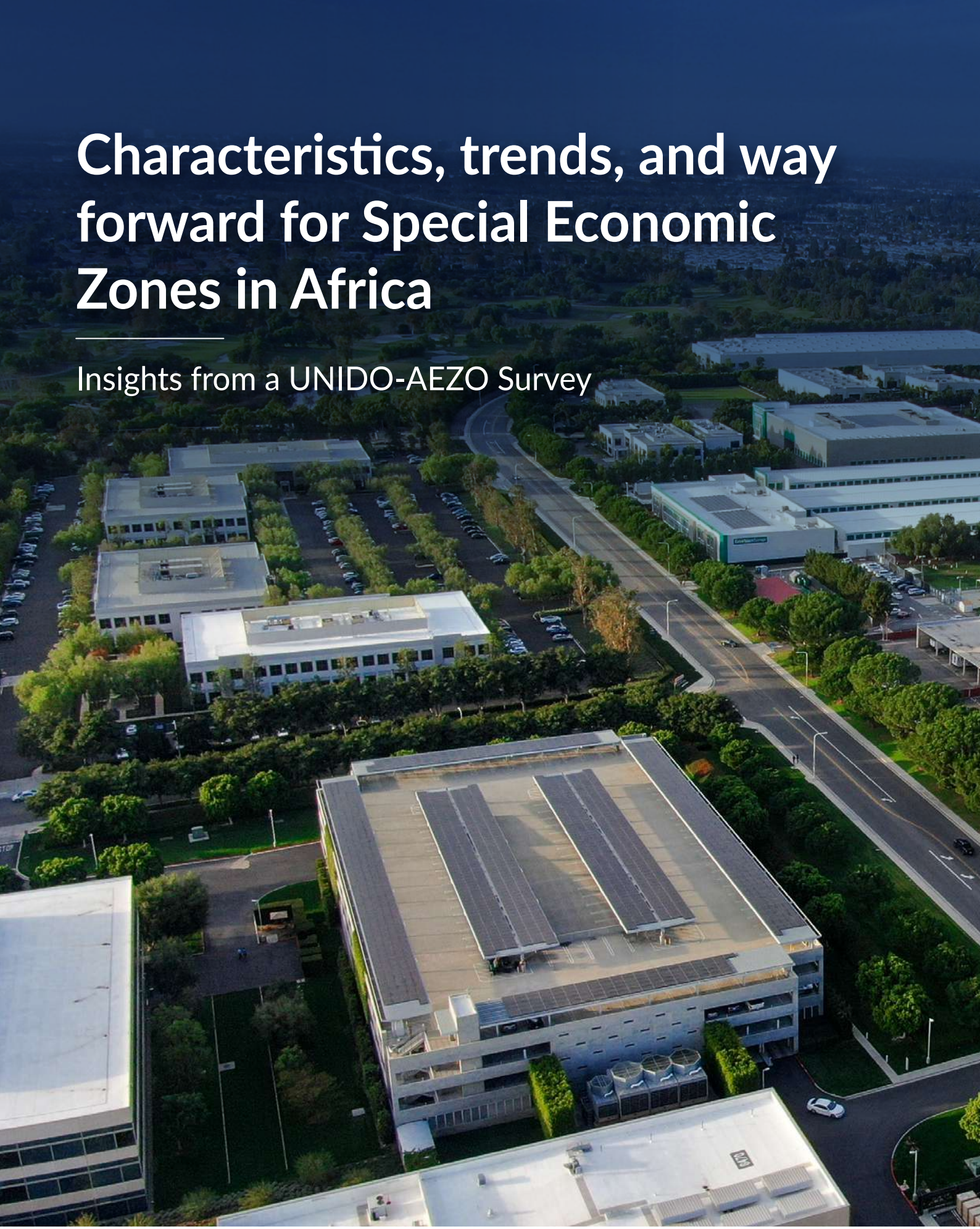
Characteristics, trends, and way forward for Special Economic Zones in Africa

Insights from a UNIDO-AEZO Survey



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Foreword

Special Economic Zones (SEZs), also known as industrial parks, districts, or corridors play a crucial role in promoting inclusive and sustainable industrialization. African countries have made major strides in improving their business environments over recent years, and SEZs have been instrumental in this, for example by facilitating access to broader markets. Yet African economies still face a number of challenges regarding efficiency and diversification, issues which SEZs can make a decisive contribution to solving. They can not only attract investment, but also enhance productivity, stimulate innovation and sustainability, as well as increase food security. However, despite the vast potential of SEZs in African countries and the significant public investments that have been made in establishing and maintaining them, there is a striking lack of easily accessible information for potential investors about where precisely SEZs are located, their operational status, the services which are provided, and other key regulatory and infrastructure factors. To bridge this information gap, UNIDO has joined forces with the African Economic Zones Organization (AEZO) as part of the ACP Business-Friendly: Supporting Value Chains Through Inclusive Policies, Investment Promotion, and Alliances (ACP BF) Programme, funded by the European Union (EU) and the Organization of African, Caribbean, and Pacific States (OACPS).

This report – resulting from this cooperation – provides a novel and comprehensive understanding of SEZs in Africa. Moreover, in addition to the present report, up-to-date information is also available on **UNIDO's Invest in ACP platform,** supporting informed decision-making for investors.

For several decades, UNIDO has been dedicated to promoting the establishment of SEZs and industrial parks, assisting Member States in their planning and development of such parks to support sustainable economic growth. Technical support for infrastructure development is complemented by policy analysis and advice to operate these parks. Our efforts here particularly focus on supporting eco-industrial parks with their contribution to green supply chain transitions and dedicated agro-food parks to increase food security. UNIDO's **Industrial Park Platform (IPP)** combines in-house expertise with international best practices, providing a comprehensive framework for developing sustainable parks that foster both innovation and competitiveness.

UNIDO aims to serve a wide range of stakeholders, including regulatory agencies, developers, tenants, and investors and financial institutions, to address the needs of both new and existing parks globally, keeping in mind above all the unique and specific challenges faced by developing and middle-income economies. We realize the great potential of SEZs to affect real change for the benefit of people and communities locally, on the ground. Thus, we are committed to advancing the development of sustainable industrial parks and SEZs under our guiding motto of "progress through innovation". This report will provide valuable insights into African SEZs and the chances they bring, guide decision-making in this critical sector, and ultimately channel more sustainable investments to make a lasting impact on Africa's industrial transformation.

Mr. Gerd Müller
Director General
United Nations Industrial Development Organization (UNIDO)

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Mr. Gerd Müller
Director General
UNIDO

For the last decade, African Special Economic Zones have proven to be of significant importance, acting as a support mechanism to foster Investments.

With more than 220 SEZs representing an area of over 140,000 Ha and 2.6 trillion dollars in mobilized investments, African SEZs have recorded notable growth, incorporating elements such as digitization, renewable energy, entrepreneurship, in a quest to adapt to the international scene, and as a way to improve their business value proposition.

In this light, AEZO is pleased to collaborate with UNIDO in presenting this work as the culmination of joint efforts dedicated to supporting Africa's industrialization. As such, this report is an important landmark toward establishing a consistent and resilient SEZ ecosystem, encouraging sustainable practices, and supporting African capacity development.

This survey offers structural and academic support to African SEZ authorities and key stakeholders, assisting them in adopting best practices to strengthen Africa's positioning among global value chains, especially in the context of the growing AfCFTA market.

Further, this survey report is a perfect illustration of this vision, showcasing the importance of our cooperation with international organizations. The willingness of our community to participate in such activities highlights the great involvement of African SEZs to spur a paradigm shift and unleash Africa's economic development opportunities.

Finally, we reiterate here our commitment for the development of African SEZs, through collaborative thinking and close cooperation with the members of the organization.

Mr Mehdi TAZI RIFFI
President
Africa Economic Zones Organization (AEZO)

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Mr Mehdi TAZI RIFFI
President
AEZO

Special Economic Zones (SEZs) have emerged as powerful tools for economic development in Africa. They attract foreign direct investment, create jobs, and foster industrialisation. According to a recent UNIDO and AEZO survey, over 90% of African SEZs now have an On-site customs presence, highlighting the growing importance of these zones in facilitating trade and investment.

SEZs provide a conducive environment in which businesses can thrive, offering tax incentives, streamlined regulatory processes, and access to infrastructure and services. By doing so, they contribute to the diversification of African economies and the development of export-oriented industries.

This survey shows that African SEZs have made significant progress in recent years. For example, a majority now have access to basic services and one-stop shops. But significant challenges remain. The survey provides valuable insights into the need to improve the management of African SEZs and the availability of digital bandwidth and connectivity.

It also highlights the potential of these zones to enable countries to diversify their economies into areas such as tourism, information and communications technology, and finance. And it underlines the need for continued investment in SEZs to support Africa's economic transformation.

The survey was drafted with support from the ACP Business Friendly Programme, co-funded by the EU and the Organisation of African, Caribbean and Pacific States (OACPS). This works to strengthen investment promotion agencies and support SEZs in Africa, the Caribbean, and the Pacific. In doing so, the programme is fostering a more conducive environment in which the private sector in Africa can develop.

I would like to congratulate the authors on their comprehensive and insightful analysis of African SEZs. Their work provides valuable information for policymakers, investors, and other stakeholders to address the challenges identified and work together for a more prosperous and inclusive future for the continent.

Ms. Paz Velasco Velázquez
Acting Head of Unit E2
Directorate-General for International Partnerships (DG INTPA)
European Commission

European Union

"This works to strengthen investment promotion agencies and support SEZs in Africa, the Caribbean, and the Pacific."

Ms. Paz Velazco Velázquez
Directorate-General for International Partnerships (DG INTPA)
European Commission

The Organisation of African, Caribbean and Pacific States (OACPS) comprises 79 countries across Africa, the Caribbean, and the Pacific, each exhibiting various levels of vulnerability, whether categorized as Small Island Developing States (SIDS), Least Developed Countries (LDCs), Landlocked Developing Countries (LLDCs), or Middle-Income Countries (MICs). These vulnerabilities, compounded by a heavy reliance on trade and commodities, have led to persistently low levels of economic, human, and social development across these regions.

