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Abstract: Many countries introduced concepts related to Special Economic Zones (SEZs) to promote export-led economic growth. However, the concepts and implementation of SEZs vastly differ, resulting in large differences between and within countries. Therefore, this study seeks to assess the current state of Ghana's Special Economic Zones while identifying challenges to SEZ enclave development in Ghana. For this, three main enclaves are considered: Tema Export Processing Zone, the Dawa Industrial Park, and the Export Processing Zone in Sekondi. Drawing on semi-structured in-depth interviews with five officials from the Ghana Free Trade Authorities and site visits, the study conducts a three-step multi-dimensional comparative analysis. The study finds the presence of enclave-specific challenges relating to land and development issues, inadequate accessibility, and the Covid-19 pandemic to be key in explaining the low occupation of the enclaves. Further, implementation challenges relating to rent collection, political changes, and the absence of a common definition make it difficult to promote Ghana's SEZs adequately.

Keywords: Special Economic Zones, Ghana, Free Zones, Comparative Analysis

JEL Classification: D20, O24, O25

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1 Introduction

The concept of Special Economic Zones (SEZs) is prevalent worldwide and is further gaining popularity. Over the last forty years, the number of SEZs increased from 176 zones across 47 countries in 1986 to about 5,400 across 147 countries in 2018 (Farole, 2011; UNCTAD, 2019). SEZs may help overcome national deficits in infrastructure, political stability and the business environment, which are all essential factors in investors' decisions (Alexianu et al., 2019). Thus, SEZs have a large potential to attract Foreign Direct Investment (FDI), create employment opportunities, boost export diversification and enhance industrialisation (UNCTAD, 2021). Many African countries, including Ghana, have initiated SEZ programs since the 1990s (Farole 2011). However, their SEZ performance has generally been below expectations and contrasts sharply with the experience in East Asia or Latin America (UNCTAD, 2021). Though the objectives of SEZs may differ from country to country, the SEZs in Africa have generally failed in job creation, export diversification and attracting FDI (Farole, 2011). While earlier studies tipped SEZs in Ghana as an exception to the usual trend in Africa (Farole, 2011), SEZ development has recently experienced stagnation across the country. Empirical studies are ongoing to understand the reasons for the underperformance of SEZs in Africa.

While macroeconomic factors, political stability, low regulatory risk, and a business-friendly environment are crucial for investors' decisions, SEZs may reinforce or overcome some of these factors (Alexianu et al., 2019). Overall, lessons from previous studies show that critical success elements of SEZs include a strategic location, integration of zone strategy with the overall development strategy, and leveraging comparative advantage and embodiment of sustainability (Lu et al., 2019; Naeem et al., 2020; Rubini et al., 2015). However, SEZs are not a panacea, and there is no one-size-fits-all approach (UNCTAD, 2021; Zeng, 2021).

Worldwide, a wide range of different SEZ types; and an even more comprehensive range of terminologies to describe them exist (UNCTAD, 2019). The different terminologies and types mean that SEZ implementation is highly country-specific, making it essential to understand the SEZ concept nationally. For this, the UNCTAD (2021) report "Handbook on Special Economic Zones in Africa" helps to understand SEZs in Africa. The handbook explains differences in general objectives, regulatory frameworks and characteristics related to size, created jobs and target sectors for many African countries, including Ghana. However, a closer look at SEZ implementation is needed to understand within-country differences between SEZs and implementation challenges.

Various versions of the Ghana Free Zones Annual Reports state that the entire country (Ghana) is officially a free zone area and allows for establishing SEZ firms anywhere in the country. Thus, SEZ firms operate in SEZ enclaves which are industrial parks declared as SEZs or as single-factory firms outside of such enclaves. Official data from the Ghana Free Zone Authority (GFZA) indicate that 186 firms were registered as SEZ firms in 2021. These firms employed 31,516 workers in 2021 and had a total turnover of USD 1.5 billion and total export revenue of USD 424 million (Ministry of Trade and Industry, 2022). Ghana has four SEZ enclaves, following the latest UNCTAD data, while African Economic Zones Organization counts five enclaves (UNCTAD, 2021). However, to our knowledge, only three enclaves currently contain operating firms. These enclaves are the Tema Export Processing Zone (TEPZ), the Dawa Industrial Park, and the Export Processing Zone (EPZ) in Sekondi. The other earmarked SEZ

enclaves are the Kumasi Industrial Park and the Sharma EPZ, which are not operational. Other potential SEZ enclaves, such as the Silicon Accra Technology City (60 acres) and Appolonia Industrial Park (200 acres), are in their advanced stages of development. Further plans are underway to develop the Tamale (4,500 acres) and Builsa SEZ (3,000 acres) in northern Ghana. EPZs have taken centre stage over the last two decades in Ghana, and recent policy statements suggest SEZs are considered instrumental in delivering the industrialisation agenda, one of the pillars of the government's "Ten Points" Industrial Transformational Agenda announced in 2017 (Ministry of Trade and Industry, 2022). This means that enclave promotion and implementation are of high importance in Ghana.

