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The role and effectiveness of Special Economic Zones in Tanzania

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Abstract: Special Economic Zones (SEZs) have been successfully used as an industrial policy tool in many countries. Efforts to create SEZs in Tanzania began in 2002, and were stepped up through the establishment of the Export Processing Zone Authority (EPZA) in 2006. A number of state-run zones are now in existence. Little is known, however, about how successful they have been. This paper aims to help fill this gap by exploring the role of state-owned SEZs in Tanzania. The focus is on understanding the nature and extent of interactions between firms and their employees within zones, the extent to which zones facilitate technology transfers, and the perceived benefits and constraints associated with operating with zones. We also examine the functioning of the EPZA and the bureaucratic structure surrounding the operation of zones.

Keywords: economic zones, performance, public policy, Tanzania
JEL classification: L3, L5, L7, O2

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1 Introduction

This paper examines the role and effectiveness of state-owned Export Processing Zones (EPZ) and Special Economic Zones (SEZ) in Tanzania. Tanzania aims to become a semi-industrialized middle-income nation by 2025 (Mrindoko 2015). Industrialization is expected to be an important catalyst in increasing the growth rate in the economy to above 10 per cent per annum and in ensuring that growth is coupled with structural transformation and job creation. Tanzania, like many other developing countries, has attempted to stimulate industrialization through the creation of EPZs and SEZs. A large literature exists highlighting the benefits associated with the clustering of firms in one geographic location. Newman et al. (2016a, 2016b) and Newman and Page (2016) set out the case for the establishment of SEZs in Africa and the potential benefits associated with doing so. The main economic rationale for firms locating in close geographic proximity is that it reduces the costs of transporting: goods, inputs and outputs; people, thus facilitating better matching of workers to jobs; and ideas, facilitating technology transfers and knowledge sharing (Krugman 1991; Fujita et al. 1999).

On foot of these arguments, and on the basis of success stories of SEZs in developed country settings and as a driving factor in the East Asian growth miracle, many sub-Saharan African governments have initiated policies to establish SEZs over the last decade. SEZs are generally established to either attract foreign direct investment (FDI) or promote exports.[1] Firms that are located in SEZs are usually granted a range of incentives including tax breaks, subsidies and superior infrastructure. Their success is generally determined by the extent to which they attract FDI, create jobs, increase exports and lead to productivity spillovers. To date there are more than 3,000 zones located in more than 135 countries (mostly developing countries) across the globe generating approximately 70 million jobs and contributing $500 billion annually in direct trade-related value added in those countries (Cheesman 2012; Pakdeenurit et al. 2014). Initially, governments monopolized the formation and operation of SEZs, although to limited success. Of late, the majority of SEZs (62 per cent) around the world are operated by the private sector with some forms of joint ventures between governments and the private sector also being created (Pakdeenurit et al. 2014).

Tanzania is no exception to this trend and according to the Ministry of Trade, Industries and Investments; investors stand a better chance of being successful if they invest through EPZs and SEZs (Kulaba 2015). This is largely the case due various fiscal and non-fiscal incentives that are offered to firms located in the zones. Specifically, firms in the zones enjoy withholding tax holidays; duty, wharfage[2] and VAT exemptions on raw materials and utilities as well as reduced transaction costs as documentation (e.g. visa, work permits) and inspection (e.g. license for operating, labour relations) are done on-site for firms within the zone.

The Export Processing Zones Authority of Tanzania (2016) defines an SEZ as "a geographical area that has more liberal economic laws than the country's typical laws used as an economic development tool to promote rapid economic growth by using fiscal and business incentives to

[1] Establishing special zones for economic reasons dates back as far as 1704 in Gibraltar and 1819 in Singapore, where zones were established to facilitate trade, and the 1920s in Spain where zones were established in Spain to promote the manufacturing sector (Rohne 2013). A modern day example of a successfully operating EPZ is the Shannon EPZ in Ireland, established in 1958 (Rohne 2013). Arguably, SEZs thrived the most in China established first in 1959 and credited for Chinese and, indeed, the Asian tigers' economic revolution (Cheesman 2012).

[2] Wharfage is the fee charged by ports authority for goods staying in its yards before being cleared.

attract investments and technology" (EPZA 2016). According to EPZA (2016), SEZ programmes cover a wide range of economic activities which include: (i) export processing zones; (ii) free ports; (iii) free trade zones; iv) industrial parks; (v) regional headquarters; (vi) science and technology parks; (vii) agricultural free zones; (viii) tourism development zones; and (ix) business incubation centres.

Despite large investments in SEZs in sub-Saharan Africa, there have been very few studies to date that have examined the success of these spatial industrial policies. One notable exception is Farole (2011) who uses both case studies and firm-level surveys to review the existing evidence on the performance of SEZS in Africa. He finds that they have in general significantly under-performed in terms of investment, exports and job creation. He highlights that firms in SEZs have few linkages with local domestic firms and that most have very few firms within the zones compared with those in Latin America or Asia. Hindering factors include lack of effective planning, weak governance and regional instability.