In this challenging context, Special Economic Zones (SEZs) have emerged as a vital tool for fostering economic growth in OACPS countries. SEZs offer attractive economic incentives and simplified regulatory environments that encourage increased inflows of foreign investment. This, in turn, leads to the emergence of new industries, boosts productivity, and fosters greater economic diversification. Additionally, SEZs contribute significantly to job creation, higher wages, and the promotion of innovation and entrepreneurship.

The development of infrastructure is another critical benefit of SEZs, leading to improvements in transportation, power supply, and telecommunications. These advancements not only benefit the SEZs themselves but also positively impact surrounding communities, thereby contributing to broader economic development.

However, for SEZs to truly fulfill their potential in driving economic growth, a robust governance framework is essential. Addressing challenges such as land acquisition, environmental regulations, and social inclusion is crucial to fully harnessing the benefits SEZs can offer.

Since 2019, the United Nations Industrial Development Organization (UNIDO) has played a key role as an implementing partner in the ACP Business-Friendly Programme. Supported by European Union funding, this programme aims to promote business-friendly and inclusive national and regional policies while strengthening productive capacities and value chains. UNIDO's involvement focuses on building the capacity of Investment Promotion Institutions (IPIs), enhancing their ability to support and facilitate investments from both domestic and foreign investors.

To further support these efforts, UNIDO has developed the "Invest in ACP" Platform, a digital tool designed to assist investors in making informed decisions. This platform serves as a comprehensive one-stop shop, providing detailed insights into investment opportunities across OACPS countries, including specific information on industrial parks and SEZs.

The OACPS values its close collaboration with UNIDO and welcomes this comprehensive report on the characteristics and trends of SEZs in Africa. It is anticipated that the insights from this report will help enhance the operations of SEZs across Africa and that these lessons can be shared more broadly to strengthen the economic resilience of the entire OACPS.

Mr. Junior Lodge
Assistant Secretary-General
Organisation of African, Caribbean and Pacific States (OACPS)

Organisation of African,
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Assistant Secretary-General
OACPS

Acknowledgments

This publication is the result of a cooperative effort between the United Nations Industrial Development Organization (UNIDO) and the Africa Economic Zones Organization (AEZO), who jointly developed and implemented a survey on the characteristics and trends of Africa's Special Economic Zones (SEZs) in late 2022.

The publication has been produced under the guidance of **Gunther Beger**, Managing Director of the UNIDO Directorate for SDG Innovation and Economic Transformation. The technical lead was undertaken by the Sustainable Investments and Responsible Business Unit (IET/PST/SIB), under the supervision of **Stefan Kratzsch**, Unit Head, and within the broader context of the ACP Business Friendly Programme.

Technical contents were provided by **Jean-Paul Gauthier**, SEZ Expert and Lead Author of this report, along with **Tamer Tandogan**, who contributed as the Lead Analyst, overseeing the development and execution of the research framework. **Marco Kamiya**, Division Chief, Innovation and Digitalization Division (IDD), **Klaus Tyrkko**, and **Joshua Ogie Olowu** contributed to the questionnaire design. **Arda Kostem** and **Darren Gleeson** supported the data collection and coordination.

Editing and organizational support was provided by **Annika Bachhofer**, **Da Peng, Federico Podano**, and **Teodor Nicula-Golovei**. The publication also benefitted from the valuable inputs and constructive comments by other members of the Sustainable Investments and Responsible Business Unit, especially **Brian Portelli, Ivan Pantelić, Livio Zalozieckyj, Claudia Marianelli,** and **Aastha Shree**.

This whole study would not have been possible without AEZO, who supported the dissemination and promotion of the survey and organized focus groups within the African SEZs community. Comments and inputs were provided by **Ahmed Bennis**, Secretary General of AEZO. UNIDO is also grateful to the African SEZs community, who participated in the survey and is thanked for its contribution.

Final editing, design, and layout of the publication were developed by **Angela Rosero.**

Contents

List of Acronyms

AEZO..... Africa Economic Zones Organization
ACP.....Africa, Caribbean and Pacific
AfCFTA.....African Continental Free Trade Area
AfDB.....African Development Bank
BPO..... Business Process Outsourcing
CIIP..... Competitive Industries and Innovation Program
DMS.....Document Management System
EPZ..... Export Processing Zone
ESG.....Economic, Social and Governance
FDI.....Foreign Direct Investment
FIAS..... Facility for Investment Climate Advisory Services
FTE.....Full Time Equivalent
FTZ.....Free-Trade Zone
FZ..... Free Zone
GVC.....Global Value Chain
ICT..... Information and Communications Technology
IDZ.....Industrial Development Zone
IEA..... International Energy Agency
IFC.....International Finance Corporation
ILO.....International Labour Organization
IoT.....Internet of Things
GIS.....Geographic Information Systems
LDC.....Least Developed Country
LLDC.....Landlocked Developing Countries
MENA.....Middle-East and North Africa
OACPS..... Organisation of African, Caribbean and Pacific States
PPP.....Public-Private-Partnership
R&D..... Research & Development
RMG.....Ready-Made Garments
SDG..... Sustainable Development Goal
SEZ.....Special Economic Zone
SFB.....Standard Factory Building
SSA.....Sub-Saharan African
TEU.....Twenty-Foot Equivalent Unit
UNCTAD.... United Nations Conference on Trade and Development
UNIDO.....United Nations Industrial Development Organization
WTO..... World Trade Organization

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Executive Summary

Africa is currently at a juncture in its development, as the African Continental Free Trade Area (AfCFTA) is being implemented to promote economic integration. In this context, Special Economic Zones (SEZs) have emerged as tools for fostering growth and development. However, there are still significant gaps in the understanding and study of SEZs, which put policymakers, investors, and other stakeholders in unfamiliar territory.

To bridge this knowledge gap, the United Nations Industrial Development Organization (UNIDO) and the Africa Economic Zones Organization (AEZO) collaboratively present the research report "Characteristics, Trends, and Way Forward for Special Economic Zones in Africa: Insights from a UNIDO-AEZO Survey". The survey, conducted at the end of 2022, collected responses from 63 SEZs around the African continent, 47 of which are in operation. SEZ survey respondents hail from 26 countries, 21 of which have fully operational zones, with a particular geographical concentration in the West and East Africa regions.

Examining the UNIDO-AEZO survey's findings at a macro level, it is possible to narrow down the considerations to three salient, potentially critical lessons regarding African SEZs.

01

The location, scaling determinations, infrastructure, and services offered and provided by African SEZs are overall relatively sound. The relative lack of long term, transformational economic impact from these zones in their respective host economies is likely stemming from their sub-optimal design and set-up, as well as from a poor management that fails to capitalize on their asset base. Indeed, the survey finds that the gap between having goals and achieving them to a satisfactory degree is a large one, and this result is consistent with the literature that universally finds the situation with respect to the management quality of African SEZs to be unsatisfactory. *Improving the quality of overall SEZ management and the understanding of how to manage zones effectively and purposefully is therefore a key priority.*

02

The survey results show that there is an important need for SEZs to further leverage the benefits from digitalization, both at the infrastructural level, in terms of connectivity and bandwidth, and at the operational level, in terms of digitally promoting zones and the businesses within them. *Improving ICT facilities in African SEZs should therefore also be a key priority, especially through developing an Industry 4.0 Strategy; implementing associated digitally aligned capacity-building, achieved through comprehensive technical assistance and advisory support (peer-to-peer learning, study tours, etc.); and undertaking technology impact studies.*

03

African SEZs offer a distinct opportunity to diversify the sectoral make-up of their host economies. The survey findings suggest that Africa's SEZs production-related activities are focused primarily on agro-allied productive activities, closely followed by the stitching of ready-made garments. Given the incentives which SEZs can provide to various enterprises, the continued lack of application of the SEZ concept to the African tourism sector - a major growth area - represents a missed opportunity, given the success of the (resort) tourism SEZ model implemented and applied in Southeast Asia, the Caribbean, and the Russian Federation. Similarly, ICT, computing, and software related activities remain negligible in African SEZs, as does the financial sector (including offshore finance activities), which are all but non-existent in the continental economic structure. *Sectoral diversification in African SEZs through specialized applications, particularly in tourism and ICT, thus remains an important opportunity which has yet to be capitalized upon.*

Moving forward, African SEZs should focus on these three strategic opportunities for improvement and development in order to more strategically promote foreign and domestic direct investment in emerging economic growth areas, and thereby ensure that such growth path serves to maximize the zones' future success and economic impact at continental level.

Introduction

Africa is currently at a juncture in its development, as the African Continental Free Trade Area (AfCFTA) is being implemented to promote economic integration. In this context, Special Economic Zones (SEZs) have emerged as tools for fostering growth and development. However, there are still significant gaps in the understanding and study of SEZs, which put policymakers, investors, and other stakeholders in unfamiliar territory.

To bridge this gap, we present the research report ***"Characteristics, trends, and way forward for Special Economic Zones in Africa:*** Insights from a UNIDO-AEZO Survey", conducted collaboratively by the United Nations Industrial Development Organization (UNIDO) and the Africa Economic Zones Organization (AEZO). Initiated in the third quarter of 2022 as part of the **ACP Business Friendly Programme,** funded by the European Union and the Organisation of African, Caribbean and Pacific States (OACPS), this study aims to provide an understanding of SEZs in Africa by gathering primary data that accurately reflects the unique socio-economic fabric of the continent. This study aligns with the momentum created by the AfCFTA, which highlights the significance of SEZs in promoting trade, investment, and industrialization.

The research methodology has been designed to collect both qualitative and quantitative data to analyze SEZs across Africa. This approach offers more than just a snapshot of the current conditions: it aims to dynamically examine the SEZs within the broader economic context of the continent, providing insights and knowledge for a wide range of stakeholders. Data-driven research has been used to shed light on the challenges and opportunities that African SEZs face in today's economic environment, which was further complicated by the recent COVID-19 pandemic.

In order to garner these insights, this report conducted a focused literature review on those topics. The report thus begins with a conceptual background, which presents the key takeaways from pertinent findings of the literature on African SEZs that are relevant to the survey's focus areas: its purpose is to see whether the survey yielded new data, and whether it confirmed or infirmed data from previous research and/or surveys.

Given their status as an under-researched population, the main goal of this study is to explore and understand the characteristics and trends that define SEZs across Africa. This includes examining their types, governance structures, incentives, and performance measures with the aim of identifying factors that contribute to their success or limitations. Such insights are crucial in shaping policies that can attract investments, and promote development.