This case study is exploratory in nature and aims to understand the SEZs enclave development in Ghana. In detail, we compare the following three SEZs: Tema Export Processing Zone, the Dawa Industrial Park, and the Export Processing Zone in Sekondi. While more SEZ enclaves are planned or under development, these three are the only ones currently containing operating firms, so we restrict our analysis to those. We employ a three-dimensional comparison analysis of these three enclaves and provide insights into infrastructural characteristics and enclave implementation. Further, we identify enclave-specific challenges and implementation challenges. The research is based on semi-structured interviews with five officials from the GFZA during site visits in January and February 2022,¹ as well as research on secondary and primary sources like advertising material and official documents from GFZA, the Ministry of Finance and the Ministry of Trade and Industry.

The study contributes to the literature on SEZs in Sub-Saharan Africa in multiple ways. First, the study provides the first comprehensive information on Ghana's SEZ enclave characteristics and design. As SEZ implementation is highly country-specific, this is important to understand how SEZs are implemented in Ghana. This information can guide future research on the success of SEZs in Ghana and create an understanding of Ghanaian SEZs in an international context. Second, the study derives enclave-specific and implementation challenges that may help guide future enclave development. Further, it highlights that enclaves are not naturally alike within countries, so individual planning and development adjustments may be necessary. Lastly, the derived challenges may provide information to guide policymakers in effectively formulating, designing, and implementing SEZ enclaves in Ghana.

The study is structured as follows. Section 2 provides some background information on SEZs in Ghana and the three considered enclaves. Section 3 lays out the three-step multi-dimensional comparative analysis used in this study. Section 4 contains the analysis examining the infrastructure within the three enclaves, paying attention to accessibility, water, electricity, security, and the internet, as well as firm clustering and zone-level government. Section 5 presents enclave-specific and general challenges drawn from the comparative analysis and in-depth interviews, while we conclude in section 6.

¹ See Table A1 in the Appendix for details on the interviewees.

2 Background

2.1 SEZs in Ghana

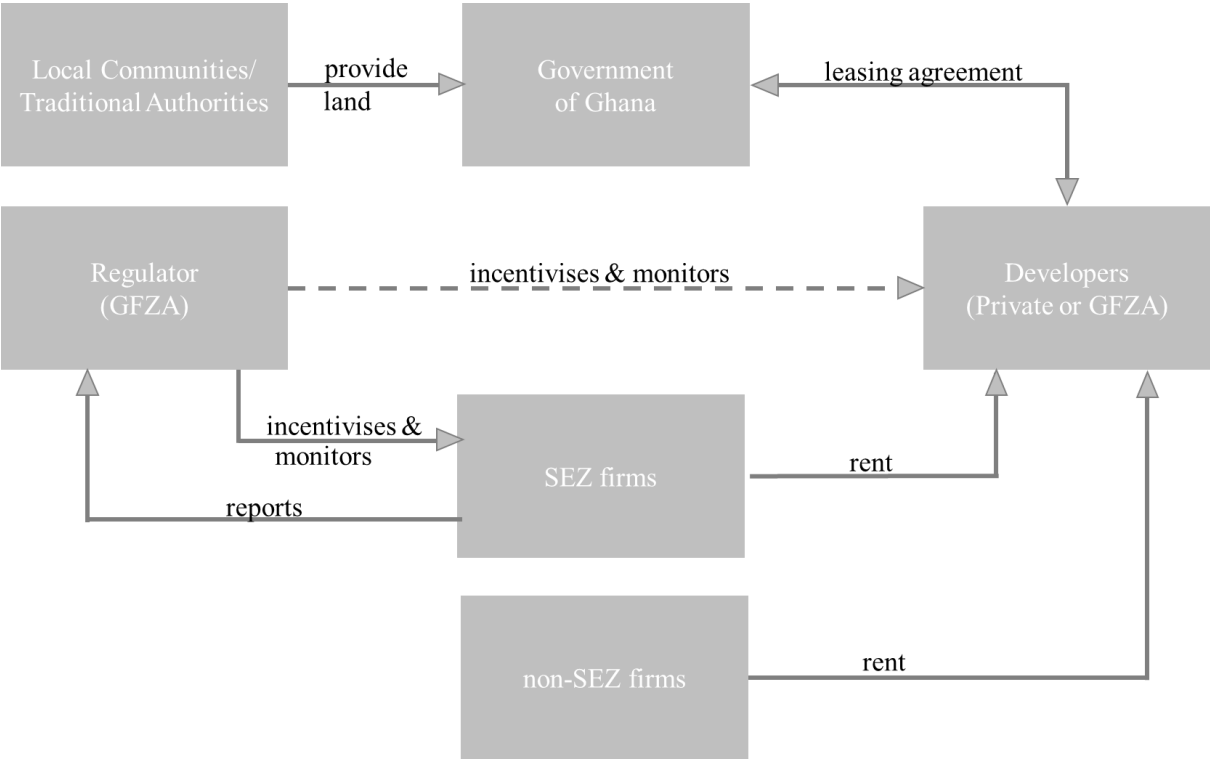
Ghana's SEZ legal framework is built on the Ghana Free Zone Act, Act 504 of 1995. The Act provides the legal and institutional framework for enclave development in Ghana and established the GFZA. The GFZA serves as an autonomous body that promotes and regulates SEZ firms. The GFZA aims to "help transform Ghana into the Gateway to West Africa by creating an attractive and conducive business environment through the provision of competitive free zone incentives" (GFZA, 2022).

