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## **Optimal local content for extractive industries**

How can policies best create benefits for Tanzania?

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**Abstract:** Tanzania is rich with natural resources, which have significant potential to contribute to the country's economic development. Several laws recently passed in Tanzania are dedicated to establishing linkages between foreign firms in natural resource extraction and the local economy. This paper documents this legislation and the institutions set up to enforce and monitor these laws. Effectiveness of local content legislation and the potential for firms in the mining sector to contribute to local development are then evaluated using a combination of qualitative and quantitative evidence. We then examine other developing countries' experiences with local content legislation, drawing lessons for Tanzania.

**Keywords:** extractive industries, local content, mining, natural gas, natural resources

**JEL classification:** O13, N5, Q38, L71, L72

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## 1 Introduction

Tanzania has an abundance of natural resources, and in recent years there has been debate about how best to manage these resources. The major focus is on understanding how the extractive industries of mining and natural gas can be harnessed to benefit Tanzania's development. Extractive industries are typically capital-intensive, thus directly creating few jobs. Yet, a number of countries have managed to exploit natural resources for industrialization and widespread wealth accumulation (Van der Ploeg 2011). Aware of this, African governments are seeking ways to better integrate natural resource extraction with local economies. In Tanzania and elsewhere, a key initiative for achieving this integration is local content legislation.

Because of the large role that multinational corporations (MNCs) often play in the extractive industries of developing countries, the benefits of natural resources are not always felt by local communities. Traditionally, the policy focus has therefore been on how to accrue benefits from resources through taxation, royalties, and licences (Hansen et al. 2011). Though this management of natural resource revenues is an important topic for focus, it is beyond the scope of this paper (Tordo et al. 2013). Instead of this traditional policy focus, in recent years there have been efforts to generate broader growth benefits from natural resources through local content provisions that increase local participation in the extractives value chain (Tordo et al. 2013).

A general definition of local content is the incidence of domestic inputs—including capital, labour, and intermediate products—into the value chain (Hansen et al. 2015; Kolstad and Kinyondo 2017). This encompasses most other definitions of local content, which include specifications for local labour involvement, purchases of local inputs and services, and local ownership of firms (Hansen et al. 2015; Kinyondo and Villanger 2017). In general, local content policies represent an attempt by the government to ensure that the benefits of a national resource are going to the country. Approximately 90 per cent of resource-rich countries have some form of local content requirement (Lange and Kinyondo 2016). Some critics of local content assert that it reduces overall welfare by distorting allocative efficiency (Lange and Kinyondo 2016). Others argue that when designed correctly, local content can support the development of the domestic economy in a way that offsets its costs (Altenburg 2011; Chang 2002).

The first goal of this paper is to assess local content policy in Tanzania. We begin with a description of the legislation and institutions surrounding local content policy in Tanzania. While we provide historical context, our main focus is on legislation enacted over the past 10 years. We then evaluate these policies using both qualitative and quantitative evidence. The qualitative evidence relies primarily on a review of a series of studies in which participants in the industry were interviewed and results synthesized. Our first quantitative exercise uses panel data from the Annual Survey of Industrial Production (ASIP) to examine trends in employment and worker training by mining firms pre- and post-2010 local content legislation. Our second quantitative exercise uses the 2013 Census of Industrial Production (CIP) to estimate multinational corporations' (MNCs) potential to contribute to the local economy by computing employment (local and foreign and skilled and unskilled), worker training and total expenditures on raw materials (locally procured and imported).

The second goal of this paper is to summarize other developing countries' experiences with local content policy, especially those in Africa. Lessons from other countries suggest that the effectiveness of local content policy has varied significantly across countries. While most countries have seen increases in local employment in extractives, there have not been consistent increases in procurement of local goods and services. Furthermore, there is limited evidence of growth in

linkages between extractives and non-resource sectors, especially linkages with sideways industries such as finance.

We find that Tanzania has enacted significant legislation surrounding local content over the past 10 years; the last two years have been especially active as new legislation has attempted to strengthen local content requirements. This legislation ranges across provisions mandating employment generation and training, local procurement, the use of local financial services, and promotion of technology transfer and inter-sectoral linkages. Using operating data from Tanzanian mining companies, we also find evidence of increases in local content MNCs in terms of employment and training post 2010-legislation, as well as significant value in local content in 2013, especially in terms of procurement of goods and services. This suggests that there may be further indirect benefits of local content, through benefits accrued to the non-resource sector firms providing goods and services.

The remainder of this paper is organized as follows. Section 2 introduces the state of extractive industries in Tanzania and describes the legislation regulating these industries and local content in Tanzania. Section 3 describes the institutions established to regulate local content legislation and monitor its effectiveness. In Section 4, we evaluate the impact of local content policy in Tanzania. Section 5 evaluates the magnitude and potential of local content to impact the local economy. Section 6 describes other developing countries experiences with local content legislation, and Section 7 concludes.

## **2 Local content legislation in Tanzanian extractive industries**

The last decade or so has seen a significant increase in Tanzanian legislation surrounding local content, including acts with provisions for local procurement of goods and services, local employment, and local firm ownership, as well as provisions intended to increase transparency and accountability in extractive industries. Overall, recent legislation has reduced the favourability of natural resource agreements for MNCs, increased government power in extractive industries, and imposed new local content regulations on foreign firms. This section will discuss new provisions in natural resource legislation that affect local content in extractives overall, as well as sector-specific regulations.

### **2.1 General legislation**

In 2014, the Non-Citizens Act was signed into law, which regulates employment of foreign employees. It requires that companies employing foreign workers develop a succession plan for the replacement of a foreign worker with a local worker, before expiration of the maximum total permitted stay in the country (normally 5–10 years) (Kinyondo and Villanger 2017). The succession plan must also detail a proposal for knowledge and expertise transfers from the foreign to the local worker during the employment period, in such a way that the citizen can successfully take over the work (Kinyondo and Villanger 2017).

The government joined the international Extractive Industries Transparency Initiative (EITI) in 2009, and in 2015 passed the Tanzania Extractive Industries Transparency and Accountability Act (TEITA). The act establishes the Extractive Industries Transparency and Accountability Committee (EITA) as an independent government entity intended to serve as an oversight body for extractive industries, promote citizen participation in and awareness of said industries, and ensure that the benefits of said industries are verified, accounted for, and utilized for the betterment of Tanzanians (NRGI 2016). TEITA also requires both government agencies and

extractive industries companies to provide accurate and timely information to the Tanzanian EITI (TEITI) (Lange and Kinyondo 2016). This was intended to both regulate the use of government revenues from the petroleum sector and to increase transparency (Lee and Dupuy 2018).

More recently, three new acts were passed in 2017 amending past laws and establishing new requirements. These acts have sector-specific requirements, which are discussed in the following sections, but also have significant provisions affecting extractive industries as a whole. The first act passed in 2017 was the Natural Wealth and Resources (Permanent Sovereignty) Act, also known as the Permanent Sovereignty Act. The act states that the people of Tanzania have permanent sovereignty over all natural wealth and resources, and that ownership and control of said resources will be exercised by the government on the people's behalf (Woodroffe et al. 2017). It also requires that in the interest of ensuring permanent sovereignty over natural resources, any disputes related to extractive industries must be handled by judicial bodies or other entities established in Tanzania (Woodroffe et al. 2017).