Furthermore, this study addresses a knowledge gap regarding the social impact of SEZs, particularly in terms of job creation, poverty reduction, and income equality. Having a nuanced understanding of these aspects is essential for policymakers and investors who want to maximize the benefits of SEZs while minimizing any drawbacks.

Considering the complexities brought about by COVID-19, there is now an emphasis on digitalization within these zones. Embracing digital technologies offers a way for SEZs to become more resilient and adaptable, allowing them to navigate disruptions effectively and capitalize on emerging opportunities.

To summarize, this report is more than a mere exercise: it provides a concrete contribution to our understanding of how SEZs shape Africa's economic future. Through data collection and analysis, along with expert insights, our goal is to provide a resource that informs and guides decision-making in this critical sector.

1. Conceptual Background

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*As early as 2008, **several African countries pioneered using free zones as economic development tools.***

*The Facility for Investment Climate Advisory Services noted that **"successful zone activity in Africa is very possible".***

As noted by Facility for Investment Climate Advisory Services (FIAS) as early as 2008, several African countries pioneered using free zones as economic development tools. Egypt and Tunisia began their respective Free-Trade Zone (FTZ) and Export Processing Zone (EPZ) programmes as early as the 1960s and 1970s.[1] In 1971, Mauritius started a single factory-based EPZ program, whose prominence and success led to a wave of zone development throughout the continent.[2] FIAS further noted, as such, that "successful zone activity in Africa is very possible", as programmes in Mauritius and later in Kenya have proven.

Farole (2010), however, observed soon thereafter that, although there was limited hard data by which to assess the performance of African zones, anecdotal evidence suggested that they were overall performing poorly. While governments throughout Africa remain enthusiastic to develop zones programmes to support diversification, attract investment, create employment, and benefit from skills and technology transfer with most African countries having first begun to operationalize their programmes in the 1990s and 2000s, in many countries such as Nigeria, Senegal, Namibia and Mali, zones do appear to be struggling. This can be attributed to a plethora of reasons, including poor locational choices, absence of strategic planning, ineffective management, national policy instability, and weak regulation.[3] Even where programmes have been successful, concerns often remain over the quality of investment and employment as well as their sustainability: the experience of Madagascar being a poignant example of the fragility of African zones.[4]

Vastveit's (2013) analysis supported this view, summarizing that the consensus in the literature is that African zones, with few exceptions, have been unsuccessful relative to non-African ones. The low investments and employment levels of many Sub-Saharan African zones suggest that they are not large enough to provide the benefits of economic diversity, employment growth, nor structural

[1] Gokhan Akinci & James Crittle, Special Economic Zone: Performance, Lessons Learned, and Implication for Zone Development, Foreign Investment Advisory Service (FIAS) Occasional Paper, World Bank Group, (2008), available at documents.worldbank.org/curated/en/343901468330977533

[2] Gokhan Akinci & James Crittle, Special Economic Zone: Performance, Lessons Learned, and Implication for Zone Development, Foreign Investment Advisory Service (FIAS) Occasional Paper, World Bank Group, (2008), available at documents.worldbank.org/curated/en/343901468330977533

[3] Thomas Farole, Special Economic Zones in Africa: *Comparing Performance and Learning from Global Experience, World Bank (2011)*

[4] *Thomas Farole, Second Best? Investment Climate and Performance in Africa's Special Economic Zones*, Policy Research Working Paper 5447, The World Bank Poverty Reduction and Economic Management Network International Trade Department (2010)

1.1. Logistical Positioning

transformation to their host economies. Vastveit, however, also remarked that, despite this lack of economic impact and the increasing fiscal costs associated with their incentive packages, the number of zone programmes in Sub-Saharan Africa has continued to rise[5], as African governments remain hopeful regarding the policy tool.

The use of zones is on a growth trend, with projects proliferating in most countries across the continent, *suggesting that zones are set to remain a key African industrial policy tool over the coming years.*

As similarly noted by UNCTAD (2019), with infrastructure and institutional weaknesses widely recognized as hampering economic development in Africa, the creation of zones that allow governments to concentrate administrative resources and infrastructure in confined areas is often seen as a solution to the continent's structural shortcomings.[6] As it underscored, the use of zones is on a growth trend, with projects proliferating in most countries across the continent, suggesting that zones are set to remain a key African industrial policy tool over the coming years.[7]

The private SEZ consulting sector has also conducted interesting benchmarking work on aspects of this question, regarding for instance typical SEZ distance from port cargo terminals and cargo airports.

The literature on SEZs has identified the logistical positioning of zones, particularly in relation to cargo terminals, as a critical determinant of their success.

According to the seminal FIAS paper (2008) on SEZ lessons learned, cost savings in public expenditure through private zone development depend critically on where private zones are located, and whether they are subject to designation criteria. Most zone programmes reduce government outlays through zone designation criteria, whose main aim is to ensure that new zone projects are located close to existing public infrastructure.[8]

Farole (2011) stressed how location is a critical but often ignored determinant of zone success, with most countries using their zone programmes as instruments of regional development policy: an approach that has failed "with almost no exceptions". The World Bank Competitive Industries and Innovation Program (CIIP) came to same conclusion in its 2017 review of the institution's SEZ project portfolio, adding that the better the SEZ location analysis, the higher the probability of their success.[9]

[5]Lene Kristin Vastveit, Export Processing Zones in Sub-Saharan Africa – Kenya and Lesotho, University of Bergen (2013)
[6]UNCTAD, *World Investment Report (2019)*
[7]UNCTAD, *Handbook on Special Economic Zones in Africa: Towards Economic Diversification across the Continent (2021)*

[8]FIAS, *op. cit.*
[9]CIIP, *Special Economic Zones: An Operational Review of Their Impacts, World Bank Group (2017)*

In addition to academic research, the private SEZ consulting sector has also conducted interesting benchmarking work on aspects of this question, regarding for instance typical SEZ distance from port cargo terminals and cargo airports. A set of findings by Buro Happold bear particular interest in this respect.

As shown in the following unpublished Buro Happold bar charts ***(Figure 1, Figure 2)***, reviewing nearly 30 SEZs from around the world, their average distance from a seaport cargo terminal with a 5 million TEU capacity amounts to 18km, with nearly half of these SEZs located less than 5km from such ports, and the majority of this latter subgroup being within or adjacent to these ports.

Further, Buro Happold discovered that the average distance from the reviewed SEZs to airports with a freight throughput capacity of 9.7 million tonnes per annum is about 30km.