In Ghana, the concept of SEZ has gained momentum and has run through different names and concept adjustments since 1995. For example, the concept started as "Free Zones" while it was rebranded to "Export Processing Zone" in late 2015 and is now "Special Economic Zones". To become a SEZ firm, companies have to fulfil the so-called "70/30 rule". This rule means that SEZ firms must export 70 per cent of their products yearly. This is regardless of qualifications under the rules of origin (UNCTAD, 2021). However, sales to other SEZ firms are also considered exports.

SEZ firms in Ghana benefit from various incentives, including exemption from the payment of income tax on profit for the first ten years from the date of commencement of operation, exemption from payment of import customs duty, and guarantee against nationalisation and expropriation, among others. However, the payment of local levies and taxes, such as property rate, is not exempted and has been a den of controversies among the local authorities, the firms, and GFZA. Information revealed during the visit shows that until a recent court ruling, SEZ firms refused to pay property rates under the pretence that it was part of the exempted taxes.

The SEZ enclaves are generally embedded in a complex institutional arrangement. Figure 1 shows an organogram of the institutional arrangement. The arrangement constitutes traditional authorities, owners, developers, firms and regulators. The traditional authorities provide land to the Government of Ghana – often represented by the GFZA. Through the GFZA, the government either develops the enclave land itself or signs leasing agreements with private developers. Sometimes the Government of Ghana may facilitate some key infrastructure in the enclave before leasing plots to private developers. The developers (private or the GFZA) then rent the land to firms that pay a yearly rent for their plots. These firms can be SEZ and non-SEZ firms. While the GFZA regulates SEZ firms, the non-SEZ firms are not regulated, even though they are located within the SEZ enclave. The GFZA ensures that SEZ firms fulfil the 70/30 rule requirement. To ensure the observance of this rule, the GFZA requires all firms to present quarterly operational reports to their offices. The quarterly reports must provide information on quantities produced, imported inputs, output exported, etc. Furthermore, private developers in the enclave receive some SEZ-related benefits. Thus, the GFZA also monitors the private developers to ensure compliance with SEZ-related conditions.

Figure 1: Enclave Institutional Arrangement



Source: Conceptualization by authors

2.2 The Three Considered SEZ Enclaves

The TEPZ is the largest enclave and hosts more than half of SEZs employment and one-third of SEZs firms (UNCTAD, 2021). It is Ghana’s oldest operating SEZ enclave and was officially declared a free zone in 1996. The TEPZ is located in Tema, Ghana’s major harbour city which is based next to Accra, Ghana’s largest residential city and national capital. Tema is one of Ghana’s fastest-growing cities with a relatively well-developed infrastructure. Many industries are located in the Tema Metropolitan area, where skilled labour is also concentrated. The TEPZ covers 1,200 acres and hosts some 80 firms, of which approximately 40 per cent are SEZ firms.

The enclave’s territory was developed and managed by private developers and the GFZA. About 700 acres are managed by LMI Holdings² and the GFZA, which also operates as a regulator and a developer. The GFZA manages 367 acres as an industrial park and 119 acres as a stabilisation pond in the TEPZ. Before development, the site was covered with small trees and bushes, with a few abandoned residential units in bad condition. Typical of coastal areas of Ghana, the site topography was flat and required minimal earthworks.