Also passed last year was the 2017 Natural Wealth and Resources Contracts (Review and Renegotiation of Unconscionable Terms) Act, also known as the Unconscionable Terms Act. The act requires that any mineral or petroleum agreements be submitted to the National Assembly, which now has the authority to review and renegotiate all existing and future agreements (Woodroffe et al. 2017). If involved parties fail to reach an agreement on renegotiation of 'unconscionable' terms, the terms will be treated as expunged; it is not clear how this will affect the rest of the agreement (Woodroffe et al. 2017). The definition of unconscionable is not clear, though some examples are given of purportedly unconscionable terms. For example, any allowance for international arbitration in a contract may be unconscionable (Woodroffe et al. 2017).

The third act passed in 2017 was the Written Laws (Miscellaneous Amendments) Act, also known as the Miscellaneous Amendments Act. While it primarily governs the mining sector, it does include a few specific provisions that apply to extractive industries in general, such as reducing allowances given to MNCs and also prohibiting certain stabilization agreements. These measures are intended reduce favourable allowances for foreign firms, and to increase government control over agreement terms.

## **2.2 Mining sector**

Mining regulation in Tanzania has historically lacked specific quotas, monitoring mechanisms, or incentives and sanctions. Past experiences with mining are a major driver of the current sentiment towards petroleum in Tanzania (Lange and Kinyondo 2016). However, the three acts passed in 2017 represent a recent and significant attempt to reclaim Tanzania's mineral resources. This section presents background information on the mining sector and its local content policies, and discusses the current legislation governing the sector.

### *Background*

Tanzania is a host to many mineral resources, including gold, tanzanite, diamonds, uranium, coal, and nickel (Hansen et al. 2015). The first policy surrounding mining and local content was the 1979 Mining Act. This required licence applications to include a plan for local procurement of goods and services (Makene et al. 2012). How well this law was actually enforced remains unclear, as there were few foreign firms engaged in the sector, and mining was dominated by small-scale and artisanal firms (Lange and Kinyondo 2016).

Following the increased liberalization of Tanzania's economy in the 1980s, the World Bank released a 1992 report criticizing local content, recommending that foreign investors be treated the same as domestic firms, and discouraging the use of the mining sector as a tool for employment generation (Lange and Kinyondo 2016). The subsequent Mining Act of 1998 did not include any mention of local content; however, it did offer generous value-added tax (VAT) exemptions to foreign investors (Lange and Kinyondo 2016). In the 1990s, there was a rapid increase in foreign direct investment (FDI) in mining, primarily in gold. Partially due to favourable concessions, revenues were significantly less than expected (Lange and Kinyondo 2016). For example, even as the price of gold rose significantly (approximately 250 per cent) from 2001 to 2009, a lack of windfall taxes and a five-year period of VAT and duty exemption resulted in low government revenues. Furthermore, among the five mines established between 1999 and 2005, two did not pay the required 30 per cent corporation tax, and the other three only began paying the tax 7, 9, and 11 years into operations (Lange and Kinyondo 2016). By 2008, Tanzania had become the third largest producer of gold in Africa, but its annual revenues were less than US\$30 million (TMAA 2015).

### *Current local content*

This experience led to public criticism of the government's handling of foreign investment, and in 2010 a new mining act was passed (Lange and Kinyondo 2016). This 2010 Mining Act is the primary legislation governing the mining sector and its associated local content provisions. It includes measures affecting all aspects of the mining sector, including increases in royalties and provisions increasing government involvement in the sector (Lange and Kinyondo 2016). With regard to local content, it included provisions to promote forward and backward linkages, required MNCs seeking prospecting and mining licences to draw up a list of goods and services that could be bought locally, and attempted to promote training and skills transfers.

The 2017 Miscellaneous Amendments Act amended the Mining Act of 2010, instituting new rules for governance of the sector, as well as provisions affecting contract and local content requirements (Woodroffe et al. 2017). For example, it established the Mining Commission to regulate the sector, increased royalties on a number of minerals, and increased local and government involvement in the holding and sale of minerals. For example, earnings from mineral sales must now be kept in local financial institutions, except when distributed as profits. It also prohibits the export of raw minerals for beneficiation outside of the country. If the capacity for beneficiation exists in the country and the law is properly enforced, then this will be instrumental in allowing Tanzania to participate in a greater share of the value chain. Regarding specific references to local content, this act states that applications for new licences must include an integrity pledge and a local content plan. The integrity pledge is intended to be a formal commitment by the foreign firm to maintain ethical business practices and to work against corruption. Violation of this pledge may result in cancellation of the agreement and a government takeover of facilities (Woodroffe et al. 2017).

The local content plan is not specifically defined, but likely refers to the plans also required by the act regarding local procurement, training and employment, and technology transfer (Woodroffe et al. 2017). For example, the act specifically requires that mineral right-holders give preference to goods produced or available in Tanzania, and to services provided by Tanzanian citizens or local companies. They must produce a procurement plan detailing a strategy for use of local goods and services covering at least five years. If such goods and services are not available, they must be procured from companies that are engaged in joint ventures with a local company, with the local company holding at least 25 per cent of the venture. A local company is defined as one that is either 100 per cent owned by a Tanzanian citizen or a joint venture at least 50 per cent owned by Tanzanian citizens. Mineral right-holders must also ensure that their local providers update the

commission with information about health, safety, and environment standards, as well as upcoming contracts and compliance with local content plans (Woodroffe et al. 2017).

The act also includes requirements for training and employing Tanzanians. Right-holders must submit an annual report on their achievements in utilizing Tanzanian goods and services, a report on their execution of the programme prescribed by the regulations, a detailed local supplier development programme that complies with the approved local content plans, and an annual report on their programme for training and recruiting Tanzanians. This last report should include information on a clearly defined training programme for the company's Tanzanian employees as well as a commitment to knowledge transfer. The act specifies that technology transfer is the shared responsibility of government and mineral right-holders, though it does not provide details on the implementation of such technology transfers. Annual reporting is required on the progress of training programmes, and licence renewals and other approvals will take into consideration adherence to these requirements (Woodroffe et al. 2017).

The 2017 Permanent Sovereignty Act also included significant amendments to the 2010 Mining Act, imposing changes on the institutional governance of mineral resources as well as expanding local content requirements. Section 5 of the act allows the country's natural resources to be held in trust by the president, on behalf of Tanzanian citizens. This is the same approach that the country takes with land, and deviates from the previous natural resource ownership strategy, which simply described them as vested in the United Republic (Woodroffe et al. 2017). While not a fundamental shift, it does suggest possible increased involvement of the president's office.

The Permanent Sovereignty Act makes illegal any agreement that does not fully secure the interests of Tanzanian citizens and the state. It requires that any natural resource contract provide for both state and citizen participation, and expands existing requirements for Tanzanian participation from special mining licence-holders to all mineral right-holders. It stipulates that the government will have no less than 16 per cent free carried interest in the capital of mining companies (Woodroffe et al. 2017). It also prohibits the exportation of raw minerals for beneficiation outside of the country, and requires that agreements include a commitment to establish beneficiation facilities within Tanzania, though exemptions to this rule may be granted under some circumstances (Woodroffe et al. 2017). In general, this act moves to reclaim control of natural resources, giving the government greater authority as well as imposing requirements to keep mineral resources inside Tanzania.