Figure 1: *Average distance of SEZs from a seaport cargo terminal*

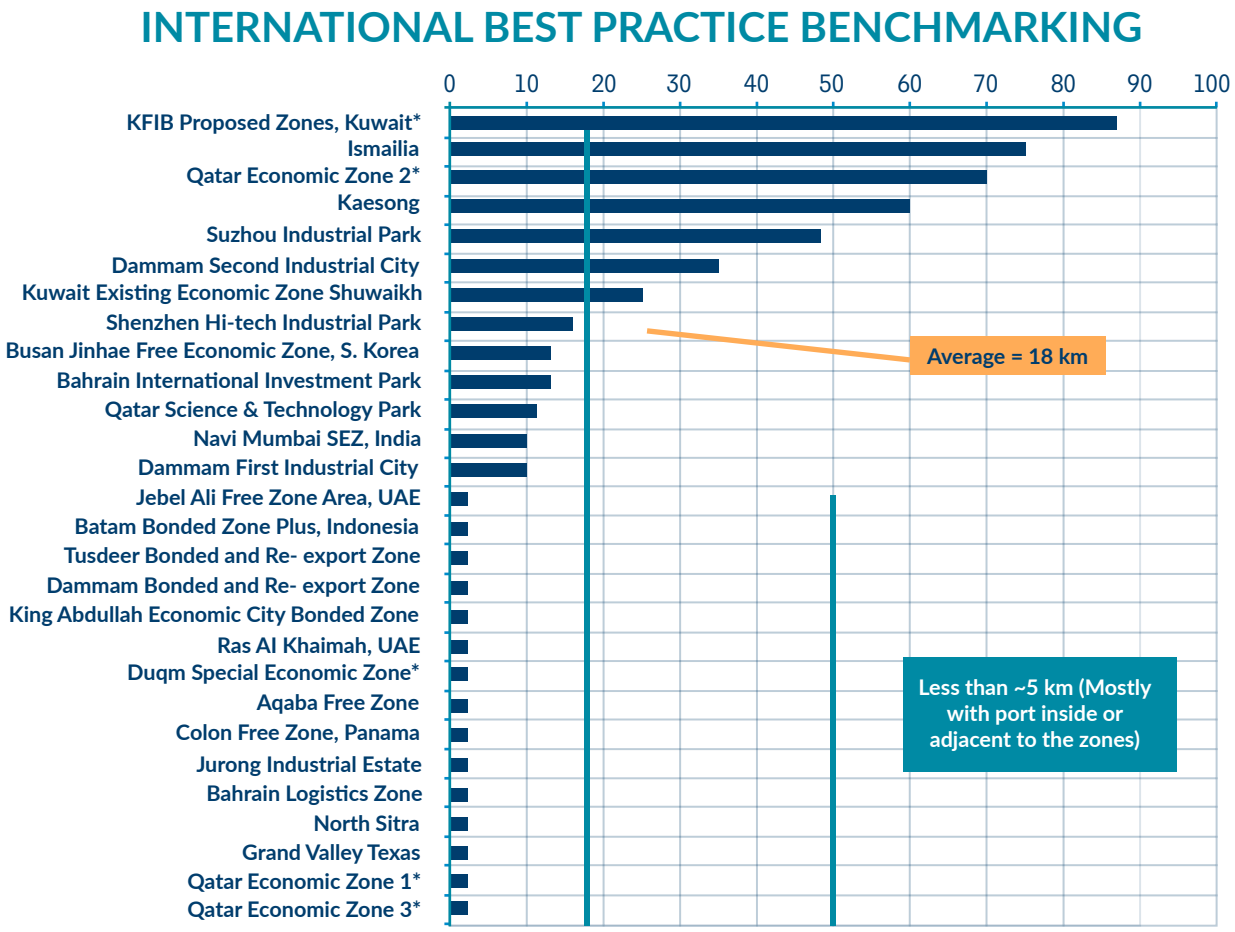


Figure 2: Average TEU of seaport cargo terminal close to SEZs

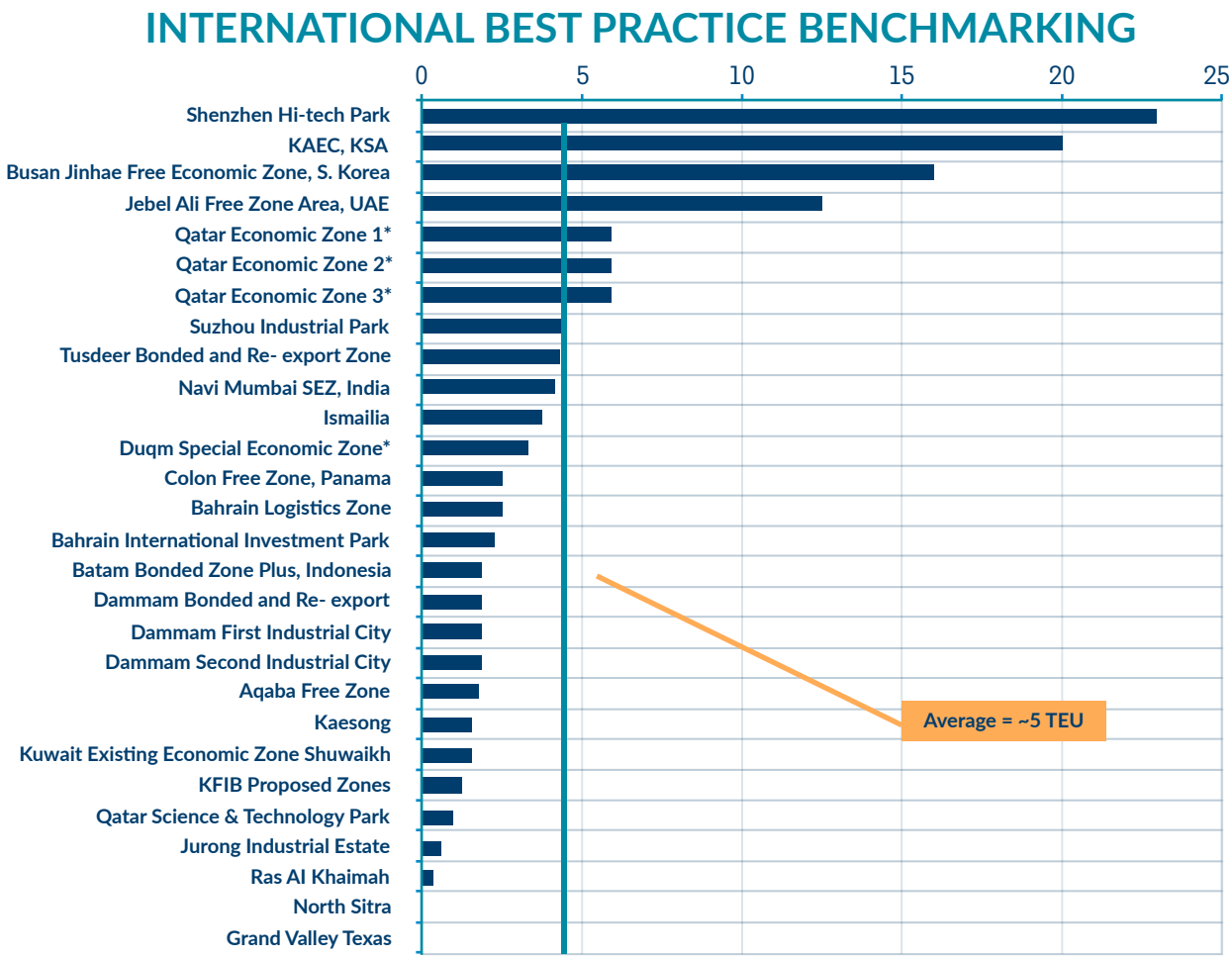


Figure 3: Distance of SEZs from airports (with freight throughput capacity of 9.7 mt pa)

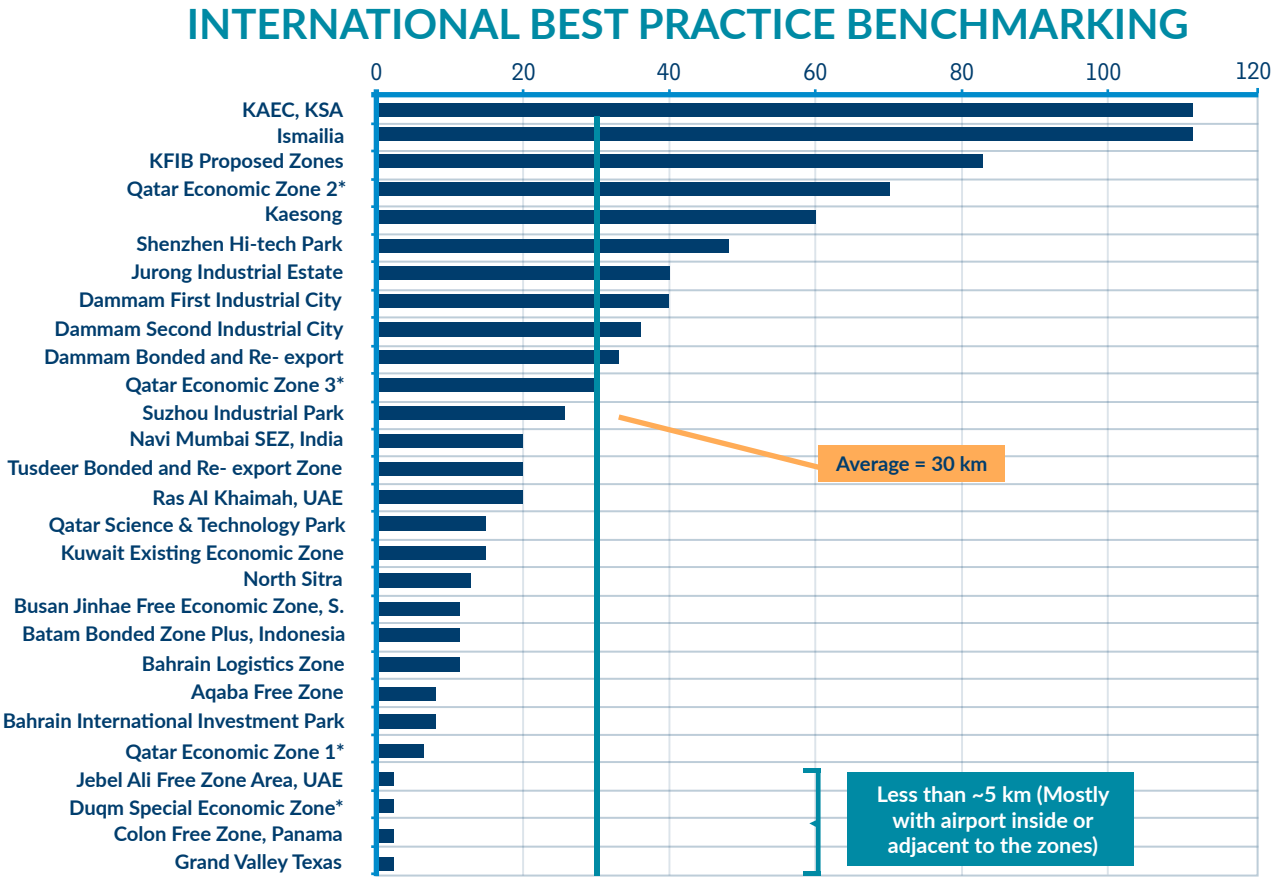
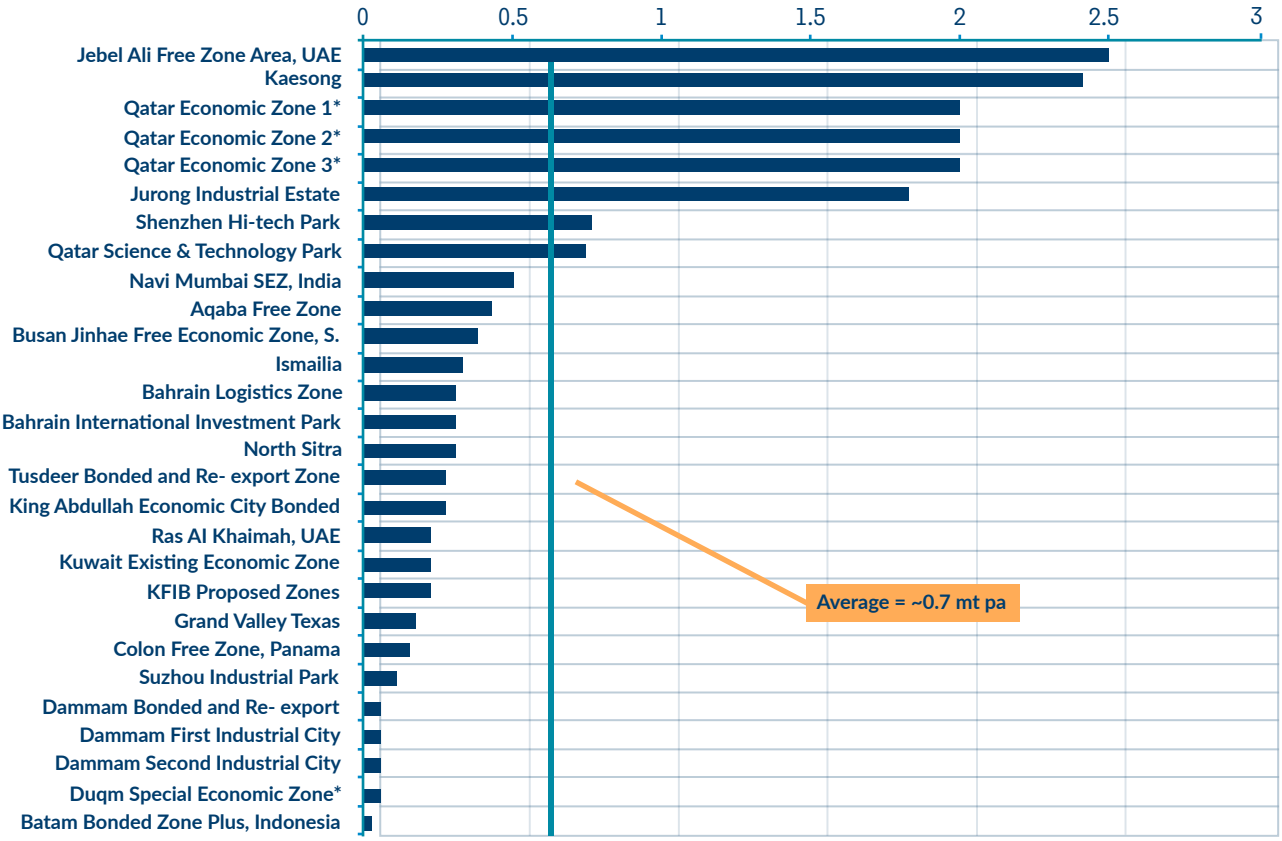


Figure 4: Average freight throughput capacity in mt pa of airports close to reviewed SEZs

INTERNATIONAL BEST PRACTICE BENCHMARKING



Similarly, Buro Happold found that the distance of the reviewed SEZs from airports with a freight throughput capacity of 9.7 million tonnes per annum was, on average, 30km ***(Figure 3, Figure 4).***

In contrast, UNCTAD & AEZO (2021), in a survey of 100 African SEZs, found that about a third of 31 respondents reported their zone as located less than 20km from the nearest port, while an equivalent number answered that the nearest port was more than 100km away. For one-third of the respondents, the distance to the nearest port varied between 20km and 100km. The median distance of SEZs from ports in Africa was thus found to be around 60km, over three times the international average.