Key focus sectors, meaning sectors the enclave wants to attract, in the TEPZ are currently food processing, building materials, light manufacturing, logistics, plant and equipment, textiles and

² LMI Holdings is a consortium made up of International Land Development Company (ILDC) with 200 acres and Octoglow Ghana Limited with 500 acres in the 700 acres of TEPZ.

garments, and auto manufacturing. Food processing firms in the enclave in Tema are usually shea processing and cocoa processing firms. These firms include Niche Confectionery Limited and Cocoa Touton Processing Company Ghana Limited, local manufacturers of cocoa products.

The Dawa Industrial Park is located approximately 43 km east of TEPZ. The park is hosted in a larger planned ecosystem, Dawa City (22,000 acres), and was designed to be a Special Economic Zone for the Greater Accra Region. The Dawa Industrial Park covers 2,200 acres and is developed and owned by LMI Holding. Before it developed into an industrial park, the land was primarily used for cattle grazing and vegetable farming. The area's topology is similar to the TEPZ, which is a flat plain. The park was officially opened in 2019 and currently hosts three non-SEZ firms. The Dawa SEZ has no specific focus regarding sectors.

The EPZ in Sekondi is located at Sekondi-Takoradi Metropoli, Ghana's second port city. Sekondi-Takoradi has an airport with regular flights from Accra. Flight time between Sekondi-Takoradi and Accra is 30 minutes, while the distance by road (228.2 km) takes about 4 hours. The site was officially declared a free zone in 1996, although the site's development only happened later. The EPZ in Sekondi covers a total area of 2,200 acres. However, information from the GFZA office in Takoradi revealed that the advent of encroachment by private residential developers and the bid to preserve some historical and cultural sites have led to the re-surveying of the EPZ in Sekondi, with a new recorded land size of around 1,600 acres. Before the site's declaration as an SEZ in 1996, the land was primarily used to produce food crops, fibre, pasture, and other commercial and horticultural crops. While the vegetation landscape of the EPZ in Sekondi varies from one point to another, the EPZ in Sekondi is mainly made up of woodland with moderately dense herbs and bushes with scattered trees. The topography of the enclave is a relatively low-lying area interspersed with ridges and hills ranging from 10m – 20m in height. The enclave is occupied by three operating non-SEZ firms and one SEZ firm under construction. One SEZ firm is also located just outside of the enclave. The EPZ in Sekondi focuses on certain target industries. Although the enclave in Sekondi is still under construction, the target firms include those in the following industries: agro-processing, mining and industrial equipment, automobile and motorcycle, and food processing.

In all three enclaves, firms can purchase varying numbers of plots based on the firm's size and decision. For instance, in the TEPZ, Red Sea Housing has about 35 acres of land, while Vehrad has about 8.2 acres. In the EPZ in Sekondi, the Dandote Cement factory under construction covers over 100 acres of land, while other firms own relatively smaller sizes.

3 Methodology

This study is based on semi-structured interviews with five officials from the GFZA during site visits in January and February 2022,³ as well as research on secondary and primary sources like advertising material and official documents from GFZA, the Ministry of Finance and the Ministry of Trade and Industry. A three-step, multi-dimensional comparative approach is applied to identify enclave-specific challenges. First, suitable dimensions and subdimensions are selected. Second, subdimensions are qualitatively described, and a quantitative measure for each subdimension is assigned to allow a broad

³ See Table A1 in the Appendix for details on the interviewees.

overview of enclave differences. Third, enclave-specific challenges are drawn from the comparative analysis, and implementation challenges are deduced from in-depth interviews.

For the selection of dimensions, only those with enclave-specific variation were considered, meaning we excluded aspects related to the national strategy, which surely affect the overall performance of Ghanaian SEZs. Further, only those dimensions known to influence investors' decisions or the success of SEZs were included. This approach left us with three dimensions: infrastructure, split into five subdimensions (accessibility, electricity, internet, water, and security), firm clustering and zone-level government.

Infrastructure is included as it is an important factor in investors' decisions (e.g. Cheng and Kwan, 2000; Nunnenkamp, 2002; Straub, 2011). Further, Africa is known for large infrastructure issues, making this dimension particularly important for Ghanaian enclaves. Infrastructure is multi-dimensional, and the following five dimensions were chosen as they closely relate to firm productivity and, thus, investor's decision: (1) accessibility, (2) electricity, (3) water, (4) internet, and (5) security.