In this study we set out to examine the performance of SEZs in Tanzania, focussing in particular on the extent to which they foster interactions between firms and workers that result in productivity improvements and local economic development. One of the reasons why little is known about the performance of firms in SEZs is that there are little or no data on the firms operating within the Zones. Tanzania is no exception. Collecting data on these firms and their employees was a key component of this project. Two survey instruments, an enterprise questionnaire and an employee questionnaire, were specially designed to gather information on the sales and cost structure of firms, their investment and assets, labour force, business and other networks, and the perceptions of the firm owners or managers on the operation of the SEZ. The enterprise questionnaire was coupled with a survey of an average representative sample of 30 employees in each firm to uncover the nature and type of workers employed in the zones, the terms of their employment and the extent to which they linked with the local economy.

Implementing the questionnaires, however, was problematic. Our sampling frame was based on the population of firms located in SEZs in Tanzania provided by the EPZA. Many firms however were not operational, some because they were still in the start-up phase of installing machinery but a large number of others because they had ceased operation. The failure of firms to begin operations was mainly attributed to three factors: i) unreliability of utility (water and especially electricity) which makes production costs excessively high in the zones; ii) the inability of firms to be internationally competitive as they more often than not fail to break into international markets due to, among other factors, the use of older technologies, relatively higher costs of labour coupled with low labour productivity including other managerial inefficiencies; and iii) red tapes (due to poor coordination between government agencies and corruption) at various levels of government which necessarily increase transaction costs. These factors have made it relatively more profitable for firms to operate outside zones as will be illustrated in the case of NIDA, a case study presented in later sections of this paper.

The logistical challenges in implementing the survey suggest a concerning lack of oversight and management of SEZs in general by the EPZA. In the end, we managed to survey 24 firms and 379 employees. Given the challenges with the sampling, some caution should be exercised in interpreting our findings as being representative of all SEZs in Tanzania. The focus of our survey was on understanding the nature of the interactions between firms and workers within the SEZs and with the local community. Our findings suggest that there are very few linkages between firms operating in SEZs but that there are technology transfers associated with exporting. The benefit to firms, along this dimension is through access to export markets rather than being physically located within zones. Moreover, we find some benefits for the local economy surrounding the SEZs due to interactions between workers and the local community.

More research is needed, however, to fully understand the nature and extent of such benefits. The survey data itself also pointed to deficiencies in the management and oversight of SEZs with firms reporting that the main constraints they experience relate to bureaucratic problems, red tape and a lack of clarity in policies and administrative procedures.

The rest of the paper is structured as follows. Section 2 presents the policy background and context for the Tanzanian case. In section 3 we provide a literature review summarizing the state of knowledge on SEZ performance in Africa and in Tanzania in particular. In section 4 we describe the survey instruments, and the challenges that arose in the data collection process. We also present summary statistics on the firms and workers in our sample. In analysing the data we focus on two aspects. In section 5 we describe the extent of firm-to-firm and worker interactions within zones and the transmission mechanism for technology transfers. In section 6 we focus on the perceived benefits and constraints of firms within the SEZs. We also present a case-study of a particular manufacturing firm that found it more profitable to operate outside of an SEZ than inside. Section 7 concludes with a series of policy lessons for the further development and expansion of SEZs in Tanzania.

2 Policy background

Following some failed attempts at establishing SEZs in Tanzania in the 1990s (Mudida 2006), Tanzania officially established SEZs under the Special Economic Zones Act 2006 (as amended by the Economic Zones laws (Miscellaneous Amendments Act 2011)) with the view to achieving what was known as the Mini-Tiger Plan 2020 (EPZA 2016; Clyde & Co. 2014). The Plan was put in place to accelerate Tanzania's economic growth to between 8 per cent and 10 per cent by adopting the Asian Economic Development Model which focuses on employment creation through attracting FDI and export promotion by developing SEZs.

The government of Tanzania created EPZs and SEZs as two distinct types of investment. While the focus of SEZs was investment promotion in specific industries, EPZs focused on promoting exports. The general objectives for establishing SEZs were to promote economic growth, boost export earnings, create employment as well as attract investments both foreign (FDI) and domestic (DDI) from productive and service sectors consistent with Tanzania's Vision 2020 aimed at transforming Tanzania into a globally competitive economy (EPZA 2016). EPZs were established a little earlier in 2002 following the enactment of Export Processing Zones Act of 2002 with the aim of increasing Tanzania's global competitiveness for export-led economic growth through promoting technological transfer, export-led industrialization, foreign exchange earnings, development of skilled labour and employment creation, linkages between the local economy and the international market, and promoting value addition through processing of local raw materials for export (EPZA 2016).