In brief, according to available research, African SEZs appear to be at a disadvantage, due to their locations often resulting from failed regional development programmes. The local governments would thus need more rigor when designating SEZ locations to attain a higher probability of zone success, most notably by considering their proximity to key cargo terminals.

1.2. Scale

Nearly 40% of African SEZs are between 100ha and 500ha large, in line with other regions of the world.

*The key finding remains constant: **the larger the scale of the zone, the better the chance of cluster development and thus of success.***

The literature has so far struggled to both measure and characterize the scale of African zones in a consistent manner, but it is almost unanimous in its global view that larger scale zones tend to produce more success stories.

According to unpublished World Bank research underpinning the 2008 FIAS report on global SEZ lessons learned, the average SEZ size was found to be 1,152ha at the time; this figure varied considerably by region, from a low of 78.4ha in Sub-Saharan Africa to a high 2,451ha in the Middle-East and North Africa (MENA) region. On a continent-wide base, the average zone size was of 264ha. Some compelling points in the data emerged from the comparison between the Sub-Saharan African (SSA) and MENA models. The larger MENA SEZs tended to be publicly managed, given the extraordinary infrastructure costs involved in preparing and operating zones of this size. However, no doubt in part by virtue of their size, they were also able to attract more firms and investment than their SSA counterparts. This is not only true in absolute numbers, but also when accounting for scale. Nonetheless, each system appeared to work for its respective region, with Sub-Saharan Africa's small zones programmes accounting for an impressive 19.5% of African exports, and MENA's larger zones accounting for a roughly comparable 16.7% of MENA exports.

Zooming on SEZ scale, Vastveit (2013) remarked that the low investment and employment levels of many Sub-Saharan Africa zones seem to suggest that they are not large enough to generate the benefits of economic diversity, employment growth, or structural transformation. UNCTAD's 2019 World Investment Report likewise found that "larger SEZs have [...] been shown to perform better than smaller ones with less scope for cluster development".[10] In line with the 2017 SEZ portfolio review elaborated by the World Bank's CIIP, the World Bank's SEZ review also found that the average zone size in their database was 905ha and the median zone size 164ha, with the largest zones to be found in the East-Asia-Pacific and Sub-Saharan Africa regions – even though in the latter, only the Coega Industrial Development Zone in South Africa, the Ogun Guangdong Free Trade Zone in Nigeria, the Luanda-Bengo Special Economic Zone in Angola, and the Massawa Free Trade Zone in Eritrea were larger than 5,000ha.[11] However, according to the latest data available prior to the current report, provided by UNCTAD & AEZO (2021), nearly 40% of African SEZs are between 100ha and 500ha, in line with other regions of the world.

[10]UNCTAD, World Investment Report (2019), p. 192

[11]The Competitive Industries and Innovation Program (CIIP) has assembled a database that covers 553 special economic zones in 51 countries.

In Asia, for example, 38% of SEZs fall in the same bracket. Most of these mid-sized SEZs are evenly spread across the continent, including in Cameroon, Ethiopia, Ghana, Morocco, and Rwanda. In contrast, wide-area, integrated zones of 1,000ha or more, with residential areas and amenities, constitute less than 20% of total SEZs on the continent. Size is only one of the determinants that matter when it comes to SEZs. Farole (2011) cautioned that "a primary factor in the East Asian success story was the use of large-scale zones that linked zone-specific activity with wider trade gateways, sources of labor, and social infrastructure" while, in contrast, in many African zones development planning has been limited to standalone industrial parks.[12] Moreover, the diverging findings on the sheer size of SEZs presented in the paragraphs above demonstrate how sample size differences hinder comparing different studies, and add margins of uncertainty on their results. Farole's sample, for instance, comprised six African countries only; The CIIP's one was limited to countries where the World Bank had had an active SEZ support project, in contrast to the larger FIAS and UNCTAD datasets. The key finding, however, remains constant: the larger the scale of the zone, the better the chance of cluster development.

1.3. Governance & Ownership

As outlined in the following subsection of the conceptual background, zones in Africa have performed poorly regardless of their ownership structure. Thus, the key focus should move from who runs the zones to how they are run.

1.3.1. Ownership

In 2008, FIAS found 62% of zones in developing and transition countries to be developed and operated by the private sector. The key factor behind the rise of private zones was assumed to be that such facilities can generate a profit whilst reducing the burden on governments. FIAS further noted that private zones generally yield better economic results by offering better facilities and amenities, commanding higher prices from tenants, and attracting higher-end activity types. Due to locational, budgetary, and operational constraints, by contrast, public sector zones often have crowded, poorly designed, and inadequately maintained facilities; they are more expensive to build and less profitable. According to unpublished FIAS research underpinning the above-mentioned 2008 report, most countries in the world allow for private zone management, with Sub-Saharan Africa dominating, both in terms of absolute and relative figures.

[12] Farole, Special Economic Zones in Africa Comparing Performance and Learning from Global Experiences (2011), p. 209

In contrast, in the Middle East and North Africa, the public zone management model dominated, with the region being the global leader. As few as 8 Sub-Saharan African countries' regimes were found to be publicly managed, whereas 17 espoused a model based on private sector management, and 5 more allowed for both public and private management models. Africa, with its limited resources, thus has appeared to have been the most aggressive region worldwide in exploiting the private management model already in the 1980s. Private management regimes eventually imposed themselves as the globally dominant zone management model in the 1990s. Striking a slightly more cautious tone than FIAS, Farole (2011) found no clear evidence of private sector ownership and operation of zones to being inherently more successful globally. However, he still believed that, in the African context, there is reason to support private sector-led zones given both limited government capacity and the need to reduce public investment outlays and risk. Farole found 51% of African zones to be in private hands, with the overall evidence suggesting that privately operated zones offered a broader range of value-added services than the public ones, in a context where Africa's zones generally already provided fewer services than elsewhere.

He concluded that greater private sector participation and public-private coordination improve the quality of the African zone programmes' outcomes. This finding was echoed by UNIDO's 2020 study on the Global Eco-Industrial Parks (EIPs) Programme, which assessed 50 industrial parks in eight countries (including Egypt and South Africa) against the international framework for eco-industrial parks.

The study concluded that parks managed by PPPs or entirely in private hands scored higher than public ones in the EIP performance indicator, combining measures of management, environmental, social, and economic sustainability. All of that said, Woolfrey (2013) still soberingly observed that the African SEZs under-performed regardless of the ownership structure.[13] Coming back to the aforementioned conclusions, in its 2017 review of the institution's SEZ projects portfolio, the World Bank's CIIP found that African zones tend to have at least some public involvement in zone management. All the African zones they reviewed operated through either a public agency or a PPP structure with a state-owned corporation handling day-to-day affairs.

However, the CIIP also noticed, in line with Farole but contrary to FIAS, that differences amongst ownership and management schemes had limited influence on zone success. At all odds, the situation appears to have evolved somewhat in recent years, with more PPPs having been concluded since these earlier reviews. UNCTAD & AEZO (2011) found that, amongst 39 respondents, the management structure of more than half (21) of the surveyed SEZs was based on PPPs, followed by public (10) and private models (8). These numbers would seem to indicate that 53% of African SEZs are PPPs, 25% are publicly managed, and 20% are private.

According to UNCTAD (2021)'s findings, 43% of African SEZs, for which data is available, are publicly run, with the government directly in charge of handling every aspect of SEZs; almost as many SEZs (41% of the total) are privately run; while hybrid PPP models represent just 16% of zones. Once again, one cannot help but reflect on the different sample sizes of the various studies, leading to widely diverging conclusions.

[13]Sean Woolfrey, *Special economic zones and regional integration in Africa*, TRALAC Working Paper No. S13WP10/2013 (July 2013)

1.3.2. Other Aspects of Governance, including Management Standards

Despite the SEZ literature focus on ownership, as stressed by Farole (2011), in practice how the zone is run, i.e. its management objectives and capacity, matters more than who runs it. Indeed, while government-run zone programmes in Africa have been plagued by governance and capacity problems, there is no absolute guarantee that the private sector offers a better alternative. Emphasizing the need to improve the capacity, budget, and accountability of African SEZ regulatory authorities, as well as interagency coordination, Farole corroborated Watson's (2001) finding that African zones generally suffered from weak management capacity, which acts as a barrier to both zone competitiveness and their consequent ability to attract private sector investment.

Farole also found that African zones need to improve their approach to socio-environmental compliance. Though he noted that most zone programmes had improved significantly over the past decade in their ***de jure*** standards for workers' rights, he still found that a gap remained between their ***de jure*** and ***de facto*** environments.

While further acknowledging anecdotal evidence that standards were better within zones than outside of them, he cautioned that hard data was limited.[14]

In 2015, the AfDB similarly found gaps in African SEZ programme strategic planning, management, and monitoring and evaluation, noting that many of the agencies responsible for developing, promoting, and regulating these programmes lack resources, capacity, and an effective mandate.[15]

Finally, UNCTAD (2021) also critically characterized the situation in African SEZs as lacking the required robust environmental, social, and governance (ESG) standards needed to render SEZs more competitive and attractive to investors, with granular case studies suggesting that zones run without these considerations had a detrimental effect on labor conditions and on the environment.