The accessibility of firms is related to transportation costs. Often, firms need to transport their production inputs and outputs to and from their manufacturing sites. With lower accessibility, transportation costs increase, resulting in decreased firm productivity. For example, Holl (2016) shows that manufacturing firms along highways in Spain have higher productivity than remoter manufacturing firms. Electricity was included as an unstable electricity connection is found to reduce firm productivity (e.g. Kupzig, 2023; Cole et al., 2018). Reasons for the reduced productivity lay in production stops, high self-generation costs, and spoiled equipment resulting from excessive power outages. Low-quality water supply may also lead to reduced productivity. For example, Bogetic and Olusi (2013) find that Russian manufacturing firms experience the largest negative impact from low water supply compared to other infrastructural dimensions. Good and stable internet is also found to improve firm productivity (Grimes et al., 2012). Lastly, we include security as a subdimension of infrastructure. Low security may yield problems regarding burglaries but also land issues like encroachments. Encroachments may result in fewer firms occupying the enclaves reducing agglomeration effects and synergies between firms.

The dimension "Firm clustering" relates to industrial clusters, which are groups of firms in the same location composing a production system (Madsen et al., 2003). This industrial clustering may yield productivity increase because of (1) spillovers connected to transportation costs resulting from economies of scale or (2) specialisation as outsourcing may become easier in clusters, or (3) the diffusion of knowledge (Madsen et al., 2003). As those spillover effects may increase productivity and clustering may differ from enclave to enclave, the dimension is included in the analysis.

The last dimension, zone-level government, relates to the SEZ enclave facilitation, which explains enclave governance by the local authorities. Zeng (2011, 2021) finds that this aspect is highly important in the success of SEZs.

4 Analysis

This section qualitatively compares the subdimensions between enclaves (see Table A2 for a broad overview of the quality within the different subdimensions by enclave).

4.1 Infrastructure

Accessibility

The TEPZ is situated next to the national highway (N1) and, thus, has fast access to the Tema Harbour and the national route network. The travel distance to the harbour is approximately 10 km, corresponding to an average travel time of 30 minutes. There is a mix of paved and unpaved roads within the enclave, out of which all are of medium quality, exhibiting potholes of varying sizes. Some roads in the enclave have streetlights, while the outer roads are missing such. Generally, the main roads are better developed, and the outer roads are worse.

Like the Tema enclave, the Dawa enclave is located near the national highway (N1) and easily accessible. However, it is much further away from the Tema Harbour. In detail, the travel distance to the harbour is 46 km, amounting to 1 hour and 11 minutes of travel time. Its main road is currently well-developed. It is paved, in great condition, and is accompanied by many street lights. The roads leading off from the main road are unpaved and in medium-quality conditions, meaning there are a few potholes of small and medium sizes. Further, streetlights are generally missing on these roads. The enclave advertises a railway connection to the North and Sahelian countries is planned. However, we did not observe any constructions on the site regarding a railway.

The EPZ in Sekondi is located far from the highway and is difficult to access due to the poor condition of the connecting road. The roads within the enclave are generally unpaved and of bad quality, with no accompanying streetlights. The poor quality of the roads in the enclave could be attributed to the fact that this enclave is still under development. However, the enclave has its own railway connection that was explicitly built to connect it with the harbour in Takoradi.⁴

Electricity

Tema has its own electricity plant on the premises of the enclave. This plant runs smoothly and reassures no (or only minor) power outages within the enclave. Enclave Power Company operates the power plant with a generation capacity of 165 megavolts ampere (MVA) to boost the supply of power to the TEPZ. In addition, a 40 MVA capacity with transmission at 33 kilovolts inlet is available and energised directly by Ghana Grid Company.

Dawa currently does not possess its own electricity plant. However, a substation similar to the one in Tema with a transformer capacity of 132 MVA is currently under construction. Further, the enclave plans to have a 1 gigawatt solar farm by 2030, although we could not observe such a farm under

⁴ Though we have not seen a train running on the tracks, we were assured by the officials that the railway was functioning.

construction. The companies operating on the premises currently use the national electricity network supplied by the Electricity Company of Ghana.

The EPZ in Sekondi is only connected to the national grid and does not contain its own electricity plant. Plans to change this do not exist currently. Thus, firms in the enclave must also use the main electricity grid. Additionally, the enclave has its own gas pipeline operated by the national provider, the Ghana Gas Company. Currently, it allows five plants to be directly connected to the gas grid. The access may be extended to a certain extent if demand increases. The gas station in the enclave is well-guarded to avoid damage and loss of lives.