Most recently, in January 2018, the Tanzanian government adopted the Mining Regulations on Local Content Policy (Kasanda and Liu 2018). This stipulates that Tanzanian companies are given first preference when competing for mining licences, and that at least 5 per cent of the participating interest in any company competing for a licence must be Tanzanian-owned (Woodroffe et al. 2017). In this policy, a Tanzanian company is defined as being at least 51 per cent owned by Tanzanian citizens, where Tanzanian citizens hold at least 80 per cent of senior executive and management positions and 100 per cent of non-managerial and other positions (Woodroffe et al. 2017). Furthermore, any company providing services to a mining company must incorporate a joint venture in which Tanzanians have at least 25 per cent equity in the venture (Woodroffe et al. 2017).

The policy also stipulates that firms must give priority to Tanzanians for employment opportunities as well as make reasonable efforts to provide training, and certain types of positions (for example, all junior and mid-level positions) must be entirely filled by Tanzanians (Woodroffe et al. 2017). The policy also includes provisions requiring that the foreign firm implement technology transfer programmes, that they make use of Tanzanian legal and financial services, and that they transact business using a bank account at a Tanzanian bank (Woodroffe et al. 2017).

The policy requires that mining firms submit an annual local content plan as well as an annual performance report (Woodroffe et al. 2017). This new policy sets up a Local Content Committee (LCC) to oversee and implement the regulations. Among other powers, the LCC may launch investigations into mining firms that it believes may be operating through a ‘front’ (an evasive practice in which a company is presented as a Tanzanian company simply to fulfil local content requirements) or engaging in bid rigging (Woodroffe et al. 2017). Penalties are described in the policy for any violations of these regulations (Woodroffe et al. 2017). Finally, the policy sets up a Common Qualification System, which will be used to verify contractors’ capacities and capabilities, evaluate the application of local content, track and monitor performance and feedback provision, and rank and categorize mining service companies (Woodroffe et al. 2017).

### **2.3 Oil and natural gas**

In many ways, hydrocarbon resources are seen as a second chance to take advantage of Tanzania’s natural resources to benefit the local population. Following the national sentiment that Tanzania did not benefit from the surge in minerals extractive FDI in the 1990s, local content policies surrounding petroleum have been somewhat stricter than those historically attached to the mining industry (Hansen et al. 2015). Given that the natural gas sector is just beginning to develop in the country and it will take many years for production to actually commence, Tanzania has a window of time in which to optimize its extractive industries’ regulations in order to ensure that local communities get the maximum benefits possible.

#### *Background*

Though the term petroleum normally refers to oil, in the Tanzanian context it is used to refer to both the oil and natural gas sectors. Exploration activities for petroleum resources began as much as 60 years ago, but so far no oil reserves have been found in the country (TEITI 2017). As such, the discussion of the oil and natural gas sector is limited to a discussion of natural gas. Natural gas resources were discovered as early as the 1970s, but commercial production did not begin until 2004 (Lange and Kinyondo 2016; Lee and Dupuy 2018;). Increased exploration in the 2000s led to the development of new policies, including the Petroleum Act of 2008 (since replaced) and the Natural Gas Policy of 2012. In 2007 the government opted for production sharing agreements for petroleum resources, which give the government the right to audit investors’ accounting records. This decision was likely informed by the experience with the mining sector, in which companies were suspected of over-reporting expenses and under-reporting earnings in order to reduce taxable income (Lange and Kinyondo 2016).

In 2010, there were major discoveries of offshore natural gas reserves. The found reserves are estimated to total around 57 trillion cubic feet (Lee and Dupuy 2018; NRG 2016). The International Monetary Fund estimated that this discovery could generate US\$3–6 billion in annual revenues once fields begin production (Kolstad and Kinyondo 2017). Companies are in negotiations with the government for many projects related to these resources, including plans for a liquid natural gas plant (Lange and Kinyondo 2016; Lee and Dupuy 2018). There are expectations that Tanzania will become one of the world’s biggest exporters of natural gas in the coming decades (Lange and Kinyondo 2016). Sixty-six per cent of the Tanzanian population supports exporting natural gas, and the discoveries of these new resources could eventually enable Tanzania to become energy independent (Lee and Dupuy 2018). As a result, it is clear that this industry offers huge potential that must be carefully managed. These recent discoveries have spurred the Tanzanian government to develop new local content policies intended to increase job and business opportunities for Tanzanians (Kinyondo and Villanger 2017).



### *Current local content*

In 2014, Tanzania published the Draft One Local Content Policy. This policy suggested requirements for local content in petroleum extractives, stating that at least 10 per cent of goods and services used by MNCs must be sourced locally (Kolstad and Kinyondo 2017). The policy draft defined local businesses as being wholly owned by Tanzanians, or with at least 51 per cent of shares owned by Tanzanian nationals, and being registered to offer goods and services in the oil and gas industry (GoT 2014). The policy also envisions an attempt to develop baseline information on current capacity and capabilities for Tanzanian-owned companies to become suppliers (NRGI 2016). The policy did not address how the government would deal with improving local capacities, and it also lacked detail on specific regulations for midstream activities, such as the transport of extracted petroleum and gas prior to refinement (Kinyondo and Villanger 2017; Lee and Dupuy 2018).

This draft policy informed much of the 2015 Petroleum Act, which is the primary legislation governing the petroleum sector in Tanzania (Kinyondo and Villanger 2017; NRGI 2016). It covers upstream, midstream, and downstream petroleum activities and contains several clauses related to the use of local labour and procurement restrictions (Kinyondo and Villanger 2017; Lee and Dupuy 2018). The act set up new roles for governance of the petroleum industry, establishing the Petroleum Upstream Regulatory Agency (PURA), increasing the authority of the Energy and Water Utilities Regulatory Authority (EWURA), and creating a local content department in the National Economic Empowerment Council (NEEC) (Lee and Dupuy 2018; Scurfield et al. 2017). It also established the Oil and Gas Advisory Bureau, a non-executive body that advises policy-makers on strategic matters, and redefines the role of the Tanzania Petroleum Development Corporation (TPDC), bringing it under state ownership and giving it a new regulatory role, in addition to its commercial function (NRGI 2016).

Regarding local content, the act includes requirements that licence-holders, contractors, and subcontractors give preference to goods produced or available in Tanzania, and to services provided by Tanzanian citizens or local companies (NRGI 2016). It defines a local firm as one 100 per cent owned by a Tanzanian citizen or a company that is in a joint venture with Tanzanians whose participating share is at least 15 per cent (NRGI 2016). If a firm cannot source locally available goods and services, they must be purchased from a firm in a joint venture with a Tanzanian company, in which the Tanzanian company has at least a 25 per cent share. To enforce these requirements, the act stipulates that MNCs provide a detailed local supplier development programme (Calignano and Vaaland 2018). The act also states that the government can revoke a firm's licence if it consistently fails to comply with approved local content plans (Lange and Kinyondo 2016). The act also includes provisions promoting the training and recruitment of Tanzanian citizens (NRGI 2016).

