

AN ASSESSMENT OF LOCAL CONTENT POLICIES: A CASE OF OIL AND GAS SECTOR IN TANZANIA

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Abstract:

Development of local content policies (LCP) has become a crucial topic in many developing countries. Tanzania is among the countries who has enacted the LCP to ensure effective utilization of the local manpower and resources in the development of the petroleum sector. This paper explores the existing challenges encountered in implementing the LCP in Tanzania, in addition the paper outlines the efforts and strategies that are undertaken by the Tanzanian authorities to ensure the implementation of local content policy within the oil and gas sector. The paper explores as well the differences and similarities between the LC strategies implemented in Tanzania with LC strategies adopted by most of the resource-rich countries. The results presented in this paper are based on a systematic literature review and on interviews. The findings suggest that in the Tanzanian LC regime, some of the important strategies have not been adopted. These include; the assessment of the available local capacity and competences, the design of an effective set of performance metrics for measuring the progress, and the design of an effective supplier development programs. Moreover, the study has uncovered critical LC challenges faced in Tanzania. These include the uncertified workforce, failure of local firms to comply with health and safety (HSE) standards, absence of a database for the available competence and capacity, inadequate capacity and capability, poor information flow, absence of relevant LCP from other sectors, lack of financial support and infant industries.

Keywords: Local content, Oil and gas, Local content challenges, Local content strategies, Policy.

1 Introduction

Currently, several countries have discovered and are developing the oil and gas reserves. Governments in these resource-rich countries are eager to get more benefits from this resource by making suitable policies which can enhance their abilities to achieve the desired goals [1]. There are many reasons why many resource-rich countries are interested in local content policies (LCP) which include both political and economic imperatives [2]. The economic imperatives are normally considered by policymakers to achieve targets like industrial development, value addition, job creation, linkage creation and value chain incorporation [3]. While the political imperative is based on how governments desire and need to secure economic opportunities for their local populations [2]. Therefore, The definition of LC varies depending on a country's economic condition, needs, capabilities, and context. In general, LC means the development of domestic skills, transfer of technology, use of local workforce, goods and services, and promotion of domestic manufacturing [4]. Also, LC is the degree to which the output of the oil and gas extractives generates additional benefits to the economy apart from its direct contribution of value-addition [1].

The concept of LC has a long history from where it was originated. In the oil and gas sector, the concept emerged in the early 1900s in the USA, and later it spread to the United Kingdom (UK) in 1920s [5]. In 1944, Venezuela passed a hydrocarbon law that required the International Oil Companies (IOCs) to process its oil inside Venezuela [2]. In 1953, the president of Brazil Getúlio Vargas, also announced that the Brazilian national oil company should use the domestic workers and capital to support the domestic industries [1]. In the 1970s, LCP was also introduced in the North Sea, i.e. the Norwegian

country, which aimed at restricting on the importation of goods to enhance the purchase of domestic goods in the oil and gas sector [1]. However, this concept became very popular in 2014 when the oil prices were high [5]. In this period, the number of countries globally adopted LCP [5]. After the adoption of the LCP by many resource rich-countries, many studies have been conducted which focus on identifying benefits, strategies, and challenges of LC in the oil and gas sector. Some of these studies focus on developing countries especially in Africa, i.e. Ghana [6-9]; Nigeria [8-13]. Other studies were conducted in developed countries as case studies, i.e. Norway [1], [5], [6]; Brazil and the UK [1], [5]. However, the oil and gas industry is new in Tanzania; hence few studies have been conducted which focuses on a theoretical overview of the LC in Tanzania [15-17]. This paper focuses on identifying challenges and strategies of LCP in Tanzania oil and gas sector.

1.1 Problem Statement

The discovery of profitable quantities of natural gas in Tanzania has sparked the debates on strategies of how to effectively and efficiently extract this resource. The LCP is one of the tools adopted by the Tanzania government in the petroleum industry to exploit the benefits of the local economy from petroleum development [7]. This is particularly very important due to the negative history of Tanzanian's natural resource in the mining sector which has served to put Tanzania into the map of foreign capital flows with benefits to few local Tanzanian's citizens [8]. There are discussions among the Tanzanians that, international mining companies have extracted valuable minerals without providing many benefits to Tanzanians [9]. The experience from the mining sector put a debate in the oil and gas sector whereby the government now wants to ensure high levels of local participation to avoid the repeating history of what happened in the mining sector [10]. So, what can be done to ensure that local content in Tanzania is successfully implemented to avoid the negative resource exploitation results as what happened in the mining sector? Therefore, this paper aims at conducting a literature review on local content globally as well as empirical research to the Tanzanian context. The aim is to gain more experiences from the literature which will enable to identify the gaps in the Tanzania local content (LC) model.