In sum, while the literature provides limited statistical evidence on the question, case studies as well as anecdotal and qualitative reviews point to an absence of SEZ Authority oversight, planning, management capacity, and standards in African zones as key limiting factors on their impact, with ownership structures, in contrast, often having a negligible impact.

Farole concluded with the need to improve the capacity, budget, and accountability of African SEZ regulatory authorities, as well as interagency coordination, corroborating Watson's (2001) finding that African zones generally suffered from weak management capacity, which acts as a barrier to both zone competitiveness and their consequent ability to attract private sector investment.

[14]Farole further remarked that the closed and regulated nature of zones should have enabled authorities to collect more detailed and standardized annual data, with few African zones taking advantage of this opportunity in contrast to the non-African ones - pointing to another zones management problem.

[15]AfDB, *Special Economic Zones in Fragile Situations: A Useful Policy Tool?* (2015)

1.4. Infrastructure, Amenities and Services

Farole (2010) explained that SEZs "are designed to overcome serviced land and infrastructure constraints that may hinder investment in the national economy", notably by providing long-term leases, prebuilt factory shells, as well as reliable power, water, and telecommunications infrastructure, amongst other amenities.[16]

It is therefore important to bear in mind what previous literature has found on best practices in African SEZs' relative to utilities, on-site customs, administrative one-stops-shops, and other amenities and services.

[16]Farole, *Second Best? Investment Climate and Performance in Africa's Special Economic Zones (2010)*, p.9

1.4.1. Utilities

Regarding their utilities infrastructure, according to Farole (2010) "access to reliable, competitively-priced utilities was ranked the most important investment consideration by firms in African SEZs".[17] Zones have the potential to offer an improved operating environment to investors, by providing additional infrastructure (e.g. electricity substations, reservoirs, etc.) or through dedicated or priority utility services. However, the infrastructure's quality leaves much room for improvement relative to what is considered globally competitive. Indeed, most African SEZs were not found to ***substantially*** improve the investment environment. Only in Kenya and Tanzania did zone investors, for instance, report a shorter waiting time for an electricity connection than in the domestic market. In Senegal, Ghana, and Nigeria, in contrast, the experience of zone investors was actually worse on this metric, while in non-African zones waiting times are usually half or less than what they are outside them. Overall, Farole thus concluded that African zones generally remain plagued by the same problems – unstable electricity and lack of water – that hinder investment in the wider economy.

For most companies in SEZs, electricity is the most important utility, with both reliability and cost being critical. In 2011, Farole found that, on average, firms in African zones experienced 50% less downtime from electricity failures than exporters outside them, but that their reported average downtime (44 hours/-month) only reached average levels recorded outside SEZs globally. Non-African SEZs, in contrast, showed an average 92% reduction in average downtime. With the exception of Lesotho and Kenya, Africa's SEZs were not found to provide a globally competitive environment. Upfront investment in core infrastructure was found to be insufficient, with zones failing to ensure that the authorities controlling utilities services (e.g. electric utility companies, water authorities) met their supply obligations and to maintain equipment thereafter. While non-African zones tend to involve private developers in electricity provision, allowing them to purchase power from the grid to service zones, Farole found no such private participation in African zones. As stressed by the AfDB (2015) regarding Africa's SEZs, their "infrastructure offering is an essential component of success", and must be vastly superior to what exists outside, on par with international standards, and priced competitively.[18] Indeed, according to UNCTAD (2019), adequate infrastructure and facilities, as well as efficient services, are a better predictor of SEZ success than SEZ incentives, given that the very raison d'être for SEZs in lower-income countries such as those in Africa is often to ease infrastructure challenges concerning telecommunications, water, and waste management.

As stressed by the AfDB (2015) regarding Africa's SEZs, their "infrastructure offering is an essential component of success", and must be vastly superior to what exists outside, on par with international standards, and priced competitively.

[17] Farole, *Second Best? Investment Climate and Performance in Africa's Special Economic Zones (2010)*, p.24

[18] AfDB, *Special Economic Zones in Fragile Situations: A Useful Policy Tool? (2015)*, p. 37.

1.4.2. One-Stop Shops

*Most African zone programs have some sort of one-stop service **focused on helping investors obtain business licenses.***

***"African zone programmes must focus on improving strategic planning and implementation"** by expanding the capacity, budget, and accountability of zone regulatory authorities and other institutions that support zone programmes. (Farole, 2011)*

Farole (2010) explains that "economic zones normally aim to improve the overall ***administrative environment***, particularly with regard to the procedures required to register a business, acquire the licenses required to operate, obtain visas and work permits, and access key services like utilities and construction".[19] This is generally achieved by establishing 'single window' or 'one-stop shop' services, whereby a zone authority acts as a single point of contact to arrange the delivery of these administrative services, often through coordination with the relevant government agencies.

As subsequently further noted by Farole (2011), "African zone programmes must focus on improving strategic planning and implementation" by expanding the capacity, budget, and accountability of zone regulatory authorities and other institutions that support zone programmes.[20] Good laws in this respect were often found to be poorly applied, notably when it comes to administrative clearances for registration and operation, as well as in terms of authority monitoring and enforcement.

While most African zone programmes have some sort of one-stop service focused on helping investors obtain business licenses, their zone authorities have only been partially effective in delivering these services, with few having sufficient specialists.

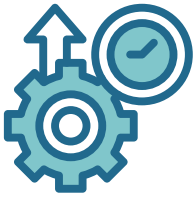
Farole thus concluded that, in Africa, private participation in SEZ governance was a more relevant criterion for impact than whether an SEZ had some sort of one-stop shop, since zone operators playing a bridging role between investors and the government are positioned to assume at least some of these functions.

According to UNCTAD (2019), SEZ facilitation of administrative procedures for investors through regulatory and administrative streamlining and one-stop shops is even more important than SEZ incentives. In UNCTAD's view, the primary reasons for unsuccessful SEZ programmes, other than insufficient infrastructure and services, are weak governance and complex procedures. Some of the key elements UNCTAD flagged for prioritization in terms of SEZ investment facilitation include investment approval processes, expatriate work permits, import and export licenses, and foreign exchange access.

"African zone programs must focus on improving strategic planning and implementation"

[19] Farole, *Second Best? Investment Climate and Performance in Africa's Special Economic Zones (2010)*, p.9

[20] Farole, *Special Economic Zones in Africa Comparing Performance and Learning from Global Experiences (2011)*, p. 259



In 2011, Farole found SEZ customs ***to reduce corruption and cross-institutional conflict through streamlined procedures.***

Onsite customs are widely recognized as ***offering a significant improvement in the investment climate and performance of SEZs.***

According to UNCTAD (2021), "approximately one third of SEZ policies include some sort of investment facilitation measure", often through a single window or one-stop shop facilitating business access to government services, like in Ethiopia, Morocco, Rwanda, and Senegal, among others, although with varying degrees of efficiency.[21]

1.4.3. On-site Customs

Around the world, as stated by Farole (2010), most economic zones offer investors a ***special customs environment,*** including efficient on-site customs administration, as well as access to imported inputs free of duties and bonds, with reduced customs clearance times being associated with firm-level productivity, export propensity, as well as FDI. These services often involve the stationing of customs officers inside or at the gate of the zone. In 2011, he found SEZ customs to reduce corruption and cross-institutional conflict through streamlined procedures. He furthermore found access to on-site customs to be significantly related to improved investment climate performance in SEZs, with ***customs operations identified as their single greatest source of competitive advantage***, and investors benefitting substantially from SEZs over duty-drawback or bonded warehouse schemes.

Such facilities are indeed widely recognized as offering a significant improvement in the investment climate and performance of SEZs.

African zones were however found by Farole (2010) to be plagued by the same heavily bureaucratic, inefficient, and corrupt customs that hinder the wider economy, the availability of a special customs regime not necessarily guaranteeing its effectiveness. For example, in Tanzania, many investors complained that, despite legally established zone clearance procedures, customs agents working at the port or airport were often unaware of them. Furthermore, many African zone programmes (including those of Tanzania and Kenya) suffer from serious port-related delays undermining the potential value of the zones' special customs administration.

Nevertheless, Farole still found that the best-performing zones in terms of clearance times also provided on-site customs services, while those that were rated poorly on this front (e.g. Ghana, Lesotho, and Tanzania) had long average clearance times.

Most economic zones offer investors a special customs environment, including efficient On-site customs administration, as well as access to imported inputs free of duties and bonds.