Most recently, the government passed the 2017 Petroleum (Local Content) Regulations, under the 2015 Petroleum Act (Scurfield et al. 2017). Some of these regulations formalized local content requirements provided for in the 2015 act. For example, it requires preference to be given to Tanzanians in all employment levels, and states that both unskilled and semi-skilled positions may only be given to Tanzanians (Scurfield et al. 2017). It also establishes minimum levels of local employment in more skilled positions. The regulations allow for more flexibility than the 2015 Petroleum Act. For example, it permits other business arrangements to be formed in the case where joint ventures are not possible (Scurfield et al. 2017). Also, the government is allowed to give several exemptions; for example, they may exempt a company from the semi-skilled requirement, or from the joint venture/business arrangement requirement. It is unclear what merits such an exemption (Scurfield et al. 2017). These regulations also allow for fiscal incentives

to be given in order to encourage gas companies to develop local capacity and supplier training programmes.

Finally, the most recent acts passed in 2017 have some important implications for the oil and gas sector. The Miscellaneous Amendments Act requires petroleum agreements to ensure equitable distribution of benefits, and to favour national interest, participation, transparency, and accountability (Woodroffe et al. 2017). The Permanent Sovereignty Act reinforces this, making it illegal for any agreement to not fully secure the interests of the Tanzanian people and requiring that they further Tanzania's permanent sovereignty over natural wealth and resources (Woodroffe et al. 2017).

### **3 Management of local content policies in Tanzania**

According to Ovadia (2017), there are at least nine government agencies and groups with direct authority over petroleum and mining. The primary regulator is the Ministry of Energy and Minerals (MEM). In the mining sector, the mining commissioner has primary regulatory authority. The commissioner has been assisted by the Tanzania Minerals Audit Agency (TMAA), though the TMAA did not have the authority to directly intervene in mining activities. However, it was responsible for publishing research on local content in the industry. In 2017, President Magufuli dissolved the TMAA's board of directors and fired or suspended other leadership; as a result, its current role is unclear. In the gas and oil sector, the commissioner of the MEM has had less authority since the 2015 Petroleum Act, which established and transferred regulatory authority to PURA. The state oil company, the TPDC, also plays a role in drafting and implementing oil and gas policy. Finally, the EWURA conducts regulation of midstream and downstream oil and gas activities (Ovadia 2017).

There are numerous ministries and agencies within the Tanzanian government that hold responsibility for local content policies and extractive industries. However, how authority is spread among these agencies has not always been clear (Ovadia 2017). It is crucial that this responsibility is clarified, as the government can fulfil several important roles in promoting local content. It can increase local firm participation by ensuring that all stakeholders are aware of the local content mandates, that MNCs have information about the quality and skills of local suppliers, and providing local firms with information about the needs of MNCs (Calignano and Vaaland 2018; Hansen et al. 2015). One effort towards this goal has been the establishment of a Common Qualification System in the 2017 Petroleum Local Content Regulations, which is a database containing details of local suppliers approved by the government (Woodroffe et al. 2017).

Further efforts by the government should work to ensure that both MNCs and local firms are aware of one another's capabilities and demands, and are able to take advantage of all possible collaborations. Sutton (2014) specifically recommends the establishment of a local content unit (LCU) to achieve these goals. Such a unit would oversee and regulate local content policies and help to develop linkages between MNCs and local firms. The LCU, as proposed by Sutton (2014), is an administrative body with two primary roles: negotiating with MNCs and developing local capabilities through enterprise development programmes. It is important to understand what MNCs are looking for in their suppliers, and to understand how prepared domestic firms are to meet those needs. Training programmes can then be implemented to increase local capacity, based on the specific capacities identified.

Following this advice, in 2015 Tanzania created the Local Content Department in the NEEC, within the Planning Unit of the Office of the Prime Minister, and instructed this department to

take the lead on local content issues. The Local Content Department is mandated to coordinate the government's local content policy and work with the different agencies and ministries that hold authority over local content. However, its overall impact as of yet is unclear as the unit is largely in the planning phase (Sen and Logan 2016). Future research is needed to understand the effectiveness of this unit and to determine whether it is truly assisting in the creation of local content.

## **4 Evaluating Tanzania's local content policies**

### **4.1 Qualitative research**

There is a significant body of work focused on the design and effectiveness of local content policies in both the mining and oil and natural gas sectors in Tanzania. However, most of these studies make use of qualitative research methods or simply present quantitative summaries of the state of local content (ACET 2017; Lange and Kinyondo 2016; Ovadia 2014). This represents a significant gap in the literature on extractive industries and local content, and future efforts should be taken to conduct more rigorous empirical analysis of the relationship between local content policies and local content creation.

Furthermore, all analysis of the actual effectiveness of local content policies in Tanzania is limited to the mining sector, as natural gas operations have not yet commenced. One example of the sort of qualitative and descriptive analysis present in the mining sector is a study by Lange and Kinyondo (2016), who make use of interviews and statistics from the TMAA to argue that local content in the mining sector has failed to increase the share of domestic employment in foreign firms or to increase local procurement of goods and services relative to foreign procurement.

In addition to understanding the direct value of local content, it is useful to understand whether indirect benefits of extractive industries have been created through linkages with non-resource sectors. A study by Hansen in 2013 found that horizontal linkages with the mining sector are rare, and that when they exist, vertical linkages are weak. By reviewing the existing literature on these linkages, Hansen finds that the vertical linkages with local firms that do exist tend to be in transport, cleaning, catering, and security. However, in some cases even this procurement is not truly local, as the supplier firms are simply importing and reselling goods with little value-added, or in other cases are not actually Tanzanian-owned.

However, there are some examples of successful local provision of services. For example, up to 2007, all mining firms used foreign catering services. However, in recent years a Tanzanian catering firm, AKO catering, has managed to become the primary supplier of catering services to large-scale mines (Lange and Kinyondo 2016). AKO was able to gain a significant market share by providing high-quality services at a much lower price than those charged by foreign firms (Lange and Kinyondo 2016). This is an example of local content being created without the need for a legal mandate, and suggests that MNCs will be interested in engaging with local firms if the local service is competitive.

A major weakness to the analysis in this paper and other studies is the use of data from several years ago, which limits any understanding of how more recent policies may have taken effect or of how effects may have changed over time. Furthermore, the data are not rich enough for a more rigorous econometric analysis of the performance of local content in Tanzania, which would allow for the identification of any causal relationship between policy and outcome. In future research, it would be especially beneficial to develop an understanding of how specific components of local