Water

The national water provider, the Ghana Water Company, supplies the water supply in Tema. However, to avoid water shortages in the enclave, TEPZ possesses a water reservoir with a storage capacity of 2 million gallons: 500,000 gallons for the overhead tank and 1,500,000 gallons underground reservoir. Neither the Dawa nor the EPZ in Sekondi has such a facility. However, the EPZ in Sekondi is set up in a region with a relatively large water body. We were informed that it is planned that firms may draw on this in the future.⁵ Further, it seems common that firms in the enclave also have their own dug-out wells, which supply them with water for production activities. Likewise, preparation is underway for the Dawa Industrial Park to install a water treatment plant to supply water from the Volta Lake for consumption and industrial use.

Internet

The Dawa Industrial Park and the TEPZ section, managed by the private developers, currently have fibre optic connections. The GFZA section of TEPZ has no internet service, and tenants must make this provision for their operations. The same can be said for the Sekondi Export Processing Zone, which is under the management of GFZA.

Security

Due to the concept of enclaves, all enclaves should be walled with security guards to provide enough security for the firms within the enclave. However, only the Tema enclave is fully walled, with twelve observation posts across the enclave. Additionally, the enclave is equipped with cameras and security guards that are positioned throughout the enclave. These measures were necessary as miscreants scaled over the walls of the enclave to disturb the tenants' operations. The security upgrade greatly reduced the incidence of theft and vandalism of plants and equipment at the TEPZ. No security breach has recently been reported, and the enclave can be considered very safe.

In contrast to the Tema enclave, the Dawa enclave is not walled but contains a checkpoint on the main entrance guarded by security. Within the enclave, there are also security guards monitoring the premises. Plans to wall the enclave exist and the enclave advertises a 24/7 security concept.

Similar to the Dawa enclave, the EPZ in Sekondi is not walled, and it doesn't seem easy to construct a wall as the enclave is intertwined with the surrounding local communities. No central security system

⁵ As the surrounding communities were fishing in these water bodies, it seems important to consider a proper wastewater plan. We are unaware if such a plan exists already.

exists at the moment. Rather, firms provide their own security guards to secure their premises. In addition, the gas station within the enclave is heavily secured with cameras and armed guards.

4.2 Clustering of Firms

In the TEPZ, there is no deliberate effort to cluster firms within the enclave. However, the enclave is relatively filled, which may increase the chance of spillovers between firms. We also find that any trade arrangements between firms within the enclave and between SEZ and non-SEZ firms are made at the firm level. The key responsibility of the GFZA in this regard is to ensure that all trade arrangements are made within the law, especially concerning the 70/30 rule. They, however, do not disprove the possibility of firms locating near each other to enhance their activities.

In Dawa, the GFZA and the enclave developers have not consciously tried to cluster firms. The space remains mainly unoccupied, with three firms constructed and two more under construction. Observations from the enclave show no sign of clustering or deliberate efforts to cluster firms based on industry. Any clustering that could occur in the future would be purely based on the firms involved but not on the GFZA or the developer (LMI Holdings).

In the EPZ in Sekondi, some clustering is being implemented. We did observe two main forms of clustering in the enclave. First, during the interview with the GFZA, we found out that some firms moved into or close to the enclave to enhance their trade relations with firms in the enclave. Second, we discovered that the GFZA has deliberate efforts at clustering firms based on the industry in the enclave. For instance, firms in the food and beverage industry are planned to be clustered on one side of the enclave while the rest should be located at the other end of the enclave. This clustering reduces the contamination of food products during and after the production process.

4.3 Zone-Level Government

In the SEZ enclaves, the GFZA serves as a regulator and sometimes also as a developer. Their location is key in ensuring their effectiveness in performing their regulatory responsibilities. For example, being within the enclave means that the GFZA is close to SEZ firms and, hence, is expected to perform its responsibilities more easily and efficiently. Further, we expect a farther distance from the enclave to reduce the frequency of firm visits by the authority, thereby reducing their quality in performing their core responsibilities. Additionally, the proximity to other institutions may enhance the authority's effectiveness. For instance, institutions like the Ghana Revenue Authority (GRA), the Ghana Export Promotion Authority (GEPA), and the Ghana Investment Promotion Corporation (GIPC) have many connections to the duty of the GFZA. Thus, proximity to them may increase the efficiency of the GFZA.