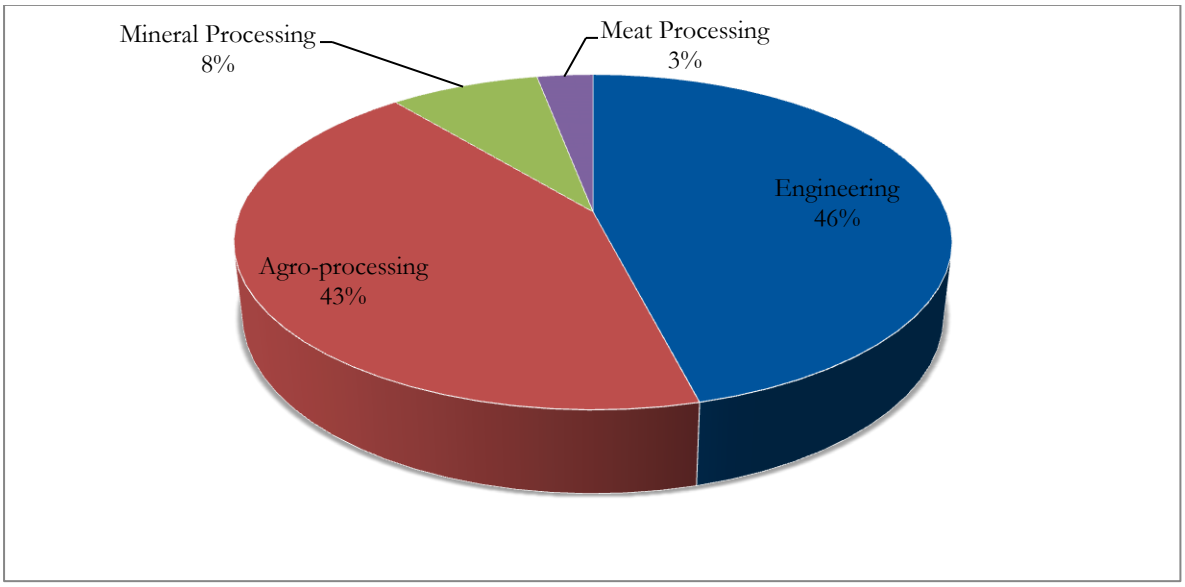
The Ministry of Trade and Industry was responsible for managing the EPZ program, and the Ministry of Planning, Economy and Empowerment was responsible for managing the SEZ program. Even though EPZs and SEZs report to two different ministries, they are both coordinated by the EPZA. The end result was a regulatory framework that confused investors and did little to achieve its original aims (Clyde & Co. 2014).[3]

[3] In order to eliminate institutional duplicity, the government of Tanzania recently decided to merge EPZs and SEZs to form Economic Development Zones (EDZs) under the Development Zones Act, 2009 (Meru 2010). This

In addition to the EPZA, the Tanzania Investment Centre (TIC) coordinates investment in its totality and facilitates investments in different sectors and at different locations. The EPZA registers investors who intend to invest in special zones only, that is, EPZs and SEZs. This structure has been heavily criticized as having little economic rationale (Clyde & Co. 2014).

Figure 1 shows the sectoral breakdown in investment in Tanzania's SEZs. Investment is dominated by engineering (46 per cent) and agro-processing firms (43 per cent). While engineering is mostly driven by the booming construction sector, agro-processing firms are largely attracted by Tanzania's agricultural sector, which employs 66.3 per cent of Tanzanians. Minerals (8 per cent) and meat processing (3 per cent) account for small proportions of investment in SEZs. This is surprising given that Tanzania is richly endowed with minerals (only second to Ghana in gold production in Africa) and meat (only second to Tunisia in the number of livestock in Africa). There is considerable scope for attracting further FDI and DDI into these sectors in the future. Across 140 registered companies in the zones, ownership is 45 per cent local and 55 per cent foreign (Mrindoko 2015). According to Mrindoko (2015), these firms have created 44,227 jobs, which are mostly for Tanzanians.

Figure 1: Sectors Invested in SEZ



Source: Meru (2010).

Investors in EPZs are required to obtain a license from the EPZA. There are three categories of licenses issued by the EPZA namely: (i) developer's licenses (for the purpose of developing and leasing infrastructure and providing services to other investors in SEZs); (ii) investor's licenses (for the purposes of carrying out business within the SEZ); and (iii) non-core business licenses (for the purposes of providing services to investors in the SEZ, however these license holders will not qualify for the fiscal incentives provided for in the SEZ Act). According to EPZA (2016) the fiscal incentives provided for in the Export Processing Zones Act, 2002 include: (i) 10-year corporate tax holiday; (ii) 10-year withholding tax holiday; (iii) duty and VAT exemption: raw material, capital goods, administrative vehicle, ambulances, firefighting equipment and two staff buses; (iv) VAT exemption on utilities and wharfage; and (v) exemption on taxes and levies charged by local government authorities.

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of course was to be followed with the establishment of Tanzania Economic Development Zones Authority (TEDZA), something which is yet to materialize.

Non-fiscal incentives for firms operating within zones include: (i) operating under only one license issued by the EPZA; (ii) the ability to acquire visa for key technical staff at point of entry; (iii) securing unconditional transferability of profits, dividends and loyalties; (iv) access to one-stop-service centre by EPZA for set-up, facilitation and aftercare (work permits, labour relations, customs); and (v) on-site customs documentation and inspection from all relevant government authorities.

There are certain eligibility criteria for firms to be allowed to acquire EPZ and SEZ licenses. For a firm to be eligible to get a license to operate in an EPZ, it needs to satisfy the following conditions: (i) it should be a new investment; (ii) at least 80 per cent of goods produced/processed should be exported; (iii) the annual export turnover should not be less than US$500,000 for foreign investors and US$100,000 for local investors.

As for firms in SEZ areas, the following are the licensing criteria: (i) it should be a new investment; (ii) it should have minimum investment capital of US$100,000 for local investors and US$500,000 for foreign investor; and (iii) the investment project must be located within the designated SEZ area.