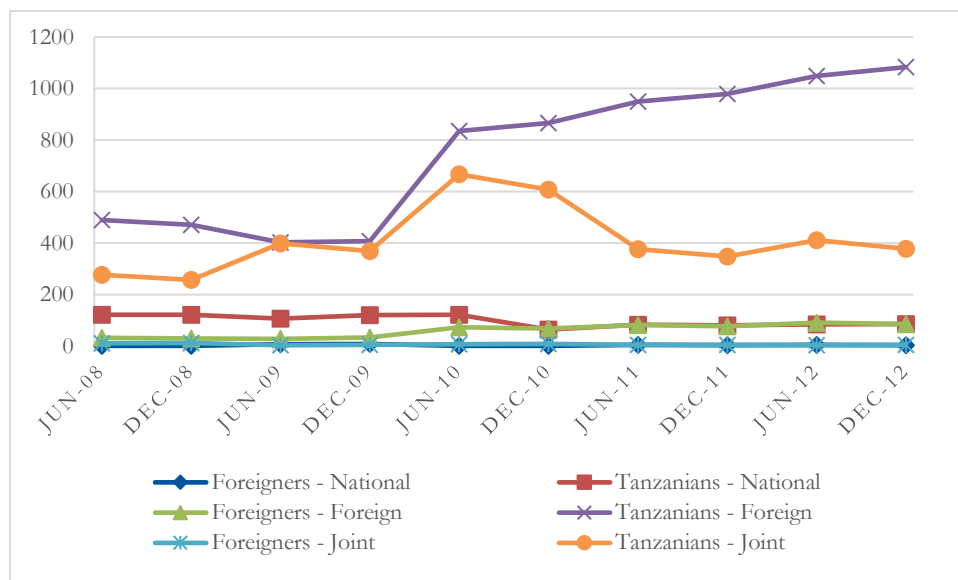
content policy impact its effectiveness. Finally, there is no existing analysis of the broader spillover benefits of local content within the Tanzania economy. As a result, there is still a lot that we do not know about the effectiveness of local content legislation in Tanzania.

## 4.2 Testing for the impact of local content policy using the ASIP

A simple way to test for the impact of local content policy in Tanzania is to look at local content metrics before and after the implementation of policy. Though local content policies have been enacted in the oil and natural gas sectors, these sectors are largely non-operational today. Therefore, this section attempts to identify any change in the value of local content in the mining sector before and after the enactment of the 2010 Mining Act. It uses data from the ASIP for the years 2008 through 2012. The survey is a complete census of all industrial firms operating in Tanzania that have 10 or more employees. In 2008 there were just 12 such mining firms; in 2012 there were 18. This section attempts to understand whether the act affected local content in any of the following ways: increased employment of Tanzanians; increased employment of Tanzanians in higher-skilled positions; and increased spending on worker training.

Figure 1 shows the average firm employment of both Tanzanian and foreign employees, separated by firm ownership type. The mean number of foreign employees in all firms has remained relatively stable over the period. Pre-2010, the mean employment of Tanzanians in foreign-owned firms was relatively stable; however, following 2010 the mean number has increased consistently. This suggests that following 2010, foreign firms did indeed increase their local content in terms of local employees. This trend is different from the trends in jointly and domestically owned firms, which are both less consistent, and provides some evidence for a unique response among foreign mining firms from the year 2010, which could be attributed to the act.

Figure 1: Mean number of employees in mining firms, by employee origin and ownership type



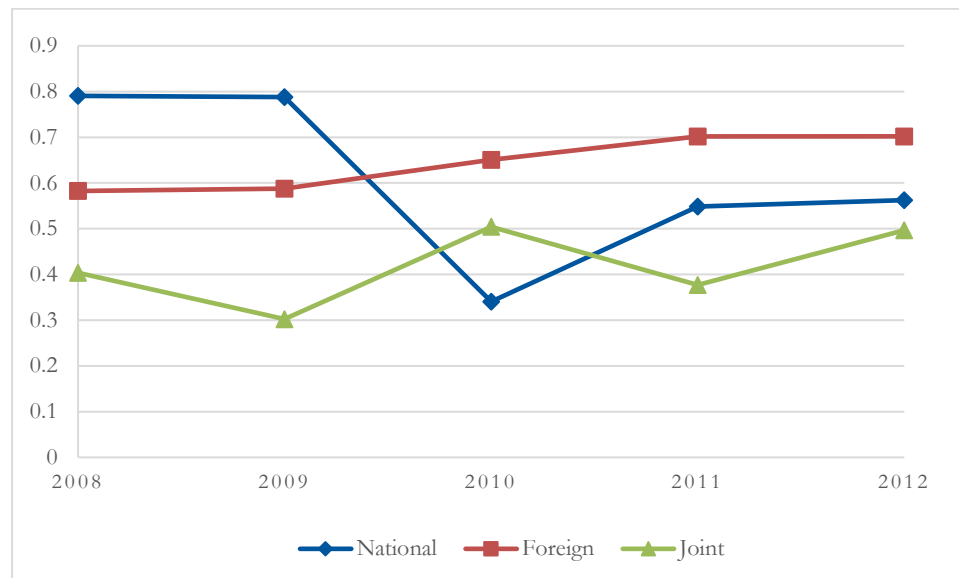
Notes: This figure shows the mean number of employees in mining firms in the ASIP for the years 2008–2012, separated into the mean number of Tanzanian and foreign employees in foreign, domestically, and jointly owned firms, respectively.

Source: Authors, based on data from the ASIP (2008–12).

Figure 2 shows the percentage of workers in a firm who are skilled Tanzanians, separated by firm ownership type. A skilled position in this case is defined as managerial and professional staff or skilled operatives. From 2008 to 2012, the share of employees who were Tanzanians in skilled

positions in foreign-owned firms increased slightly, with the increase occurring between 2009 and 2011. The share of employees who were Tanzanians in skilled positions in domestically owned firms decreased up until 2010 and then increased consistently, though the net change over the period was a decrease. The trend in jointly owned firms was inconsistent. This once again provides some evidence that local content in foreign firms has followed a trend distinct from jointly and domestically owned firms, and that they may be reacting to the imposition of local content laws.

Figure 2: Share of employees who are skilled Tanzanians, by ownership type

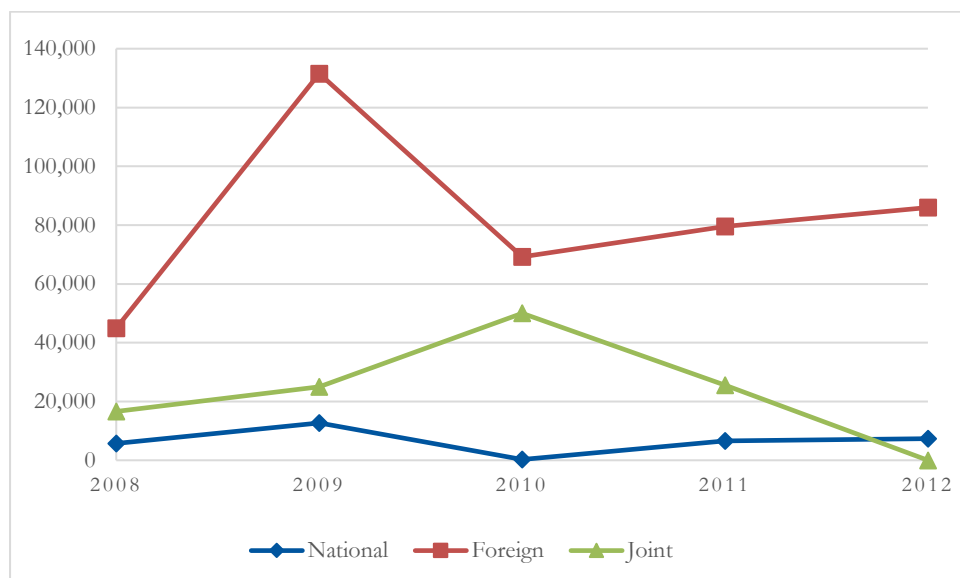


Notes: This figure shows share of employees who are both Tanzanian and in a skilled position in mining firms in the ASIP for the years 2008–2012, separated into foreign, domestically, and jointly owned firms. A skilled position is defined as a position that is either a managerial or professional, or a skilled operative.