2 Theoretical Background.

In Tanzania, the oil and gas exploration activities began during 1952, and the first natural gas discovery of 2.5 Trillion-Cubic Feet (TCF) [11] was made in 1974 in the Songo Songo area [12]. In 2010, the potential discovery in the Indian deep-sea was made which have brought about new exploration goals especially to the whole Indian Ocean [13]. Up to 2016 the total natural gas discovered have been confirmed to be 57.25 TCF [14]. This was increment from 40 TCF of natural gas discovered in 2012 [15] and 53.28 TCF in 2014 [16]. The country has been projected to become one of the major gas exporters in the world within the coming 20 years [10]. Following to these potential discoveries, Tanzania has put in place the LC framework by enacting policies and laws. In 2013 the government promulgated the Natural Gas Policy following the Petroleum Policy which was enacted in April 2014. From these two mentioned Policies, two Acts which are the Petroleum Local Content Regulations, 2017 ("Regulations") and the Petroleum Act, 2015 ("Acts") were formulated and finally came in use on the 5th May 2017 and 25th September 2017 respectively [7]. According to the Oil and Gas Policy of 2014 [17], the key focus area of the Tanzania LC has been addressed to; capacity building and technology transfer; local Tanzanian participation; usage and procurement of locally produced goods and services; in-country manufacturing; and socio-economic responsibilities. The government has adjusted the petroleum policies, legislation and contracts to increase the economic by-products from the petroleum sector and securing the local population. Based on history, the concept of local content is now in the petroleum industry in Tanzania.

3 Methodology

The paper draws on a systematic literature review and interviews with the government institutions involved in LCP in Tanzania. The systematic literature review was used to understand the concept of

LC, benefits, challenges, and strategies in general. While, the interviews were conducted mainly in Tanzania to understand the current situation, challenges, and government initiatives. A systematic literature review was performed in line with the guideline as explained by Gough [18], who described the nine-phase process of the systematic literature review. The inclusion and exclusion criteria were defined to ensure the searched literature are consistently assessed. The literature material obtained were screened for eligibility and finally, a total of ($N = 42$) were used in the literature review. Table 1 present the summary of mostly used literature in this paper.

Table 1: The summary of the mostly used literature in this paper

Authors	Findings
Tordo et al. [1]	To achieve on LC, a country should encourage joint venture; focus on capacity development; develop LC performance measurement; and assessment of existing local capacity and capability.
Kalyuzhnova et al. [5]	The challenges of LCP in resource rich-countries are low economies of scale in term of financial stability, production volume and technology; corruption scandal in the country; lack of enough knowledge and information about the industry standards, requirements and quality; language barrier; and unreliable product and service required in the projects.
Mushemeza et al. [19]	Strategies to succeed in LC includes good coordination of government LC agencies; development of a strong National Oil Company (NOC); assessment of industry capacity and resource condition of the country
Mireftekhari [20]	The main challenges in globally in emerging economies are the lack of competent personnel and unrealistic local content expectation. Training and skills development to the local workforce also plays a big role in improving the competence of local firms.
IPIECA [21]	To achieve in LC, the governments should focus on workforce and supply base development. Also, policymakers should consider designing a set of performance indicators.

Also, the general interview guide approach was used to collect data. The interviews were face to face interviews so as to uncover the challenges faced when designing and implementing local content policy and the strategies used in the implementation. The interviews were conducted with four government officials, i.e. the Ministry of Energy; Petroleum Upstream Regulatory Authority (PURA); the Tanzania Petroleum Development Cooperation (TPDC); and the Energy and Water Utilities Regulatory Authority (EWURA). The reason for choosing these government officials is because these institutions are responsible for LCP according to the local content framework in Tanzania. A total of 5 people were interviewed. Participants were selected based on purposive sampling (selective, subjective or judgemental sampling). Also, the interviews were recorded by permission of interviewees.

4 Findings and Discussion

4.1 The concept of local content (LC)

Local content policies in wider perspective refer to all government interventions that tend to increase the share of the overall value chain to the domestic industry [1] with the aim of encouraging local participation, development of domestic goods and services [22]. Another LCP objective is to promote growth and improve the competitiveness of the overall economy [23]. The value addition of local content policies can be obtained in different forms and affecting some sectors like the mining, manufacturing, auto, agriculture, oil and gas sector, among others [24]. However, LC is now commonly used in the oil and gas industry due to the discovery of oil and gas in many developing and developed countries. Countries are now adopting measures to promote their local industries since this is the critical determinants to whether the resource is being extracted efficiently [25]. In oil and gas sector LCPs vary along different dimensions which depend on a country's needs, capabilities and context [2]. From all these dimensions, countries have defined LC in many ways. In Brazil, the LC is defined "*the portion of materials, equipment, systems produced in the national territory and the services rendered in it, acquired from suppliers established in Brazil, as long as they offer equivalent conditions in price, delivery time and quality to the ones of foreign suppliers*" [5]. However, in Tanzania LC is defined as