3 Literature review

There has been considerable debate in the literature as to whether SEZs should be established to promote industrialization. On the one hand, there is a strand of literature that highlights the potential benefits of SEZs and in particular the role they can play in promoting growth that is accompanied by job creation, increasing exports and foreign earnings, and facilitating technological transfers between firms thereby enhancing productivity. On this side of the debate, SEZs are considered important developmental tools with beneficial catalytic effects on growth and productivity. On the other hand, there is a strand of literature that considers SEZs a negative distraction that gives investors a carte blanche to avoid taxes at the expense of revenue maximization which could be vital for other sectors in the economy. This side of the debate puts forward neoclassical arguments highlighting that promoting SEZs will lead to a race to the bottom.

On the positive side of the debate, Rohne (2013) highlights that SEZs attract Foreign Direct Investment (FDI) and Domestic Direct Investment (DDI) which in turn bring capital, skills and jobs. Moreover, they also contribute to foreign exchange earnings and the stimulation of the domestic economy via linkages and spillover effects (Cheesman 2012). This line of thinking is, by and large, based on successful SEZs in China and Mauritius which contributed greatly to the growth of these economies (Cheesman 2012; Omar and Stoever 2008). In these contexts, SEZs led to technological spillovers and managerial know-how, as well as international distribution channels (Rohne 2013). Wang (2009) examined the performance of SEZs in Chinese municipalities and found that they: (i) increased per capita foreign direct investment by 58 per cent; (ii) did not crowd out domestic investment and domestically owned capital stock; and (iii) increased total factor productivity growth rate by 0.6 percentage points.

SEZs have also been linked with spillover effects on the economy more generally, beyond the zones themselves. In a departure from the neoclassical view of SEZs, Johansson (1994) and later Johansson and Nilsson (1997) explored how zones can have development effects on the economy more broadly. Using the Malaysian experience, they show how SEZs lead to a more dynamic economy both inside and outside the confines of the zones. Agarwal (2007, 2010) and Cheesman (2012) provide similar arguments in favor of SEZs.

On the negative side of the debate, it has also been argued that SEZs can have negative impacts on growth. By introducing tax breaks and similar policies, SEZs present costly distortions which impair trade by promoting unfair competition between local and zonal firms (Rohne 2013). Forgone tax revenues, while benefiting firms within zones, decrease social expenditure and infrastructure investment, which eventually negatively affects economic development. Moreover, lower operating costs within zones may discourage FDI and DDI firms from locating outside of the zones meaning SEZs can crowd-out investment into other sectors or other regions.

Jauch and Keet (1996) and Jauch (2002) go a step further in this line of argument proposing that SEZs represent a 'race to the bottom' where countries competing for FDI scramble to provide the most generous incentives in the form of cheap labour and tax breaks at the expense of international labour standards and much needed revenues to sustain their economies. For instance, Jauch (2002) reports that in the quest for attracting FDI, Zimbabwe and Namibia suspended a number of labour laws in 1994 and 1995 respectively. Meanwhile Mozambique and Malawi provided generous incentives in the 1990s to spearhead their EPZ program. These measures came at the expense of the rest of the economy with little or no benefit in terms of economic development. Even in Tanzania, the government recognizes that incentives and exemptions are problematic and lead to a large loss in revenue. Indeed, according to Kulaba (2015), the Tanzania Revenue Authority (TRA) and the Controller and Auditor General (Controller and Auditor General's Report 2011 up to 2013) have both criticized the government's incentive regime as being unsustainable.

Similar pessimistic views have been raised in Tanzania in various studies (see, for example, Actionaid (2012) and Curtis and Ngowi (2012)). These studies suggest that SEZs are used mainly as a tax avoidance conduit while contributing minimally to Tanzania's Balance of Payment. Kulaba (2015) alleges that most of the goods that are produced in zones are usually imported as semi-finished goods, are assembled in zones and then labelled by the EPZA to enjoy tax advantages associated with the certification of being 'made in Tanzania'. As a result, there has been next to no technological transfers spilling over within the zones or outside them. This is exacerbated by the fact that firms are allowed to import raw materials (see Kulaba 2015) which means that backward linkages between these firms and the agricultural sector, the biggest employing sector in Tanzania,[4] is next to impossible. Moreover, there are concerns that the jobs created in zones are usually low cadre and low paid meaning they translate into equally low income tax for the TRA.

The Tanzanian model of economic zones largely borrows its features from the East Asian experience. However, a lingering distinguishing feature remains the unavailability of cheap semi-skilled labour in Tanzania. This is an important distinguishing feature from the East Asian case. Indeed, according to Clyde & Co. (2014) even with rapid economic growth in East Asia, labour is still less expensive than it is in Africa and specifically Tanzania. On top of that Tanzania also suffers from a logistical disadvantage as it is located far from any global supply chains. As a result, few investors would locate an assembly plant in the country despite generous tax incentives. Moreover, the World Bank's Doing Business Report, which measures the ease of opening and operating a local business, finds Tanzania to be one of the most difficult places to do business in the world, ranking it 139th out of 189 countries.