Source: Authors, based on data from the ASIP (2008–12).

Finally, Figure 3 shows the mean spending on worker training in mining firms, broken up by firm ownership type. The spending on worker training in domestically owned firms has been stable and low over the period, whereas the spending in jointly owned firms was trending upwards pre-2010 and has decreased since 2010. On the other hand, the trend in spending in foreign-owned firms was varied pre-2010 but has increased consistently since 2010. The level of spending is also significantly higher in foreign-owned firms than jointly or domestically owned firms. Once again, this provides some evidence for a change in local content in mining MNCs following the year 2010.

Figure 3: Mean spending on worker training, by ownership type



Notes: This figure shows mean spending on worker training of mining firms in the ASIP for the years 2008–2012, separated into foreign, domestically, and jointly owned firms.

Source: Authors, based on data from the ASIP (2008–12).

From these data, it appears that there is some evidence of increased local content in foreign-owned firms following the year 2010. The trends of local content in these firms are distinct from the trends in jointly and domestically owned firms, which suggests that it is not simply attributable to market conditions. It would be valuable to examine changes in procurement of local goods and services over this same period to see if that type of local content followed a similar trend; however, these data are missing for mining firms in the ASIP. A further limitation of this analysis is that these data only allow for examination of the 2010 Mining Act. More recent acts have had much more explicit requirements for local content, and it is possible that they have had a greater effect. Therefore, getting recent data on mining firms and also collecting current data from natural gas firms will be crucial in enabling analysis of the impact of more recent local content provisions.

## 5 Quantifying the value of local content using the 2013 Industrial Census

Given the extensive focus on local content in Tanzania, it is useful to try to estimate the actual value of this local content. This section attempts to do so for the mining sector, using the most recent data available from the 2013 CIP in Tanzania. These data are post-implementation of the first local content legislation in Tanzania (2010 Mining Act), but pre-implementation of the more recent amendments to the legislation. As such, they may capture effects of the 2010 legislation but will not tell us anything about the more recent legislative changes. Regardless, the estimates give an idea of the potential direct value of local content. It measures the potential contribution of local content in terms of employment generation and training, and then in terms of the value of goods and services sourced locally. The decision to focus exclusively on mining comes from the fact that natural gas is not yet operational and oil resources have not yet been discovered, so we do not have relevant data for the petroleum sector.

Table 1 shows that there are 390 mining firms in the census, 378 (97 per cent) of which are domestically owned. There are only 10 foreign-owned mining firms in the census, and two jointly owned firms. Table 2 shows that these foreign and jointly owned firms are much larger than the

domestically owned firms. For example, while almost 50 per cent of domestic mining firms have fewer than 10 employees, there are no such foreign or jointly owned firms. This suggests that while there are very few foreign and jointly owned mining firms, they may still play a major role in mining sector employment. Indeed, the census data report that foreign-owned firms employ 8,785 individuals in total, and jointly owned firms employ 1,187. Meanwhile, domestically owned firms employ 8,706 workers. This tells us that non-domestic mining firms account for just over half of all employment in the sector, and that local content policies requiring the employment of Tanzanians therefore have the potential to create a significant amount of employment.

Table 1: Number of firms and employees in the mining sector, by ownership type

Ownership type	Number of firms	Percentage of total	Employees	Percentage of total
National	378	96.77	8,941	46.61
Foreign	10	2.67	8,785	47.03
Joint	2	0.56	1,187	6.35
Total	390	100	18,913	100

Notes: This table shows the number of firms and total employees in the mining sector in Tanzania in 2013, separated by ownership status, and calculates the percentage shares of ownership for mining firms and employees.

Source: Authors, based on data from the 2013 CIP in Tanzania.

Table 2: Firm size (percentage distribution) and number of employees, by ownership

Number of employees	National	Number of employees in national firms	Foreign	Number of employees in foreign firms	Joint	Number of employees in joint firms	Total	Number of employees total
1–4	20.29	182	0	0	0	0	19.63	167
5–9	27.68	785	0	0	0	0	26.79	704
10–19	18.16	931	0	0	0	0	17.57	923
20–49	23.38	2,543	12.19	27	0	0	22.95	2,564
50–99	5.28	1,233	9.59	77	0	0	5.37	1,309
100–499	5.21	3,267	29.66	659	0	0	5.83	3,802
500+	0	0	48.56	8,022	100	1,187	1.85	9,209

Notes: This table shows the percentage distribution of mining firms by size category and ownership type.

Source: Authors, based on data from the 2013 CIP in Tanzania.

Though these foreign and jointly owned firms play a large role in mining sector employment, this is only relevant to local content if they are employing Tanzanians. Table 3 shows the breakdown of employment in mining firms by worker type, including citizenship and whether they are skilled. In this case, a skilled worker is defined as someone either in a managerial position or a skilled technical position. On average, only 0.34 per cent of workers in mining firms are foreign; however, this jumps to 9.27 per cent for foreign-owned firms. The share is much lower (1.14 per cent) in jointly owned firms, which could indicate that joint-ownership models result in hiring more Tanzanians.

Table 3: Worker types, by ownership

	Percentage of workers who are foreign	Number of workers who are foreign	Percentage of workers who are Tanzanian	Number of workers who are Tanzanian
National	0.09	61	99.91	8,880
Foreign	9.27	823	90.73	7,962
Joint	1.14	13	98.86	1,174
Total	0.34	897	99.66	18,016

	Percentage of workers who are foreign and skilled	Number of workers who are foreign and skilled	Percentage of workers who are Tanzanian and skilled	Number of workers who are Tanzanian and skilled
National	0.09	61	35.6	2,223
Foreign	9.27	823	73.37	7,779
Joint	1.14	13	48.7	578
Total	0.34	897	36.7	10,580

Notes: This table shows the breakdown of worker type in mining firms, by skill type and citizenship.

Source: Authors, based on data from the 2013 CIP in Tanzania.

Table 3 also shows that the share of foreign workers employed in mining firms is the same as the share of foreign and skilled workers—this indicates that mining firms do not hire any foreigners for unskilled positions. Local content suggests that firms should hire Tanzanians for all positions for which they are qualified, which likely tend to be unskilled positions. Therefore, the fact that all firms are not choosing to hire foreign workers for unskilled positions is a hopeful sign for their adherence to local content. Table 3 also shows us that foreign-owned firms employ significantly more skilled Tanzanians than domestically owned firms. This indicates that foreign-owned firms require a much greater share of skilled employees than domestically owned firms, and it also suggests that there are Tanzanians with the capacity to fill these skilled roles. This is a positive sign, and is in contrast to the argument that locals do not have the skills needed by MNCs.

Lastly, Table 4 shows the average and total spending of mining firms on employee training. It tells us that foreign-owned firms spend US\$916,282 on training on average. Meanwhile, domestically owned firms spend just US\$2,214 on average. This suggests that foreign-owned firms are spending a considerable amount of money on worker training, in line with the stipulations of local content policies.