“the quantum of composite value added to, or created in, the economy of Tanzania through deliberate utilization of Tanzanian human and material resources and services in the petroleum operations in order to stimulate the development of capabilities of indigenous Tanzania and to encourage local investment and participation” [26]. Generally, there is no common definition used to define LC; each country defines LC depending on its economic condition. Based on reviewing the definition across countries and scholars, the definition of local content can be summarised as *“a set of actions that are meant to add value and create local participation in the host countries”*.

4.2 The challenges in the implementation of LCP in the oil and gas sector

The challenges in implementing LCP and regulation differ from country to country. The findings reveal that developed countries have different challenges in LC implementation compare to developing countries [5]. Local content challenge revealed from interviews were consistent with the one identified in the literature. These include:

- Lack of competency and skills to the indigenous which hinder them to be involved in the oil and gas operations [20], [27].
- Lack of enough fund or capital to the indigenous companies hinders the local companies to take over some activities in oil and gas projects [28].
- Poor quality of goods and service of the locals.

Apart from the mentioned common challenges, there are other challenges which were discovered in literature but were not mentioned in the interview, e.g. a corruption scandal, lack of consistency in government policies, poor support from important, relevant stakeholders. In addition, there are challenges from international contexts which are against LC requirements. The contexts come in the form of agreements which associated with the World Trade Organization (WTO) [2], i.e. the agreement on Government Procurement (GPA); the agreement on Trade-Related Investment Measures (TRIMs); the General Agreement on Trade in Services (GATS); and the General Agreement on Tariffs and Trade (GATT). Many resource rich-countries are members of WTO as described by Jain [29] and Tanzania is one of the members [30]. Even though Tanzania is one of the members but currently it is not facing any strong LC opposition challenges from these international contexts. The LCP in Tanzania was just started in use in May 2017, so it is too early to conclude that Tanzania will not face these challenges.

Furthermore, the interviews uncovered that the main critical challenges facing the Tanzania LCP regime are the lack of certified Tanzanians and local companies. The respondent from PURA, EWURA and TPDC acknowledged that *“industry recognised bodies do not certify many Tanzanians who have been trained in various petroleum relevant skills”*. Other challenges described by interviewees are a failure of local Tanzanians to comply with health and safety (HSE) standards; absence of competent database for available competence and capacity; and infant industries whereby the manufacturing industry in Tanzania is still probably weak to cover the highly technical demands of this oil and gas industry. This shows that Tanzania is facing challenges which are not most common to other countries and it seems that these challenges should be taken into consideration before designing the policy. Table 2 shows a summary of identified local content challenges from the literature and interviews.

Table 2: Summarized local content challenges from empirical findings

Challenges obtained from the literature	Challenges from interviews
<ul style="list-style-type: none"> • Lack of required skills, technical expertise, quality, capacity, and capability. • Lack of competent personnel • Unrealistic local content expectations • Lack of enough knowledge and information about the industry standards, requirements and quality • Unreliable product and service required in the project. • Lack of training and low managerial ability 	<ul style="list-style-type: none"> • Inadequate skilled and technical competence required. • Inadequate relevant experience in special areas. • Absence of database for the available competencies and capacity. • Poor information flows

<ul style="list-style-type: none"> • Low level of institutional capacity • The unwillingness of politicians to go through changes • Lack of consistency in government policies, poor support from important, relevant stakeholders, and corruption. • Corruption scandal • Low economies of scale in term of financial stability, production volume, and technology • The poor financial condition of the supplier 	<ul style="list-style-type: none"> • Infant industries • Deficiency capital and capacity. • Strict HSE requirements and standard. • Absence of effective supplier development programs.
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4.3 Strategies for successful implementation of local content in the oil and gas sector

From the literature, it was revealed that the main key strategy to be considered for successful implementation of LCP is good planning at the early stage by policymakers before making policies.