[4] Agriculture employs 66.3% of the labour force in Tanzania (Integrated Labour Force Survey 2014)

4 Data

To understand better the functioning and performance of SEZs in Tanzania we attempted to collect primary data on firms operating in 10 different SEZs. Two survey instruments were developed; one for enterprises and one for employees. The enterprise survey gathered information on the general characteristics of the enterprise, the sales and cost structure, information on investments, assets and access to credit, payment of fees, taxes and informal payments, employment, business and other networks, along with information on the SEZ itself and the perceptions of firms in relation to its functioning. The employee questionnaire gathered information on the terms and conditions of employment, the working environment and remuneration.

The initial aim was to sample 50 firms located in SEZs across Tanzania and in each firm interview a senior manager and at least 30 employees. A list of 147 firms was provided by the EPZA, which represented the population of firms located in SEZs in Tanzania. From this list a random sample of 50 firms was selected to participate in the survey. The sample was selected to ensure that it was representative of the distribution of industries and regions in Tanzania. The aim was to survey 37 firms based in Dar es Salaam and 13 in other locations around the country. The sampling process was challenging as many of the firms on the list provided by the EPZA were not operational either because the business had closed, or they had not yet started operations, or the firm was simply used for storage.

We gathered information on the firms that were sampled but could not be surveyed. A large number of firms had ceased operation. A number of firms closed for unknown reasons and the owner's whereabouts could not be determined and so it was impossible to find out why they folded. Of the ones that could be tracked, two firms blamed a downturn in sales for their closure and three closed due to problems related to exporting. One firm was temporarily closed due to conflicting export policies between the Tanzania Revenue Authority (TRA), Tanzania Bureau of Standards (TBS) and the EPZA. They are currently working on a resolution. Another firm closed due to prohibitively expensive export costs under TRA customs export policies making their firm unviable. One other firm also quoted general export policy issues as the main reason why it closed.

A large number of firms were in the start-up phase (for example, still installing machinery) and as such were not yet operational. However they intended to be in the future. Two firms were finalizing operating permits with the government. One firm had closed as the owner had died and there was no one to take over the business. In terms of non-response, two firms that were approached were not at the specified location. It is believed that one was operating nearby but neither could be found. One firm changed production from the manufacture of goods to the transportation of goods and so did not meet the criteria for inclusion in the sample.

Only one firm refused to cooperate because they were suspicious of the questionnaire. One firm was currently in the court system as they bought fake equipment to start the company but never started it, and one other borrowed a considerable sum of money to start the business but disappeared with the funds.

Of the original sample of 50 firms only 18 firms could be surveyed. There were some firms that were not on the original list provided by the EPZA that were later added to the sample in an attempt to increase the sample size. In the end 24 firms in total were surveyed. The geographical coverage of the sample is presented in Table 1. The sampling procedure was designed so that the 50 selected firms would be geographically representative based on the original list of 140 firms

provided by the EPZA. However, as indicated, this list included many firms that were not in operation. As such the actual sample of firms surveyed is not representative of this original list. This, along with the small sample size, should be borne in mind when interpreting the data. Notwithstanding these important caveats, the data do provide us with a good opportunity to look into how EPZs and SEZs work in Tanzania and raise a number of important questions for further investigation.

Aside from the sampling issues mentioned above the firms that were actually operational fully complied with the data collection procedure.[5] In almost all cases the manager of the firm was surveyed; in two it was the owner. Almost all were male with an average age of 41. The majority (16) were from Tanzania with other respondents coming from the UK, Bulgaria, China, Pakistan and 4 from India. The firms in general were well connected in terms of ICT with most (22) having internet access and an email address. Sixteen of the firms were single entity establishments while 8 were part of a larger firm comprising multiple establishments. For a large number of firms (14) all (or a large proportion) of the capital is under foreign ownership with a wide range of nationalities holding the majority of the foreign share. Most firms (21) first started operating within the zone where they were currently located; only 2 firms moved from a different location.

Of the surveyed firms, enumerators were instructed to interview up to 30 workers (or as many as were available) with representation from each of the following categories: managers; professionals; office workers; sales workers, service workers and production workers. Only employees that worked for the firm for more than one year were to be considered. The number of employees surveyed varied considerably across firms with an average of 16 but as few as 1 in some firms. Only in two firms was the quota of 30 employees met. The total sample of workers amounts to 379.

Table 1: Geographical coverage of surveyed firms

Region	Number of firms sampled	Proportion of population of firms from EPZA list (%)
Dar es Salaam	8	74.3
Arusha	4	4.3
Kilimanjaro	3	1.4
Mwanza	1	2.1
Shinyanga	1	2.1
Tanga	3	2.9
Coast	2	6.4
Morogoo	2	2.9

Source: authors' calculations based on SEZ survey.

The breakdown in terms of type of employee is provided in Table 2. The majority or workers in the sample are production workers (62 per cent) or service workers (15 per cent). Very few sales workers were surveyed which is reflective of the types of firms that were included in the sample (see above). Around 6 per cent are managers, 6 per cent professional workers and 8 per cent office workers. In terms of the gender division, 58 per cent of workers surveyed are male and 42 per cent female. The average age of the workers surveyed is 33. Almost all of the workers are permanent full-time employees and the vast majority (84 per cent) have a formal contract. Of

[5] The team of enumerators was supervised by REPOA staff who attended the first few interviews and received daily feedback from the field supervisors for the duration of the data collection. Representatives from the Ministry of Industries, Trade and Investments and from the EPZA provided logistical and mobilization support.

those without formal contracts the majority are production workers. Almost all of the employees (97 per cent) are Tanzanian but very few were born in the local commune. Over half were born in a different province. Most, however, live within the same commune or another commune or district within the province. The average distance travelled to work is 13km with a median of 3.5km and the average length of time it takes to travel to work is 43 minutes with a median of 30 minutes.

