted

in the petroleum licensing agreements (Production Sharing Agreements) which mandate domestic sourcing of goods and training for local workers for oil companies and its subcontractors, i.e 2008 model PSA. The Angola Ministry of Petroleum has the sole responsibility for the local content formulation and implementation and monitoring. In a nutshell, the above legislation and regulations require preference to be given to Angolan concessionaires if their tender fees are not higher than 10% of other proposals, companies required to submit a detailed contract programme on the development of human resources and contribute financially to human resource development, locals employed are to enjoy the same conditions as foreigners, training programmes by IOCs must result in technology transfer and know-how, and finally, in terms of monitoring and enforcement, IOCs must submit annual human resources development plans, regular reports on contribution to training with failure resulting in fines and rendering contracts null and void. However, challenges persist in the area of infrastructure, financial support to local firms, technical expertise [2,33,34,35].

3.3 Ghana

Following in the steps of Nigeria and Angola, Ghana's local content policy framework has the key policy objective to "maximise the benefits of oil and gas wealth generation on a comprehensive local content platform by maximizing the use of local expertise, goods and services, job creation for people, businesses and financing in all aspects of the oil and gas industry value chain and retention of the benefit within Ghana" [36]. When the policy got passed in 2013, it established a petroleum commission for regulating the upstream industry and a Local Content Committee for the monitoring and implementation of the local content regulations. To deepen local participation, petroleum agreement or license is awarded to foreign companies provided indigenous Ghanaian companies have 5% equity participation and 10% equity for of suppliers, and the establishment of Local Content Fund to support local capability development aspects of the local content framework and used primarily for education, training and research and development in the oil industry. In a nutshell, Ghanaian LC policy is modelled on Nigeria's LC policy detailing procurement, technology and transfer requirements, training and employment preference in favour of indigenes in the award of

rights, employment and sourcing goods locally. The local content fund is created to extend credit facilities to local companies to aid them to compete in the industry.

The local content fund is to be funded via a contribution from licensed operators, oil and gas revenue, levies and support from Ghana's development partners. According to the legislation, contractors and its sub-contractors are expected to submit long term and annual local content plans, sub-plans in the areas of employment, training, succession, research and development (3-5-year programme of R&D initiatives in Ghana), and technology transfer. In addition to the establishment of the Local Content Committee, a common qualification system which serves as the sole system for the registration and pre-qualification of LC in the oil industry. A sole centralised system of pre-qualified service providers in Ghana's upstream petroleum industry based on their capacities, capabilities and local content strength is to enable ranking and categorisation of the service providers as well as tracking and monitoring their performance" [32]. The government policy framework on local content identified finance, technology and human resource capacity as the likely challenges to impede LCP implementation in Ghana [36]. The other challenge impeding policy implementation is weak infrastructure [2].

3.4 Liberia

Petroleum resources found in Liberia's territorial borders as in most African countries belong to the state. In the late 1940s, oil and gas exploration began but was not successful from that period through to the 1990s. However, the discovery of commercial petroleum in the deep waters of the Gulf of Guinea renew interests in oil exploration in all the countries along the coast including Liberia. In 2012, oil was discovered. Subsequently, a technical committee was formed by the government with assistance from the US government, the Norwegian Oil for Development and other civil society organizations to develop a policy for the sector. The National Petroleum Policy 2012 sets the framework for the governance of the sector which covers thematic areas such as resource ownership and maritime boundary, legal framework and institutional oversight, licensing, state participation, revenue management, health, safety, and environment, and local content [37].

Liberia Petroleum policy contains a segment on local content that was developed and spearheaded by the Hydrocarbon Technical Working Committee comprising the president of the national oil company, minister of finance and energy etc. The central aims of the local content policy are:

- To empower Liberians to participate and promote added value in the Liberian economy through the systematic development of capacity and the utilization of domestic human and material resources and services in the oil and related industry.
- Developed a local content strategy to protect Liberian business interests and build local competence to derive maximum benefits from petroleum resources.
- The law is expected to strengthen the local economy and ensure sustainable development [38].

Localizing the production of services and materials in the country, it is hoped, the wider economy will benefit through spill-over effects. The government, therefore, will promote local content strategy aimed at building local businesses, local skills and workforce etc. through the establishment of training institutes to build specialized skills in strategic areas in the industry [37]. Oil companies are required to recruit and train Liberians, procure domestic goods and services, contribute to community development programs and undertake joint venture activities to ensure technology transfer (ibid). The Ministry of Lands, Mines and Energy is the sectoral ministry in charge of petroleum matters and overall policy formulation and implementation in the sector. On reporting, oil companies are required to regularly publish their contribution to local content development publicly.