Moreover, the literature has revealed that most countries that have achieved better outcomes in the implementation of LCP seem to have common strategies. These strategies are the development of well-structured local content frameworks, together with a clear implementation; monitoring mechanism and presence of a strong National Oil Companies (NOC) which is the key tools during the design and implementation of LCPs; and good governance for managing of local content policies which includes transparency. Other strategies identified in the literature are:

- Skills and training development of the local labour force. Lack of skills across the petroleum industry value chain are universal in almost all oil and gas producing countries [1]. To succeed in this, there should be a strong focus on capacity development.
- Involvement of the important stakeholders like the national oil companies; communities; national and local governments; international oil companies; international organisations; financial institutions during defining and implementing the local content. To achieve a successful outcome, it is important to consider stakeholders in order to create a common understanding, and it will reduce the conflict of interest among them [36-38].
- Joint venture with local firms is important strategy for successful implementation LCP. Joint ventures enhance the transfer of knowledge from more competitive oil and gas companies to domestic firms. For example Nigeria, which is Africa's premier oil producer and has a good outcome of LCP [19], the oil production is undertaken by the International Oil Companies in the joint venture arranged with the Nigerian National Petroleum Corporation (NNPC) [22].
- In monitoring the implemented of LCP, policymakers should consider designing a set of performance indicators which will be essential for monitoring the state's progress on LC. Performance indicators play a key role in ensuring compliance and report requirements [21]. Acheampong et al. [22] also acknowledged that to be successful in LCP implementation, policymaker should clearly define the tools for measuring LC benchmarks and this should be agreed with all stakeholders in the industry.
- Effective supplier development programs. According to IPIECA [21], this strategy can help local companies to have active participation in the oil and gas supply chain by making them a key supplier of competitive goods and services required in the industry.

Some of the strategies from the literature has also been uncovered for the case of the Tanzanian context during interviews. For example, joint ventures, development of training programs, and local training institutions. The Tanzania government has developed different institutions like the University of Dar es Salaam, University of Dodoma, and Dar es Salaam Institute of Technology which teaches petroleum courses for the local citizens and other international students. This is very important in supporting skills development to the locals who will enable them to be involved in the oil and gas industry. Moreover, the NOC which is TPDC has developed a program for local workforce training inside and outside the country to study the oil and gas courses

However, some of the strategies from the literature were not mentioned during the interviews. These strategies were identified as the gap since Tanzania did not put in place for the successful implementation of the LCP. From the literature, it was uncovered that, before LC development, policymakers should assess the existing skills, competencies, and capacity to find out what is the existing gap in terms of skills and capacity. The good example was demonstrated from the case of Angola and Brazil. These two countries assessed the existing skills and capacities to ensure coherent with the LCPs objectives. On the other side, from the empirical findings, it was acknowledged by interviewee from the ministry of energy that “the LCP in Tanzania was developed before assessing the available capacity and skills”. No database for the skills and competencies was available. Hence the LCP in Tanzania was adopted from the already existed LCPs from other countries like Norway, Ghana, Nigeria, etc. The danger of this can result in unrealistic of the LCP designed.

Every local content strategic plan should include the design of an effective set of performance indicators [21]. Appropriate performance indicators allow the country to measure its progress with regards to local content achievements. However, for the case of the Tanzania LC structure, this strategy was not uncovered.

4.4 The significance of the study

The implication of this paper is to enable the Tanzania government to learn the important LC strategies which have been adopted by other successful countries. This will help the Tanzania government to become successful in implementing LC.

5 Conclusion

This paper was meant to identify the existing gap about LC in Tanzania. Specifically, the authors aimed to explore what Tanzania is lagging in its LC model. Also, the findings show that there is no standard definition for the term LC. Countries define LC with regards to the economic condition of the country itself. Also, it was discovered that the main LC benefits are the creation of employment to the local population and internal labour market development. In general, the resource-rich country expects to gain social and economic development benefits from the adoption of LCPs.

Among common local content challenges are; inadequate skilled and competent workforce, deficiency of capital, unrealistic local content expectation and lack of technology. Moreover, Tanzania is facing some additional challenges in archiving its LPC. These include; the absence of a database for the available skills and capacity, lack of certified workforce, failure to comply with HSE international standards to the most Tanzanians, poor information flow between IOCs and government institutions and absence of an effective supplier development program.

From the identified challenges, authors of this paper suggest that if the local content policy adopted by Tanzania is to be successful, policymakers in Tanzania should consider assessing the existing and potential local capabilities. Moreover, the government of Tanzania should support the individuals and local companies in complying with the HSE international standards by providing HSE training to the locals, also by introducing the HSE courses in oil and gas in the related institutions.

Moreover, the existing local supplier with relevant skills to the oil and gas industry, i.e. the mining suppliers and seafarers should be supported and facilitated so that they can be transformed to participate in the oil and gas projects. Also, an appropriate set of performance measurements should be designed in Tanzania in order to measure the LC progress.

5.1 Limitation of the study

The term “local content” is so wide in a sense that it is applied into different industries like electronic manufacturing [31], auto industry [32], automobile [24], oil and gas and many others. However, this research focused on local content in the oil and gas industry. Also, due to time limitation, the interviews

were conducted to the few local content stakeholders who are mainly involved in Tanzania oil and gas local content policy, i.e. the ministry, regulators, and implementers.

6 References

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