In relation to other socio-economic characteristics, 63 per cent of the sample is married and most have at least Primary level education. Over 57 per cent of the sample has at least secondary education and 11 per cent have attended College or University. For around 40 per cent of the sample this was their first job. This was particularly the case for production workers. For those who were employed previously, the most frequently cited reasons for choosing to move jobs were better salary, better working conditions and better social benefits. Average wages per month are approximately 390,000 TZS.[6] The majority of employees found the job through advertisements in the newspapers or through the door visits. A significant proportion (39 per cent) found the job through a relative or friend working at the firm.

Table 2: Type of employees surveyed

	Freq.	%
Manager	24	6.3
Professional worker	25	6.6
Office worker	30	7.9
Sales worker	7	1.9
Service worker	57	15.0
Production worker	236	62.3
Total	379	100.0

Source: authors' calculations based on SEZ survey.

5 Firm-to-firm interactions and technology transfers

One of the strongest arguments put forward for investment in SEZs is that they lead to agglomeration economies in the form of technology transfers (Newman et al. 2016a). A key focus of our questionnaire was on understanding the extent to which firm-to-firm interactions take place within the SEZs surveyed, as it is through these interactions that technology transfers and likely to take place (Newman et al. 2015).

In this section we present the data on the extent to which the SEZs facilitate interactions between firms and technology transfers. In both the enterprise and employment survey we find a minimal level of interaction between firms within the SEZ and the local community.

Only one firm surveyed sells output to other firms in the SEZ. While the majority of output is for final consumption (88 per cent) most produce is sold directly to export markets (78 per cent). Most raw materials (48 per cent) are imported directly. Around 31 per cent are purchased from domestic non-state firms in Tanzania (see Table 3). For firms that purchase business services (17

[6] Employees are asked to indicate their salary within a certain range. 21 different ranges were offered. To compute the mean we take the mid-point of the range and compute a weighted average based on the number of respondents that indicated their salary was within that range.

in total) they are most likely to contract other domestic non-state enterprises to provide these services but mainly from outside of the local commune.

Firm-to-firm interactions have been found to be an important source of productivity growth and learning in developing country contexts (Newman et al. 2016a; 2015). In particular, these interactions are considered an important mechanism for building firm capabilities. The fact that such interactions do not appear to be taking place between firms within the Tanzanian SEZs surveyed, and those in the local community, is a missed opportunity and one that should be considered in the future design of SEZ policy in Tanzania.

Table 3: Source of raw materials and other inputs in 2014 (%)

	Mean	Max
From Households	7.6	80
Domestic, non-state enterprises in the SEZ	5.2	100
Other domestic, non-state enterprises	31.1	100
State enterprises in this SEZ	2.4	40
Other state enterprises	1.4	30
Foreign enterprises in this SEZ	1.4	30
Other foreign enterprises	4.8	100
Imported (directly)	48.4	100
Other	2.5	30

Note: n = 21

Source: authors' calculations based on SEZ survey.

Workers, however, appear to interact quite frequently with the local community suggesting that there are potential benefits to the local economy beyond the confines of the zones themselves. Focussing on the behaviour of workers within the surveyed enterprises and in particular examine the extent to which they interact with each other, other workers in the SEZ and the local community. Table 4 presents summary statistics on the extent of these interactions.

Table 4: Interactions between workers and members of the local community

	Frequency of interaction with colleagues in this enterprise outside of working hours	Frequency of interaction with colleagues in other enterprises within SEZ	Frequency of interaction with members of the local community
	%	%	%
Daily	59.0	10.4	43.9
Weekly	23.9	6.1	17.0
Fortnightly	5.1	4.0	11.4
Monthly	2.7	6.4	7.5
Once a year	0.5	1.1	2.1
Never	8.8	72.1	18.1
n	376	376	376

Source: authors' calculations based on SEZ survey.

Most workers interact quite frequently with their colleagues outside of working hours with 59 per cent stating that they do so daily and 24 per cent weekly. Interactions with workers in other enterprises within the SEZ are much more limited with 72 per cent of respondents reporting that they never do. Interactions with members of the local community are more common with 44 per cent of workers indicating that they interact with them on a daily basis. It is somewhat surprising that 18 per cent of respondents report that they never interact with local community members.

SEZs may benefit the local community through expenditures by employees in the area. Respondents were asked their average weekly expenditure in the immediate vicinity of the SEZ. Twenty-five per cent of respondents indicated that they spend between zero and 4,000 TZS which is consistent with the fact that 18 per cent indicated that they never interact with the local community. Taking a weighted average across all respondents on average the employees in the SEZs spend 16,000 TZS per week. This is equivalent to around 17 per cent of their average weekly earnings.

As mentioned above, an important benefit of clustering is the transfer of technology. Such transfers can come from firms locating in close proximity to other firms producing similar products or along the supply chain from input providers or from customers.

In our survey we asked firms about their relations with customers and input suppliers and in particular the extent to which they required special or additional investments in production or in information technology. Nine of the surveyed firms indicated that their relationship with their customers required such investments and that this in turn led to a technology transfer from the customer to the firm.