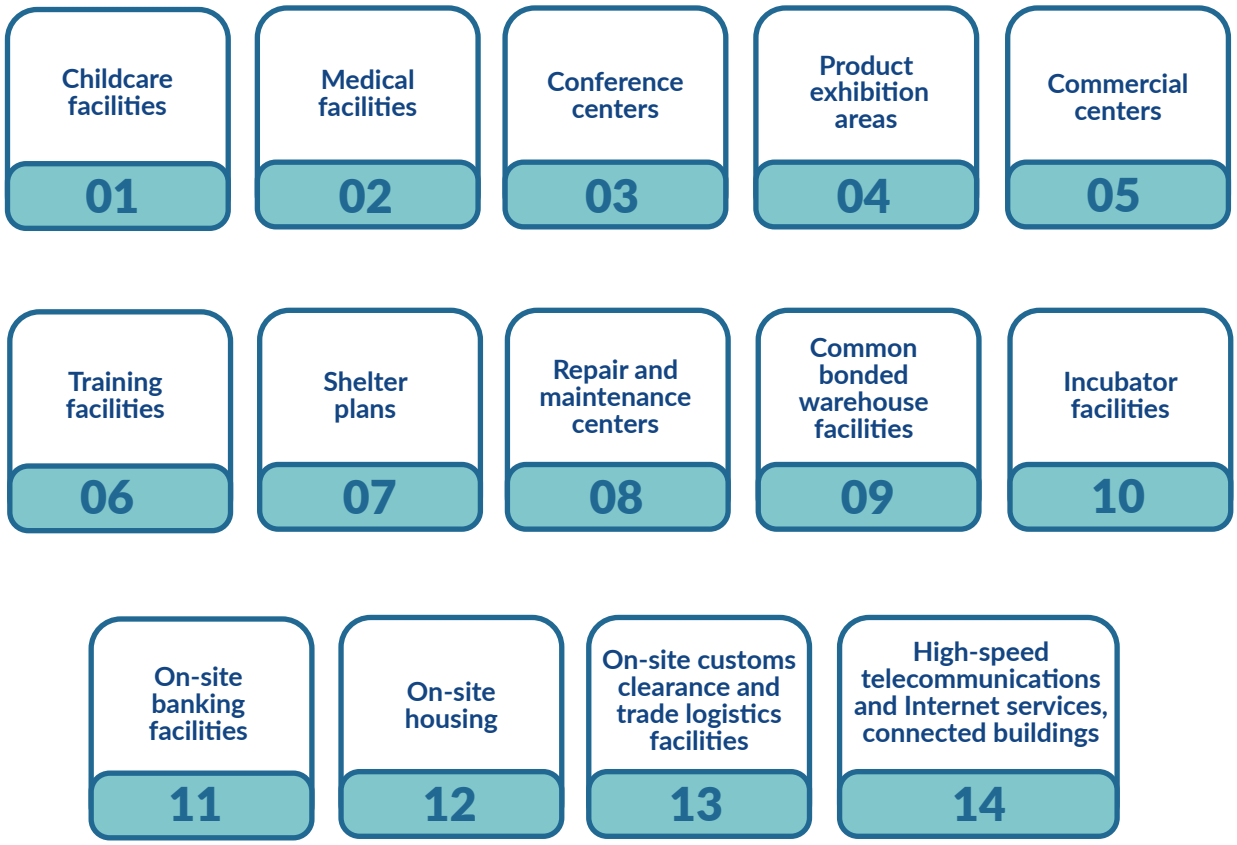
[21] UNCTAD, *Handbook on Special Economic Zones in Africa: Towards Economic Diversification across the continent (2021),* p.49.

Farole (2011) also found that respondents in Nigeria reported, on average, significantly faster clearance times than in their national economies, those in Senegal and Kenya marginally faster ones, whereas respondents from Ghana, Lesotho, and Tanzania reported clearance times worse than those of their national economies.

The most noticeable difference was between the African and non-African SEZs: the average reported clearance times in the latter were much shorter than those in the former, and the difference in performance compared with the wider economies was substantially smaller in Africa than that achieved outside of the continent. Across non-African SEZs, reported clearance times were, on average, more than five times faster than those outside the zones. Finally, Farole also found that not all African zones programmes offered on-site clearance.

1.4.4. Other Amenities and Services

FIAS (2008) listed a number of SEZ facilities and services that could further contribute to their success:



As similarly noted by the AfDB (2015), SEZs can present investors a more attractive investment offer in fragile situations, including through such facilities as improved physical and administrative security, financial intermediation services, improved access to secure serviced land and buildings, linkage programmes, and reliable electrical supply.

UNCTAD (2019), for its part, stressed that SEZs can offer dedicated human resources placement, workforce transportation, security, warehousing and logistics, catering and housing services, amongst others.

Having said that, outside of the data on on-site customs discussed above, previous research provides no specific data on the degree of presence of such amenities and services in African SEZs.

1.5. Investment Policy and SEZ Legislation

A literature review on African SEZs cannot avoid examining where African SEZs stand relative to their global peers in terms of the effectiveness of their investment policy and legislation in delivering overall performance-related programme outcomes.

*A clear, transparent, and **effective legal and regulatory framework is necessary** to codify a zones program strategy, as well as to establish the "rules of the game" for stakeholders.*

1.5.1. SEZ Legislation

According to FIAS (2008), some of the most common obstacles to success for SEZs include uncompetitive policies, reliance on tax holidays, rigid performance requirements, inadequate promotion practices, cumbersome procedures and controls, inadequate administrative structures, too many bodies involved in zone administration, and weak coordination between private developers and governments in infrastructure provision.

Farole (2010) found anecdotal evidence that African SEZ performance had generally been disappointing: amongst the underlying reasons was that most of them had failed to establish a high-quality investment environment. In particular, as further clarified by Farole & Akinci (2011), "the policy and legal framework in which they [African SEZs] operate, and their ***de jure*** implementation, are critical".[22]

*Farole (2011) reiterated that **SEZ laws and accompanying regulations are the critical foundation for any zone program.***

A clear, transparent, and effective legal and regulatory framework is necessary to codify a zones programme strategy, as well as to establish the "rules of the game" for stakeholders. However, ***de facto*** implementation was found to be of equal importance. In many African SEZs, the authority responsible for regulating the zones programme lacks either the mandate, the resources, or the capacity to carry out its functions, if not all three.[23]

Farole (2011) reiterated that SEZ laws and accompanying regulations are the critical foundation for any zone programme. While not necessarily sufficient to guarantee success, their absence almost inevitably leads to failure. The glass may be at least half-full though, because according to UNCTAD's (2021) findings, 37 of the 54 countries on the continent were found to have SEZ laws in place. When all of these findings are taken together, African zones could in sum still benefit from better policy, legal, and regulatory frameworks, conferring their authorities with greater institutional powers and resources to fulfil their mandates. Coupled with improved SEZ policies and streamlined regulatory environments, and going beyond simple tax incentives, this is therefore a key area of focus for bettering the business climate and investment appeal of African SEZs.

[22]Thomas Farole & Gokhan Akinci (Eds.), *Special Economic Zones: Progress, Emerging Challenges, and Future Directions*, World Bank (2011), p.11

[23]Farole & Akinci (2011)

1.6. Investment and Job Creation

African SEZs have faced several challenges trying to attract investment and create jobs.

Farole (2010) found that, although performance across zones is mixed, African zones programmes overall underperformed in terms of attracting investment, creating jobs, or generating any discernible structural impacts on their economies. Even in those African countries where SEZ programmes were successful in attracting investment, creating employment, and/or generating exports, there were legitimate concerns over either the quality of such investment and employment, its sustainability, or both. Furthermore, Farole (2011) found that, with the exception of Ghana, African zones showed low levels of investment, as well as limited job creation impacts. The AfDB (2015) similarly found that African zones exhibited low levels of both investment and employment creation. Zeng (2015) likewise noted that, in terms of investment and employment generation, African zones were, in general, falling behind their peers on other continents.[24]

Last but not least, Rodriguez-Pose et al. (2022) also concluded that African zones had performed poorly in terms of FDI, overall firms attracted, and employment generated due to a variety of reasons, including unclear strategies, a mismatch between their sectoral focus and their host country's comparative advantage, lack of infrastructure, lack of coordinated high-level political support, absence of a special business environment, and poor socio-environmental performance.

1.6.1. Investment

FIAS (2008) advanced that SEZs can play an important role in attracting FDI through world-class facilities and policies, which can offset certain aspects of an adverse national investment climate.

According to unpublished research associated with their report, by comparing zone investment with FDI levels, FIAS found that average annual SEZ investment represented 65% of FDI levels in the Asia-Pacific region, making it the leading destination of zone investment.[25] In the MENA region, on the other hand, SEZ investments were found to represent just 27% of the total FDI, which slightly rises to 35.3% in Sub-Saharan Africa.[26]

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[24]Douglas Zhihua Zeng, *Global Experiences with Special Economic Zones: Focus on China and Africa, Policy Research Working Paper 7240, World Bank Group (2015)*
[25]Within the region, China has the highest absolute and relative levels of zone investments, with a zone investment to FDI ratio of 82.54%.
[26]Mozambique (with 85.71%) appeared to lead the continent in SEZ investment at that time.

While this made it the third region of the world in terms of the importance of SEZ investment relative to FDI after Asia-Pacific and Eastern Europe/Central Asia, Africa nevertheless remained the least significant destination for SEZ investment in ***absolute*** terms.

MENA's average SEZ was found to attract 59 investments per hectare, while the same measurement for Sub-Saharan Africa's average zone returned a mere six investments per hectare. After adjusting for certain outliers[27], the unpublished research also found that, worldwide, SEZs tend to generate approximately 45 investments each. In MENA, the world's top region in this regard, SEZs were found to have generated an average of 131 investments per zone, with the regional lead in SEZ investment being Egypt. Sub-Saharan Africa, in contrast, was found to lag behind: its SEZs generated an average of 13 investments per zone. While a number of individual countries in Western Europe and the Western Hemisphere have produced worse results, those regions' programmes still fared better than Sub-Saharan Africa's on the whole. Even so, some brighter spots were highlighted in Africa at the time, namely Mauritius, Madagascar, and Mali.

Farole (2010) also found that, excluding single-factory zones, African SEZs had an average of 35 firms operating in each of them, resulting in limited financial and economic returns. Farole furthermore found that non-African zones tended to outperform African ones on measures of FDI stock and FDI per capita. Even so, African zone programmes show relatively high contributions to national FDI inflows, despite low absolute levels of investment – with the notable exception of Nigeria, whose zones programme had seemingly failed to attract significant investments by almost any measure. Ghanaian SEZs, for instance, were found to contribute to a spectacular 48% of national FDI, Kenya's to 20%, and Tanzania's to 18%. Therefore, Farole tentatively concluded that the relative failure of African zones programmes to attract investment was likely more attributable to a poor overall national investment environment than to the zones programmes as such.

Vastveit (2013) somewhat similarly concluded that the relatively low levels of investment in many Sub-Saharan African zones programmes were attributable to a poor investment climate, poor infrastructure, and high levels of corruption.

UNCTAD & AEZO (2021) found that "zone occupancy levels for respondents across the continent were relatively low", below 50% for more than half of them, with 16 SEZs reporting occupancy levels of less than 25%, and just 10 zones over 75%.[28] However, they also cautioned that this was no doubt in part due to the fact that a significant proportion of responding SEZs had been only recently established.

The findings presented above seem indeed to show that regions and countries with SEZs possessing a greater combination of characteristics such as large size, public or PPP-based ownership, and multi-use orientation generate higher levels of absolute investment, although not necessarily on a per hectare basis.

[27]China, Panama, the U.S. and Portugal.
[28]UNCTAD & AEZO, *Special Economic Zones & African continental Free Trade Agreement: Results from a continent-wide survey (2021)*, p.8.