Table 4: Spending on worker training (2013 US dollars)

Ownership	Mean spending	Total spending
National	2,214.50	398,610.81
Foreign	916,282.81	9,162,828.05
Joint	10,434.45	20,868.91
Total	47,825.09	9,182,417.91

Notes: This table shows the mean spending of mining firms on worker training, separated by ownership type, in 2013 US dollars.

Source: Authors, based on data from the 2013 CIP in Tanzania.

This evidence suggests that there is significant potential of MNCs to generate employment for Tanzanians. Not only do foreign and jointly owned mining firms employ more workers overall than domestically owned firms, they clearly employ a significant number of Tanzanians, do not limit them to unskilled positions, and offer more training opportunities than domestic firms. However, it is important to look at the contribution of these mining firms in the greater Tanzanian



context. Overall, the mining sector only employs 18,678 individuals. In a country with a population of 50 million, this employment contribution is minimal. This draws attention to the broader question of the scope of local content's potential, and might indicate that efforts to create linkages between the mining sector and other sectors with more employment potential would have greater benefits for the country.

The other side of the local content issue is the value of locally sourced inputs. Table 5 shows the mean spending on raw materials and services, in 2013 US dollars. The data show that foreign and jointly owned firms spend significantly more on imported raw materials than locally sourced raw materials. This may suggest that the raw materials needed are not available locally, or that local content policies are not being followed. Regardless, it is clear that the money spent by MNCs on raw materials is primarily leaving the country. Table 5 also shows that average spending on services is much greater than average spending on raw materials. While it is possible that some of these services are sourced internationally, this may suggest that there is more potential for benefits to local firms through the provision of services, rather than direct inputs.

Table 5: Mean spending on inputs and services (2013 US dollars)

	Imported raw materials	Local raw materials	Industrial services	Non-industrial services
National	40,597	34,612	73,748	73,880
Foreign	1,381,351	30,411	2,195,216	435,152
Joint	1,569,437	0	8,600,519	2,980,480
Total	123,292	34,042	268,135	122,138

Notes: This table shows the mean spending of mining firms on inputs and services, separated by ownership type, in 2013 US dollars.

Source: Authors, based on data from the 2013 CIP in Tanzania.

This analysis leads to a few points. First, regular collection of this sort of data will be critical to evaluating the progress of local content policies. It would be helpful to have annual surveys of mining firms to collect information on employment, training, and local procurement of goods and services. Once operations commence in the gas sector, this data collection should be done there as well. This will be especially helpful in understanding how recent policy changes to local content have impacted the sectors. Furthermore, it would be helpful to add a separate module to the ASIP to collect information about both direct and indirect linkages between foreign and domestic firms. Finally, it would be useful to include a module to collect information about vertical linkages between firms. This would allow us to see how the impacts of local content may extend to firms providing goods and services for extractive firms, as well as to downstream industries.

## 6 Lessons for Tanzania from country experiences with local content legislation

Because we do not have a deep understanding of the effectiveness of local content in Tanzania's mining sector, and the natural gas sector is too young for there to be any measurable benefits, it is useful to look at the experiences of similar countries. It is especially useful to look at the experience of other countries with local content in natural gas, as Tanzania still has time to carefully construct an optimal local content strategy. Finally, the analysis of other countries' experience offers some insights into possible mechanisms through which local content's effectiveness in Tanzania could be analysed.

## 6.1 Quantitative analyses

As is the case in Tanzania, most research into local content policies does not offer a rigorous empirical analysis of local content's success (ACET 2017; Tordo et al. 2013). Due to the lack of empirical analysis, it is difficult to attribute local content creation to actual policies. However, there are two studies, both in Nigeria, that attempt to empirically test the benefits of local content policies. It is helpful to look at Nigeria's experience, because its industry is centred around oil and natural gas, and can provide important insights for Tanzania's upcoming natural gas activities.

The first was done by Adewuyi and Oyejide (2012), who used a logit regression to study the factors determining backward linkages in Nigeria's oil and gas industry. They conducted a survey of 15 foreign- and locally owned oil-producing firms and 115 oil and gas industry suppliers. The supplying firms were limited to those in the two oil cities of Port Harcourt and Warri, which were chosen due to their status as centres of oil prospecting, exploration, production, and refining. A random sampling method was then used to choose the supplying firms. They then administered questionnaires to the top executives at each firm, with 12 oil companies and 86 suppliers responding. They then regress different measures of backward linkages—such as the value spent on locally sourced inputs, the extent of information sharing, and labour training—on a number of explanatory variables that include a dummy variable for whether the company has used the provisions of the local content policy. The research finds significant evidence for the existence of local content in Nigeria, with many firms surveyed reporting linkages between foreign and local firms. Furthermore, the logit analysis shows that local content policies are consistently positively correlated with increases in many types of linkages, including the share of inputs sourced locally, negotiations of payments and delivery with oil firms, and labour training from oil firms. Therefore, the authors argue that this provides evidence that local content policies did indeed create linkages in the oil and gas value chain in Nigeria.

A more recent study, also in Nigeria, was conducted by Adedeji et al. (2016). First, these authors make use of surveys conducted by other researchers and extract information to construct observed variables that represent latent variables such as local content policy. For example, they make use of the survey administered by Adewuyi and Oyejide (2012) to construct variables measuring local content policy and backward linkages. They then survey 209 local oil and gas firms in the Niger Delta, requesting the firms to indicate the implications of seven local content policy and five infrastructure items. The surveys also asked about the impact of these items on the firms' activities in the industry, about cooperation with local subcontractors and suppliers, and about local labour demand. The researchers then used structural equation modelling to examine the relationships between these variables. They find that local content policy is significantly positively related to promoting local participation of local firms and in creating backward linkages in the oil industry. They also find that local content policy has an indirect effect on demand for local labour, through its effects on participation and linkages.

These studies present empirical evidence that local content policies for oil and natural gas do have a significant impact on creating employment, firm participation, and sectoral linkages in the Nigerian economy. They highlight the importance of having detailed survey data on local content in order to conduct similar empirical studies in Tanzania. As discussed in Section 5, including modules in existing surveys or conducting new surveys with firms in the mining and oil and natural gas sectors to collect information on employment, local procurement, and firm linkages will be instrumental in allowing for empirical analysis of not only the general effects of local content policy but also the effects of different types of local content policy and of local content management.

## 6.2 Qualitative evidence

In addition to empirical analysis, there is a significant body of work analysing the effectiveness of local content policies through qualitative and descriptive research methods. These studies are useful in that they attempt to analyse specific aspects of local content policy. Examining how different aspects of local content policy may be effective, or not, is useful in determining the best design of these policies. For example, other countries' experiences can tell us something about how employment requirements perform compared to procurement requirements, or what aspects of local content policy design are more effective in creating linkages with the broader economy.

A comparative study of local content policies in the mineral and oil and gas sectors in eight African countries provides several important insights for developing effective local content policies (ACET 2017). Looking at Burkina Faso, Ethiopia, Ghana, Namibia, Nigeria, Mozambique, South Africa, and Zambia, this study finds that a lack of available data significantly hinders the ability to quantitatively assess the effectiveness of local content (ACET 2017). The research does not distinguish between local content policies that are more effective for minerals versus oil and natural gas; however, it does highlight the fact that any local content policies should be carefully tailored to the specific country context (ACET 2017).