A particularly important source of technology transfer comes from export markets. A large body of evidence shows that firms learn by exporting, although often firms, particularly in sub-Saharan Africa, struggle to first enter into export markets (Newman et al. 2016a, 2016b, 2016c; Cruz et al. 2016). SEZs provide a potentially valuable service for firms by facilitating access to export markets. Arguably, however, the firms that locate in SEZs may not be the most constrained in terms of entering into global markets.

In our sample, 16 firms receive orders for direct export production and of those 14 receive product specification, designs or materials for producing the goods. Of those 8 firms indicated that the foreign partners provided technology and expertise. Moreover, also of relevance to export markets is that 14 firms indicate that they have an internationally recognized quality certification which required them to meet certain standards of production. This could also be thought of as a form of technology transfer associated with engaging in export markets.

A similar question was asked in relation to supplier relations. Nine of the surveyed firms indicated that their relationship with their input suppliers required additional investments and 8 of those indicated that this resulted in technology transfers from the supplier to the firm.

In sum, while it appears that firms located in SEZs do benefit from technological transfers along the supply chain and from engagement with export markets, technological transfers within zones from firm-to-firm or worker-to-worker interactions, do not appear to have materialized. This is a missed opportunity for firms in these zones and questions the rationale for the spatial clustering of firms that do not appear to be interacting much with each other.

6 Perceived benefits and constraints associated with SEZs

An important aim of the survey was to understand the reasons why firms established in the SEZ and their perceptions of the advantages and the effectiveness with which it operates.

Respondents were asked to rate on a scale of 1 to 5 (with 5 being the most important) the reasons why they decided to establish in the SEZ. The responses are summarized in Table 5. The most important factor cited by respondents is tax benefits. Access to infrastructure, inputs and

customers is also considered important. Less important are access to skilled or unskilled labour and interactions with other firms in the SEZ. This is perhaps surprising given that much of the literature on the benefits of clustering emphasizes technology transfers through firm-to-firm interactions and labour pooling as important drivers of agglomeration.

Table 5: Importance of factors influencing the decision to establish in the SEZ

	Mean	n
Access to grant/subsidy	1.68	19
Tax benefits	3.52	23
Access to transportation infrastructure	2.43	21
Access to inputs	2.77	22
Access to customers	2.32	22
Access to skilled labour	1.81	21
Access to unskilled labour	1.48	21
Interactions with other firms in SEZ	1.81	21
Marketing	2.00	21
Access to electricity	2.34	21
Access to water system	2.34	21

Source: authors' calculations based on SEZ survey.

Firms were also asked to identify the constraints to the growth of the enterprise. The most important constraints were difficulties in hiring waged labour and issues in relation to accessing power and fuel. Externally driven factors were also cited as being important including difficulties in getting licenses and permissions from the authorities and a lack of clarity in government policy in relation to SEZs. The firms indicated that they are visited a number of times by government officials for inspection. As illustrated in Table 6, the average number of times that a firms was visited in 2014 to ensure that 80 per cent of the goods produced were exported was 4.5. They were visited approximately 2.4 times for policy compliance inspections and 2.1 times for technical compliance inspections. It should be noted however that not all firms responded to this question.

Given the extent of compliance visits experienced by firms, and the fact that they cite a lack of clarity on government procedures and policies it is perhaps not surprising that when asked what the best assistance that authorities could provide for the success of the enterprise that one of the most important reasons given was removing bureaucratic requirements and restrictions. Moreover, also reflective of the fact that infrastructure is a key determinant of deciding to establish in an SEZ, providing assistance with infrastructural facilities is cited as the most important factor that could improve enterprise performance.

Table 6: Number of times in 2014 the firm was inspected by government officials

	Mean	Max	N
Policy compliance inspections	2.37	12	19
Technical compliance inspections	2.11	5	19
Ensuring that at least 80% of goods produced/processed are exported	4.53	30	15
Ensuring that the minimum annual export turnover of US$ 500,000 for foreign and US$ 100,000 for local investors respectively	1.18	12	17
Ensuring that the annual export turnover should not be less than US$ 5million for foreign investors and US$ 1million for local investors	0.94	12	17
Ensuring that the investment is only located in the SEZ area	1.56	10	18
Other inspections	1	4	16

Source: authors' calculations based on SEZ survey.

An interesting case study, which illustrates the ineffectiveness of SEZs in promoting a competitive industrial sector in Tanzania is the case of NIDA textile mills. NIDA Textile Mills[7] is a 100 per cent privately Tanzanian owned firm, which having initially joined the Special Economic Zone in 2000 decided to pull out in 2004. According to Mudida (2006) NIDA withdrew from the zone having realized that it could not compete, in terms of technology, labour costs, labour productivity and utility costs, with well-established textile companies particularly those residing in Asia (e.g. India and Bangladesh). The decision was thus made that NIDA would leave the zone and concentrate on the domestic market.

Interestingly, once located outside of the zone, NIDA was not only able to vastly increase its profits but was also was eventually able to become competitive enough to start exporting some of its products, mostly to Zambia and Mozambique (Mudida 2006). On foot of this success, NIDA decided to re-enter the zoned through its subsidiary, Sungura to obtain better access to global markets (Mudida 2006).