In the TEPZ, the GFZA office is located within the enclave. The authority operates from an office building inside the enclave, which also houses a Zenith Bank. The presence of the Zenith Bank is relevant as it serves as a zone support service provider, facilitating financial transactions within the enclave. However, other institutions like the GRA and GIPC were not present. Upon interrogation, it was revealed that these institutions are outside the enclave and are easily accessible by the GFZA and

firms. The Dawa SEZ is supervised by the GFZA located within the Tema enclave. Thus, there is no visible office of the authority within the Dawa SEZ.

Like the Dawa SEZ, the GFZA office in Takoradi-Sekondi is far from the enclave. In detail, the office of the authority is located in the Takoradi township, while the enclave is located on the outskirts of the Sekondi Takoradi Metropolis. Thus, officials of the authority have to travel to the enclave to serve as a developer and a regulator. Anyhow, the location of the GFZA in Sekondi has the GRA, the GIPC, the GEPA, and several other institutions within the same office complex.

5 Challenges

This section lays out challenges identified by the comparison of enclaves as well as challenges named by interview partners. The challenges are categorised into enclave-specific challenges and general challenges regarding the implementation of SEZ enclaves. The last has been sourced from in-depth interviews with GFZA officials.

5.1 Enclave-specific challenges

Land issues

While land issues remain a key challenge for enclave development in Ghana, the extent varies across the various enclaves. Factors driving these differences are rooted in differences in distances to local communities and security.

In the Tema enclave, land issues are minimal as a wall secures the entire enclave. Encroachment issues are currently almost non-existent, although it could have been a major issue at the initial stages of the enclave establishment some 20 years ago.⁶ The Dawa enclave also faces no severe land issues, which may be due to the security checkpoint, frequent controls and a larger distance to surrounding communities.

On the contrary, the EPZ in Sekondi has a lot of land-related difficulties. In detail, the enclave experiences a lot of encroachment, which has reduced the official land area from 2,200 acres to some 1,600 acres. This is because the GFZA has agreed to sell back land to surrounding communities, introducing new buffer zones to the industrial zone. During our site visits, we observed a lot of local infrastructure on the previous zone premises, including schools. The reasons for the land-related difficulties are twofold in the EPZ in Sekondi. Firstly, no wall secures the enclave's boundaries, making encroachment easy. Second, most of the enclave area has remained undeveloped since the declaration and boundary definition of the enclave in 1996. Thus, large portions of the land have been unoccupied for many years.

⁶ However, the enclave has had to deal with issues of chiefs and youth of the Kpong demanding some compensation payments from firms over time. This has not interfered with the operation of the enclave.

Learning from the Sekondi EPZ lesson, it seems important to clearly define enclave boundaries when the enclave land is acquired from the surrounding communities to avoid future land-related problems. Only a well-occupied enclave can harness all the benefits of industrial clustering.

Private Developers

The TEPEZ is fully occupied, and all plots are rented out. However, the visual inspection proves that there are still many plots that are either (1) empty, (2) under construction, or (3) occupied by non-operating factories. Hence, although all plots are taken, the enclave space is not fully utilised.

The reason for this is twofold. First, the GFZA rents out the land to private developers, which often keep it as an investment instead of occupying it for production sites. Second, some companies abandon their factories upon the expiration of their SEZ license (after ten years). According to GFZA officials, these firms often return later under new names to the enclave operating the same or similar businesses using a new SEZ license. For this, their business has to go dormant until they resume activities as a newly registered company resulting in unused factories.

The non-usage of plots within enclaves generally appears undesirable as the opportunity for spillover effects within the enclave shrinks. From this lesson, it may be advisable to ensure that private developers use the bought plots in the desired way.

Inadequate Accessibility

Though the enclaves try to provide adequate infrastructure, it remains one of the key challenges of the EPZ in Sekondi, where enclave roads are less motorable, except by SUVs and other trucks. Unsurprisingly, the interview with officials of the GFZA in Takoradi revealed that the bad nature of the road in the EPZ in Sekondi has served as a deterrent to foreign investors, contributing to the large unoccupied lands in the enclave.

Overall, the bad qualities of roads within certain parts of the enclave (or the enclave as a whole) increase the risks of trucks breaking down, increasing the costs of doing business in these enclaves. This may be an even larger concern for companies in industries whose activities involve the transportation of heavy inputs and outputs. While railways could serve well in some enclaves, linking these enclaves to other communities and harbours, railway development remains underdeveloped and mainly concentrated in southern Ghana. In several instances, train transportation occurs only twice daily (GRCL, 2022). This shows that while railroads are important, they are no perfect substitutes for a good road network within and around enclaves. This is particularly true when firms must transport inputs or outputs from other parts of the country, where roads remain the only transport option (due to the absence of railroads).