On 17th October 2019, the president of Liberia signed into law an amended version of Petroleum Act, 2019. The amended law focusses on attracting investments into the industry and increasing local participation. The national oil company of Liberia (NOCL) had an executive increment in the allocation of oil blocks from 2, 000 sq. km to not exceed 3, 500 sq.km for offshore, and 2, 000 sq.km for onshore blocks [39]. The NOCL has the responsibility for the state's commercial interests and equity participation in the oil fields. In addition to the above, the new law introduces international open

competitive bidding, and executive allocation to the national oil company to be the basis for the granting petroleum agreement (ibid). The latter is granted in consultation with the national assembly, and thereafter the NOCAL can operate solely or through partnership. The law requires a petroleum agreement to contain at least 5 per cent total equity stake for domestic firms owned by natural persons of Liberia Citizenship. Local content provisions in the old Petroleum Exploration and Production Act, 2013 follows similar regulations in Nigeria, Ghana and Angola; requirement for training and employing locals, encouraging joint venture between foreign firms and local companies and increasing backward linkages to the industry. Liberia is in the same bracket as the other GGR countries facing challenges in financing local companies, infrastructure for the expansion of the manufacturing base, and the requisite local manpower for the oil industry.

3.5 Equatorial Guinea

Similarly, Equatorial Guinea has a local content policy to compelled international oil companies and services providers to employ locals and the purchases of local goods and services. For instance, the Ministerial Order 1/2014 provides the policy framework for the regulation of the industry in Equatorial Guinea. This order enjoins that all petroleum contracts must have LC provisions geared towards employment creation, capacity development, and national industry participation [40]. In terms of employment, the policy framework requires the employment of the Equatoguineans and subsequently provided with training and skills required for the industry. The legal framework is expected to gradually diversify the national economy to an acceptable level of national companies' participation in the country's oil sector (ibid). In terms of skills development, the country lacks the requisite manpower needed locally to facilitate local participation in the sector. To that end, the regulatory framework incorporates capacity building programmes sponsored by the government in collaboration with the oil companies with resultant improvement in the level of local enterprises skills and ability to deliver quality goods and services (ibid).

The Equatorial Guinea Liquefied Natural Gas's (EGLNG) organizes courses in finance and accounting, human resource management, and computer skills etc. aimed in building local suppliers' capacity [40]. Also, the oil companies

in collaboration with the government created the National Technological Hydrocarbons Institute to train technical workers for the industry. The local content policy also encourages joint partnership between local and foreign companies. To facilitate the implementation of the policy, institutions have been established by the state to aid in that process. There is an attempt to increase access to finance by local companies through the development of manual in partnership with the National Bank of Equatorial Guinea. The National Directorate of Local Content has the responsibility for the implementation and monitoring of the local content policy. The Ministry of Mines, Industry and Energy (MMIE) has the overall policy formulation and regulatory responsibility in the country's oil and gas industry. Also, to ensure effective implementation of the policy frameworks there is the need to create an independent monitoring and evaluation institutional mechanism involving all the stakeholders in the industry [40].

4. FINDINGS AND DISCUSSION

After the discovery of oil and gas in the North Sea and the Gulf of Guinea there was a general agreement as to the pivotal role of the state in maximizing benefits from the resources. State institutions were subsequently established with different functional responsibility to policymaking, technical management and commercial participation. These institutions, in turn, gave direction to the industrial policy arrived via consensus-building for long-term decisions especially in the case of Norway. Following in the footsteps of Norway, the regulatory functions of the oil industry was decoupled from the state oil companies' commercial interests in the Gulf of Guinea regions. This resulted in the creation of an independent regulatory institution and also allowed state oil companies to focus on their main mandate of oil exploration and production as in the cases of Nigeria, Ghana and Liberia etc. Regulatory institutions in the Gulf of Guinea are weak in terms of implementation and monitoring compliance of the LC policy. This, therefore, requires regulatory institutions to be strengthened to act independently and monitor and implement the policy.

The development of local content policy in the North Sea was predicated on existing state's capabilities and developed human skills which propelled the growth of local businesses in and outside the oil sector. The existing skills and

competencies in the North Sea countries were easily adjusted to the oil industry. In the case of the Gulf of Guinea countries, the manufacturing base is not well developed, and the existence of domestic skills and expertise is inadequate. The experience of the North Sea shows that the LC policy thrives in the presence of skilled and experienced workforce and education skills, and strong infrastructure and industrial base. Without adequate infrastructure, manufacturing base cannot be expanded, which in turn, cannot create backward and forward linkages to the oil industry. Put it differently as argued by Obiri et al., [2], there is a positive relationship between effective local content implementation and infrastructure development. That means, in drafting the LC policy the country developmental state must be taken into consideration, and the policy must align with the country long term development objectives. In Norway and the UK, the policy was for sectoral catch than economy-wide policy.