Using the data that are available, the study finds that these countries have been most successful in promoting local employment and skills development (ACET 2017). Furthermore, these gains have been greater in low- and medium-skill positions, which is relevant in the Tanzanian context, as much of the workforce is low-skilled (ACET 2017). However, as the use of technology in extractives increases, the potential of direct employment effects declines (ACET 2017). As a result, the impact of employment requirements in local content may be lessened in the future. This becomes even more true for fledgling industries, where local workers are even less likely to have the necessary skills. This suggests that more focus of Tanzania's natural gas local content policy should be on developing linkages that can create indirect employment opportunities through sectors providing goods and services as inputs as well as in sectors with sideways linkages (such as finance). The other conclusion of this finding is that in the future, as extractives become more automated, any hope of creating direct employment will require that local content policies include strategies for skills development, through both MNC and publicly provided training programmes. These policies should be developed through coordination with the private sector in order to ensure they take into account both the current and future skill needs of extractive firms.

The evidence on the success of provisions for local procurement of goods and services is less clear. Country data suggest that spending on procurement represents the largest portion of MNC expenditures, indicating that there is significant potential for local content creation (ACET 2017). Furthermore, engaging local businesses in this way can extend benefits to non-resource sectors of the economy, create jobs, and promote technology transfers. Ghana, South Africa, and Nigeria have all seen increases in local procurement since the implementation of local content policies (ACET 2017). However, in other countries, such as Zambia, Namibia, Ethiopia, and Burkina Faso, there is minimal evidence of increases in local procurement (ACET 2017). This study also finds that there is a need for increased value addition by local suppliers, and that government supplier development programmes can be instrumental in helping local suppliers to become competitive (ACET 2017). For example, Tullow Oil Ghana partnered with the government to establish an Enterprise Development Center and the Jubilee Technical Training Center, which worked to build the capacity of local businesses and to develop human capital in technical and vocational skills (ACET 2017). The establishment of these centres was a direct response to the 2013 enactment of local content policies in Ghana and is an excellent example of public-private coordination that helps to get locals engaged in the extractives value chain (ACET 2017).

There are still other ways through which local content policies attempt to create benefits for the wider economy. One important route is through requirements to use local financial services. As most extractive industries are capital-intensive, financing is an important part of these projects. Requirements for the use of financial services in local content policies are somewhat rare, but they were recently implemented in Tanzania. The ACET study found that these requirements do exist in Ghana and Nigeria, but that the actual services provided tend to be intermediate services rather than actual lending (ACET 2017). This is largely due to limited lending capacity of local financial institutions. The study further identifies the lack of available local financing as a major constraint to local firm participation in extractives, and argues that both the government and private sector should play a role in developing financing schemes for local firms (ACET 2017).

Another way through which local content can assist with local capacity is by requiring certain processes to be completed locally. For example, one of the major issues with extractives is that often the raw product is exported internationally, and the benefits of all the subsequent activities in the value chain are missed by the local economy. Laws that require or incentivize the local completion of those processes could be instrumental in generating a wider range of benefits from the extractives industry. A similar law was passed in Botswana in 2005 for diamonds, which has been critical in capturing downstream revenues as well as developing new, high-skill services (Koitsiwe and Adachi 2017). Botswana also developed the Botswana Diamond Hub in order to promote trade of rough and polished diamonds and sustainable downstream activities such as cutting and polishing, and jewellery manufacturing (Bastida 2014). Though Botswana is an excellent success story, it is not clear how much of the experience with diamonds can be related to the mineral industry in Tanzania.

### **6.3 Summarizing the evidence**

The information presented in Sections 4 and 5 shows that there is local content in the Tanzanian mining sector and that the trend in local content in foreign firms changed post-2010. It is not clear from this information that the creation of this local content was caused by the implementation of local content policies, but the empirical evidence from Nigeria suggests that it is a possibility. Future research is needed to understand the causal relationship between local content policies and local content creation, and once the natural gas sector becomes operational, it will be important to conduct empirical research on that sector as well. Regardless, the preceding information offers several important insights into the effectiveness of different types of local content policies, and implications for their management.

Evidence from other countries' experiences suggests that local content policies have been most successful in promoting employment generation and skills development. This is supported by the data in Tanzania, as Tables 3 and 4 show that foreign mining firms employ a significant percentage of Tanzanian workers and spend much more on training than do domestic firms. If Tanzania wants to further promote direct employment generation and skills development in extractives, it will be useful to have some evaluation of the specific skills that are lacking. For example, there has been no significant, quantitative study of Tanzanians' existing or potential capacity to engage in the natural gas sector (Scurfield et al. 2017). For individual skill development, it would be beneficial to establishment partnerships between local training institutions and leading international universities, through which new courses can be developed and degree programmes can be strengthened (Sutton 2014).

Though there is evidence that local content policies focusing on employment and skills can be effective, it is not clear how sustainable or broad these outcomes are. For example, though foreign firms spend a significant amount on worker training, it is not clear what skills are developed by this training. Furthermore, given that extractive industries are not labour-intensive and are

becoming increasingly automated, it is not clear that direct employment generation will continue to be a viable aspect of local content policy in the future (ACET 2017). As a result, it is important to look beyond direct employment opportunities and to focus on developing linkages between extractive MNCs and local firms in a way that will allow for indirect employment generation.

The evidence from other countries' experiences and the data on the Tanzanian manufacturing sector shows less clear progress on procurement of local goods and services. Though local content legislation consistently mandates local procurement, this is often hindered by the unavailability of quality goods and services. The ACET report demonstrates that many countries have failed to see any increase in local procurement since imposing local content requirements, and Table 5 shows that foreign firms purchase very few local inputs. There is more evidence for the purchase of local services, but the majority of spending is still on foreign services. As a result, local content policies could be made more effective if actions were taken to improve the capacity of local firms to act as suppliers.

## **7 Conclusion**

In recent years there has been a renewed focus on local content in Tanzania. Though this has largely been driven by developments in the natural gas sector, it has led to policy changes for the mining, natural gas, and oil sectors. The recent changes to local content legislation have been clear attempts to reclaim domestic control of natural resources and ensure that their benefits accrue to the Tanzanian population. However, there are still many issues that must be addressed to ensure that local content strategies are most effective. There is limited empirical analysis of the effectiveness of local content policies, which is a major gap in the literature.

Evidence from other countries' experiences and the data from Tanzania mining firms suggest that different aspects of local content policies have varying effectiveness. Some success has been identified in employment generation and worker training, but the level of employment in extractives is generally low and it is not clear that this type of local content will be viable in the future. The progress on increasing local procurement is not evident, and more effective government management of the connection between MNCs and local firms is needed. These insights indicate that it is especially important to focus on creating linkages that will lead to benefits for sectors beyond extractives. However, there is minimal evidence of the creation of linkages between extractive industries and other sectors.

Given that the natural gas sector is still in its infancy, it is the ideal time to work to develop both local capacity and linkages to other sectors. This will ensure that the benefits of Tanzania's natural resource endowments are creating sustainable development for Tanzania's industry.

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