Given this experience, we decided to interview one of the most senior NIDA managers to get first-hand information about what exactly transpired during this period. The manager, who unfortunately declined to give us official statistics on the performance of NIDA, agreed with the fact that the firm has dramatically improved its performance ever since it left the zone. He maintained that three main reasons where responsible for their decision: (i) electricity/gas prices which were impossibly high in the zone and that was coupled with the fact that energy cuts and rationing were a norm in the zone thereby increasing the cost of production; (ii) there was a lack of cheap skilled labour in Tanzania; and (iii) high costs of inputs, such as raw materials (particularly cotton), which had to be fetched from 700 kilometres away in the Mwanza and Shinyanga regions. This was made worse by poor transport services and related infrastructure.

These reasons made it impossible for NIDA to compete with similar firms from countries such as China and Pakistan. As the respondent argued, this is because although NIDA was exempted from some taxes, they had to pay tax in destination countries, something which made their products expensive compared to those from countries with cheaper labour and more readily available technology. The respondent also reported that the working capital required to stay in the zones is simply too high for local firms to afford.

[7] NIDA produces the kitenge type of clothes (khanga, kitenge, bed sheets, pillow covers, grey fabric).

When questioned on what made them competitive domestically and thereafter regionally, the respondent pointed out that outside the zone they could choose who to employ, where to locate the plants and most importantly work free of red tape associated with the EPZA. Moreover, selling domestically was lucrative because, although the cost of production remains relatively high, the fact that they sell in the market where their competitors (mainly importers) had to pay tax and related duties made their products, in turn, more competitive.

This case, coupled with the data that we have gathered from our survey of firms in SEZs, suggests a lack of state capacity in the organisation and management of SEZs. This appears to significantly add to the operating costs of firms located in zones. Moreover, as is evident in both our data and from the case study presented, accessing labour and high energy costs are they key constraints to the cost competitiveness of firms in the SEZs.

7 Conclusion

In this study, we set out to examine the performance of SEZs in Tanzania focussing in particular on the extent to which they foster interactions between firms and workers that result in productivity improvements and local economic development. Our study revealed a concerning lack of state capacity in the organisation and management of SEZs. We found that the EPZA did not have a complete picture of the actual firms that are operating in SEZs in Tanzania. Many firms in the lists provided have ceased operations. This limited our sample size and so a caveat of our analysis is that the sample of firms may not be representative of the population of firms located in SEZs in Tanzania. Nevertheless, the data we gathered provides us with some interesting insights which can be used as a basis for further research that would form the basis of a series of recommendations for the reform of policy in relation to SEZs in Tanzania.

The first lesson to be drawn from our study is that SEZs in Tanzania appear to be highly disorganized. Many firms are non-operational and it appears that the EPZA does not have a good handle on how the SEZs are functioning in practice. It also appears from our study that firms located in SEZs are overly burdened with red tape and bureaucratic procedures that add significantly to their cost structure and reduce their competitiveness. An important policy recommendation is to look carefully at the current management and organization structures within the EPZA and to find ways of reducing the bureaucratic burden placed on firms within zones.

The second lesson evident from our study is that firms located in SEZs, while benefiting generally from better infrastructure, are constrained by the supply of energy and power. Many firms report that energy outages within zones are a major constraint on production. It should be noted that this may well also be the case for firms located outside of SEZs. Either way, an important policy recommendation is that investments in energy infrastructure need to be stepped up for a policy of industrialization, through SEZs or otherwise, is to be successful.

One of the rationales for SEZs is that they allow labour resources to pool together in one location facilitating a better matching of workers to jobs. The third lesson from our study is that accessing labour with the necessary skills appears problematic for firms located in Tanzania. This should be a consideration in the spatial planning of zones moving forward, so that they are located in the areas where waged labour is available. Alternatively, implementing policies that promote labour mobility may help firms better access the labour resources that they need.

The fourth lesson to be drawn from our study is that interactions between firms within zones and with the local community appear very limited. Firms are, however, benefiting from technological transfers through the supply chain and from export markets but not from each other. Agglomeration economies resulting from technology transfers is one of the arguments put forward in the case for SEZs. SEZs in Tanzania do not appear to be benefiting from agglomeration in this way. Promoting better linkages between firms within zones, and with other domestic firms has the potential to increase technological spillovers between local firms. Access to export markets is an important benefit to firms locating in zones and further facilitation of entry into global markets has the potential to lead to more technology transfers that in turn could spill over to other firms in the zones and local community. While more research is needed to fully understand how firms in the SEZs interact with each other, and how this can be mutually beneficial, we can conclude from our limited analysis, that these benefits are not being realized and that this is a significant missed opportunity.

Finally, the interaction of workers with the local economy presents an opportunity for economic development within the local economy around SEZs. More research is needed to fully understand the extent and nature of these interactions and their potential to lead to significant local economic development. Our finding suggest that there is potential along this dimension which should be considered when evaluating the benefits of SEZs.

Overall, our findings correspond with other recent studies on the role and function of SEZs in Tanzania suggesting that there are minimal benefits to the local economy (Actionaid 2012; Curtis and Ngowi 2012; Kulaba 2015). A serious review of SEZ policy is called for, both in terms of the management and oversight of the zones, and in ensuring that the full benefits to the economy are realized.

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