Furthermore, Norway and the UK had two different approaches towards the policy implementation: Norway's LC policy was state-led interventions which is more aligned with the policy implementation in the Gulf of Guinea region, and; UK's LC policy was less interventionist as compared to Norway's. In other words, the UK's policy was more of laissez-faire towards oil companies' compliance with the policy than the prescriptive nature as in the case of Norway and the Gulf of Guinea. In the North Sea, Norway and Denmark LC focused on R&D partnerships and knowledge transfer to domestic companies through domestic companies' joint venture with IOCs, the UK implemented discretionary licensing system, audit oil companies' purchases and offered financial support to local companies, establishment of independent state institutions to plan, monitor and report LC. In a bid to develop domestic capacity, there were industrial policies to develop domestic capacity in the oil industry. These actions resulted in establishing two state-owned companies in Norway and the state allowed competition among Norwegian companies (Statoil, Norsk Hydro and Saga-privately owned) to get best out of these companies.

Consequently, there was temporary protection of indigenous companies to allow domestic participation in the oil industry in Norway. However, this policy of protectionism was temporary. Denmark followed a similar policy of establishing state-owned companies to

participate in the industry. Additionally, there was cooperation between the oil and gas industry and local universities that encouraged research and technology development which has not been replicated in the Gulf of Guinea region successfully. On the other hand, the lessons learned from the Gulf of Guinea region are establishment of regulatory institutions to implement and monitor the policy, the policy is mandatory in this region which mandates training, preferences for local goods and services, investment in R&D etc., petroleum licensing by IOCs requires 5 per cent equity participation of local companies in the case of Ghana. Apart from financial and technical issues that plague national oil companies in the Gulf of Guinea, these companies have deviated from the core mandate into a quasi-financial institution granting loans to state institutions and venturing into a non-core mandate. In other words, these companies have turned into a slush fund for the government.

The analyses of Gulf of Guinea countries show that the LC policy implementation has resulted in the establishment of production linkages in the oil sector. These are attributed to the independent regulatory institutions, stringent nature of the LC laws mandating local purchases of goods and services and joint ventures between foreign companies and locals, and annual reporting of targets. The LC law emphasises that priority shall be given to the local companies to demonstrate the capacity to execute the work. The capacity to execute the work is in-line with 'full and fair opportunity' (FFO) practised in the UK, Norway, Canada and Australia.

In a nutshell, the studied regions have similarities in the LC provisions: either mandatory or voluntarily encouraging domestic sourcing of goods and services, and joint ventures to promote technology transfer to host countries. In the Gulf of Guinea region, the implementation of LC has succeeded in promoting some joint ventures between local firms and IOCs resulting in a limited transfer of knowledge and created direct and indirect jobs. However, the analysis of local content policy and its implementation in the Gulf of Guinea indicated that challenges persist in technical skills and financial capabilities of local contractors and suppliers, and inadequate infrastructure to support backward linkages. In terms of technical skills and lack of requisite manpower, this challenge exists as a result of inadequate and

poorly resourced educational institutions emphasising vocational and technical training. Local companies and suppliers face difficulties in accessing credit facility primarily due to high-interest rates on loan and huge collateral demanded by banks, and the general lack of government support in this regard. The infrastructure deficit in the GGR is due to insufficient investment in infrastructure development, inconducive and burdensome legal framework for private participation and corruption which is endemic and pervasive in the region. The above challenges apply to all the case countries in the Gulf of Guinea region. Another challenge is the volatile political environment in the form of insurgency, especially in Nigerian, Angola, and Liberia. This is attributed to the distribution of resource wealth, i.e. Niger Delta, Nigeria where the host communities normally feel they are not getting a fair share of their resource revenue.

5. CONCLUSION

Local content policy and its implementation in the Gulf of Guinea region follows the North Sea trend: employment, procurement, training, and technology transfer requirements, monitoring and enforcement mechanisms, and the support generally given to local companies by host governments. The underpinning principle of "full, and fair opportunity" and reasonable access to employment and tendering opportunities for local suppliers and companies are incorporated in the local content policies in both regions. With active state involvement and regulations coupled with the utilisation of existing industrial and manufacturing capacity, the countries in the North Sea developed international competitive oil-related industries. Furthermore, the case studies show that for host countries to maximize enough benefits from the resources, the government must dedicate resources in creating the enabling environment for SMEs to partake in the industry. In stark contrast to the North Sea, LC in the Gulf of Guinea region countries (Ghana, Nigeria, and Angola) were promulgated without considering the developmental stage of their respective countries which pose as an impediment for SMEs development.

To achieve the intended purposes of the policy in the Gulf of Guinea, challenges in areas of inadequate domestic skills, poor infrastructure, lack of technical and financial capacity of domestic firms and corruption must be addressed. Consequently, there must be an

investment in developing the human resource base, investing in R&D centres and encouraging partnership between the industry and the education sector as happened in Norway, UK and Denmark. In addition, the government should invest the petroleum resource revenue in infrastructure development and the development of an industrial base. Access to credit facility by local suppliers should be instituted by the government either solely or in collaboration with the private sector. The other issues that must be addressed are corruption and the effective running of state-oil companies. Finally, local content policy in the Gulf of Guinea is overambitious and therefore, must be re-drafted in collaboration with all stakeholders to reflect the economic conditions and the developmental state of the countries.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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