This challenge highlights that decent accessibility is highly important in promoting SEZ enclaves and that low accessibility risks the operation of enclaves. Thus, the construction of roads rather than railways needs to be prioritised in the enclave development.

Covid-19 Pandemic

While the Tema enclave is officially fully occupied, the Dawa SEZ and the EPZ in Sekondi have many plots available to be occupied by firms. A named key reason for the non-occupancy of the lands in the

Dawa enclave is the outbreak of the Covid-19 pandemic, which affected the income stream of firms and resulted in the delay in their setup. The EPZ in Sekondi did not report Covid-19 as the main setback in attracting developers and negotiations with firms. However, it may also be a contributing factor.

5.2 Implementation Challenges

Political Interference

Like most policy programs in Ghana, the SEZ policy seems to suffer from incomplete policy implementation and abandonment by successive governments. Different priorities of political and governance actors can curtail planned implementation after a change in government or a change in institutional leadership. As explained by the GFZA officer, although initial plans for the road construction project were scheduled to start in 2019 for the EPZ in Sekondi, the Covid-19 pandemic and the delay in the appointment of the new CEO of GFZA stalled the whole process. As of our visit in January 2022, no work had begun. This example raises the question of whether political commitments to SEZ development are tied to specific individuals and how they may influence the promotion of SEZ enclave development.

In this context, the question arises as to what extent new industrialisation projects may interfere with SEZ promotion and whether it withdraws attention and financial resources from the SEZs. An example of such an industrialisation project is the One-District-One Factory (1D1F) (One District One Factory, 2023) which is aggressively championed while it can be seen as a duplication of other policy initiatives. 1D1F and SEZ are both industrial policies and could compete for resource allocation, which remains a concern, particularly given the scarcity of these resources. A few questions arise: (a) Which competing industrial policies will be pursued?; (b) Is the choice based on the industrial policy agenda of the government?; and (c) If both will be pursued, what proportions of the available resources will be allocated to each?

Definition Issues

The current lack of a clear and publicly available definition of SEZ in Ghana makes it difficult to address policy-related issues and create public recognition of the concept. A working group in the Ministry of Finance is working on a holistic measure of the SEZ policy (Ministry of Finance, 2021), which is expected to help define the SEZ status. The clear definition will help advertise SEZs' advantages generally and broadly; and may serve as a pull factor to attract more investors. Further, it will help to differentiate between SEZ and non-SEZ firms.

Rent Collection

Some firms in the enclaves do not pay their rent, at least not on time. This is harming the operation of the GFZA and may postpone investments in infrastructure in the enclave. Further research needs to be conducted to evaluate the reasons behind the missing payments and whether firms use it to pressure the GFZA for further investments in infrastructure or related issues or whether it is because of financial issues on the firm side.

6 Conclusion

SEZs are a worldwide popular concept that shows highly country-specific characteristics. This study sought to assess the state of Ghana's SEZs by examining the state of the three main operating enclaves: the Tema Export Processing Zone, the Dawa Industrial Park, and the Export Processing Zone in Sekondi. The study finds large differences between enclaves, often based on the different development progress. These differences yield different levels of success regarding the enclaves. While the Tema Export Processing Zone is relatively well-occupied, the other two remain almost empty.

Challenges connected to different success levels are land issues of encroachments and inadequate accessibility in Sekondi, private developers holding the plots as an investment instead of selling them to firms in Tema, and the Covid-19 pandemic, which reduced new investments in Ghana. Further, the study revealed general challenges regarding implementing SEZ enclaves which may harm all SEZ enclaves. These challenges are issues with rent collection, setbacks in the infrastructural development due to political changes, and a missing clear public definition of SEZ that hinder a clear promotion of the advantages of SEZ enclaves.

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Appendix

Table A1: Details of Key Informant Interviews

Position of Interviewee	Type of Organization	Gender	Location
Director, Enclave and Zone (GFZA)	Government	Male	Accra
Director, TEPZ (GFZA)	Government	Female	Tema
Business Development Officer, TEPZ (GFZA)	Government	Female	Tema
Business Development Officer, TEPZ (GFZA)	Government	Male	Tema
Business Development Officer Sekondi EPZ	Government	Male	Sekondi

Table A2: Quantitative Measure of Subdimensions

	Infrastructure					Cluster	Zone-level Government
	Accessibility	Electricity	Internet	Water	Security		
Tema	5	5	5	5	5	2	4
Dawa	4	0*	3	0*	3	0	1
Sekondi	3	4	3	3	0	3	2

Notes: *planned; Score ranges between 0 and 5 whereby 0 means not existing/very bad and 5 means well-implemented.