According to UNCTAD (2021), "a considerable share of SEZs in Africa remain largely underdeveloped and underutilized".[29] Its detailed analysis found just 15% of zones operating at full capacity. It also found that, on average, African zones hosted 60 firms; but while only 6% of them hosted more than 200, over half had fewer than 50, bringing down significantly the median number of firms per SEZ.[30]

Once again, differences in sample size, specific measurement methodologies and questions, and whether or not North African countries should be included in the sample render comparison between some of these data challenging.

Nonetheless, some relevant conclusions may still be drawn from the literature. The findings presented above indeed seem to show that regions and countries with SEZs possessing a greater combination of characteristics such as large size, public or PPP-based ownership, and multi-use orientation generate higher levels of absolute investment, although not necessarily on a per hectare basis.

[29]UNCTAD, *Handbook on Special Economic Zones in Africa: Towards Economic Diversification across the continent (2021)*, p.26
[30]The SEZs hosting the greatest numbers of firms were in Egypt and Morocco. The Tanger Free Zone in Morocco, with its 750 firms, is one of the largest on the Continent. In Egypt, the Alexandria Free Zone was found to host 405 firms, with the Suez Free Zone and Nasr City Free Zone hosting 183 and 200 firms, respectively.

1.6.2. Employment

In 2006, zones in Africa employed more than a million workers, this amounted to 4% of worldwide zone employment.

Rodriguez-Pose et al. (2022), found that SEZs represent just 1-5% of total national industrial sector employment.

Regarding employment, according to the earlier referenced unpublished FIAS research leading up to its 2008 report, SEZs represent a mere 0.21% of total employment in the countries in which they are located. The region for which the share of SEZ employment was found to be the highest was Asia-Pacific, where zone workers accounted for 2.41% of the labor, while the share of zone employment was lowest in Central & Eastern Europe and Central Asia, where SEZ workers accounted for a mere 0.001% of the total labor force. The global average number of jobs created per zone amounted to 1.2. While overall SEZ employment figures were found to be low, there were nevertheless several individual countries where zones accounted for a substantial share of national employment. In Africa, these countries included Mauritius (24.13%), the Seychelles (12.45%), Liberia (10.11%), and Tunisia (8.13%), with Mauritius nearly matching the world leader UAE at 24.86%. It is interesting to note that these countries are often either islands or desert states: it can be surmised that, without the SEZs and the export opportunities they brought with them, employment prospects might have been less promising in such locales. Overall, the estimated contribution of SEZs to Sub-Saharan African employment was of just under 153,000 jobs, with North African zones contributing a further 415,000, for a total of roughly 563,000 jobs across the continent.

Farole (2010) similarly found that, with the significant exception of Lesotho, the absolute and relative contributions of SEZ programmes to employment in Africa are limited. Total jobs supported in the African zones programmes he studied, taken all together on a continent with a population of over a billion people[31], were equivalent to the employment created in the Honduran or Dominican programmes alone, each of those countries having populations of less than 10 million, i.e. 1% of Africa's.

When compared more specifically with countries like Kenya or Ghana, the Honduran and Dominican zones still generated more than four times as much employment, and 10 – 15 times the employment on a per capita basis. Programmes like Nigeria's were, even more troublingly, found to have created virtually no manufacturing employment. Moreover, Farole found zones employment as a percentage of national industrial employment to be of less than 2.5% in Tanzania, 3.5% in Ghana, and 15% in Kenya and Nigeria, although they skyrocketed to 80% in Lesotho.

Finally, and rather worryingly, Farole still found employment in Lesotho's export garment sector down 15% from its 2004 peak and,

[31] populationpyramid/africa/2010

in Kenya's EPZ program, down more than 20% from its 2003 peak. Even in Ghana, where zone exports had risen rapidly, job growth had been weak (at only 4.5%) since 2004, with its 2008 free zone employment at virtually the same levels as in 2005.

Farole (2011), however, found data available from the ILO database showing that, as of 2006, zones in Africa employed more than a million workers: this amounted to 4% of worldwide zone employment excluding China, whose contribution would single-handedly make this share drop to 1.6%. However, half of this total employment in the ILO database came from a single country, South Africa, while the absolute and relative contributions of the continent's other SEZ programmes to employment were limited (again, with the significant exception of Lesotho).

In this regard, Vastveit (2013) also found that, within zones in Africa, the share of total employment was on average low and that levels had begun to stagnate, despite Kenya's and Lesotho's relatively successful results in attracting labor-intensive industries (like textiles and apparel) when compared to Ghana, Zimbabwe, and Gabon.

Much like earlier World Bank research, UNCTAD's 2019 ***World Investment Report*** found that SEZs can play a major role in employment creation and that, in some national SEZ programmes, job creation has at least slightly outpaced employment growth in the broader economy. Employment in Tunisia's SEZs was, for its part, found to have grown from 8% of the workforce in 2008 to 8.7% in 2019. Ethiopian SEZs were furthermore found to have been able to generate nearly 50,000 jobs in just over three years, while Kenyan zones were estimated to have created nearly 60,000.

UNCTAD & AEZO (2021) calculated that half of African zones hosted between 1,000 and 5,000 permanent employees, but also that their contributions to national employment were marginal, except in small countries located along major trade routes (e.g. Djibouti) that successfully deployed SEZs as a main source of domestic employment.

Finally, the most recent paper reviewed on the subject, Rodriguez-Pose et al. (2022), similarly found that SEZs represent a negligible fraction of overall African employment, accounting for just 1 – 5% of total national industrial sector employment.

In Africa, these countries included Mauritius (24.13%), the Seychelles (12.45%), Liberia (10.11%), and Tunisia (8.13%), with Mauritius nearly matching the world leader UAE at 24.86%. It is interesting to note that these countries are often either islands or desert states.

1.6.2.1. Female Employment

In terms of gender-disaggregation of employment impacts, FIAS (2008) found that female workers accounted for 60–70% of the zones' workforce worldwide, a share found to be decreasing as economic activity diversified away from assembly operations.

In African SEZs, according to Farole (2011), the relative female share of the workforce is larger than in the non-agricultural domestic economy, being at least 50% higher than outside the zones for most countries, with the notable exceptions of Ghana and Nigeria.

Farole & Akinci (2011) confirmed SEZs to be highly female-intensive in general. While in North African countries, such as Morocco, the female share of employment was relatively low due to sociocultural norms, SEZs in Kenya, Lesotho, and Tanzania were instead female dominated, with a median share of female employment of 60%. Ghana and Nigeria were the only two countries in the World Bank sample for which the female share of employment in SEZs was lower than that in non-agricultural employment as a whole. The predominant low-paying and low-value-added SEZ exports of textiles, garments, electrical and electronic goods were held to explain their female intensity: in Madagascar, for instance, 64% of SEZ firms were in the textiles and clothing industry and they engaged a workforce that was 71% female. More general evidence came from the distribution of women's employment across six countries in Africa, which showed a clear pattern with a starkly reduced share of employment in countries focusing on chemical, wood, and metal products.

Most interestingly, UNCTAD & AEZO (2021) found in their survey that only half (or 21) of the surveyed zones reported any female employment, in percentages varying between 6% and 50%. Over two-thirds of these reported that women represented 20-50% of the employees; four placed their share at less than 20%, while just two reported a female employment greater than 50%. Differences in industry focus of the responding zones in Africa – in particular, higher shares of resource-based and agro-processing activity – were theorized to explain these low numbers.

The variance in the data is somewhat problematic, as the results generate an average of anywhere between 15% and 35% female employment – although, in all cases, low if compared to the world standards of nearly 70%.[32] African zones may therefore perform poorly relative to global peers in terms of female job creation.

[32]For the period of 2000–2003, the average female global share of employment in SEZs was of 69% (Farole & Akinci, 2011).

1.7. Sectoral Focus

Looking deeper into the sectoral focus of African Zones, FIAS (2008) found that, despite diversification efforts, most zone enterprises worldwide were engaged in labor-intensive, assembly-oriented activities, such as apparel, textiles, and electrical and electronic goods: as of 1999, such activities accounted for more than 80% of zone output (p. 25). They similarly found the dominant industries in African zones to be those of apparel/textiles and food processing, with ancillary logistics and export services also highly represented and the exception of South Africa, whose diverse investments included automotive assembly, metalworking, and other capital-intensive operations. Regarding North Africa, FIAS found Tunisia's SEZ programme to host investment in electrical industries, apparel and textiles, leather, mining, services, and tourism. Morocco's shared some of these sectors, but also boasted agriculture; Algeria's programme included fisheries, Egypt's petrochemicals. In Sub-Saharan Africa, FIAS found that most zones hosted food processing, but that Senegal's also hosted call centers and pharmaceuticals, Togo's manufacturing of wigs and metal products, Nigeria's wood processing and oil and gas activity, Namibia's automotive parts, Ghana's printing, and Mozambique's aluminium smelting. SEZs in Mauritius, Kenya, Malawi, the Seychelles, South Africa, Zimbabwe, and Madagascar hosted investment in similar sectors.

Farole (2010) similarly found the principal sectors of investment in African SEZs to be food & beverages, and garments & textiles.

He further noted that while there was virtually no agri-food activity in non-African zones, all the African SEZ programmes showed at least some activity in this sector, given the region's comparative advantage. Moreover, he observed that, while Kenya and Tanzania presented patterns of sectoral adjustment over time, Kenyan manufacturing appeared to have stagnated in the years following the launch of the EPZ programme.

Farole (2011) confirmed that African zones leaned toward natural-resource-based sectors, whether or not they were targeting these sectors strategically. He observed, for example, that a quarter of all African firms surveyed were involved in agro-processing, compared to less than 2% of firms in non-African zones.

Up to that point in time, too few African zones programmes had, however, effectively replicated the success of Mauritius' EPZs, which had led to the country diversifying away from sugar exports towards the clothing and services sectors, reducing its resource curse/dependence and economic fragility. Consistent adverse findings in this respect were insufficiently taken note of in the broader literature and public policy spaces. As a matter of fact, the AfDB (2015), for instance, continued to speak of potential SEZ impacts as being able to provide an avenue for the gradual emergence of a services and export-oriented manufacturing sector.

The dominant industries in African zones to be those of apparel/textiles and food processing, with ancillary logistics and export services also highly represented and the exception of South Africa, whose diverse investments included automotive assembly, metalworking, and other capital-intensive operations. Regarding North Africa, FIAS found Tunisia's SEZ programme to host investment in electrical industries, apparel and textiles, leather, mining, services, and tourism.

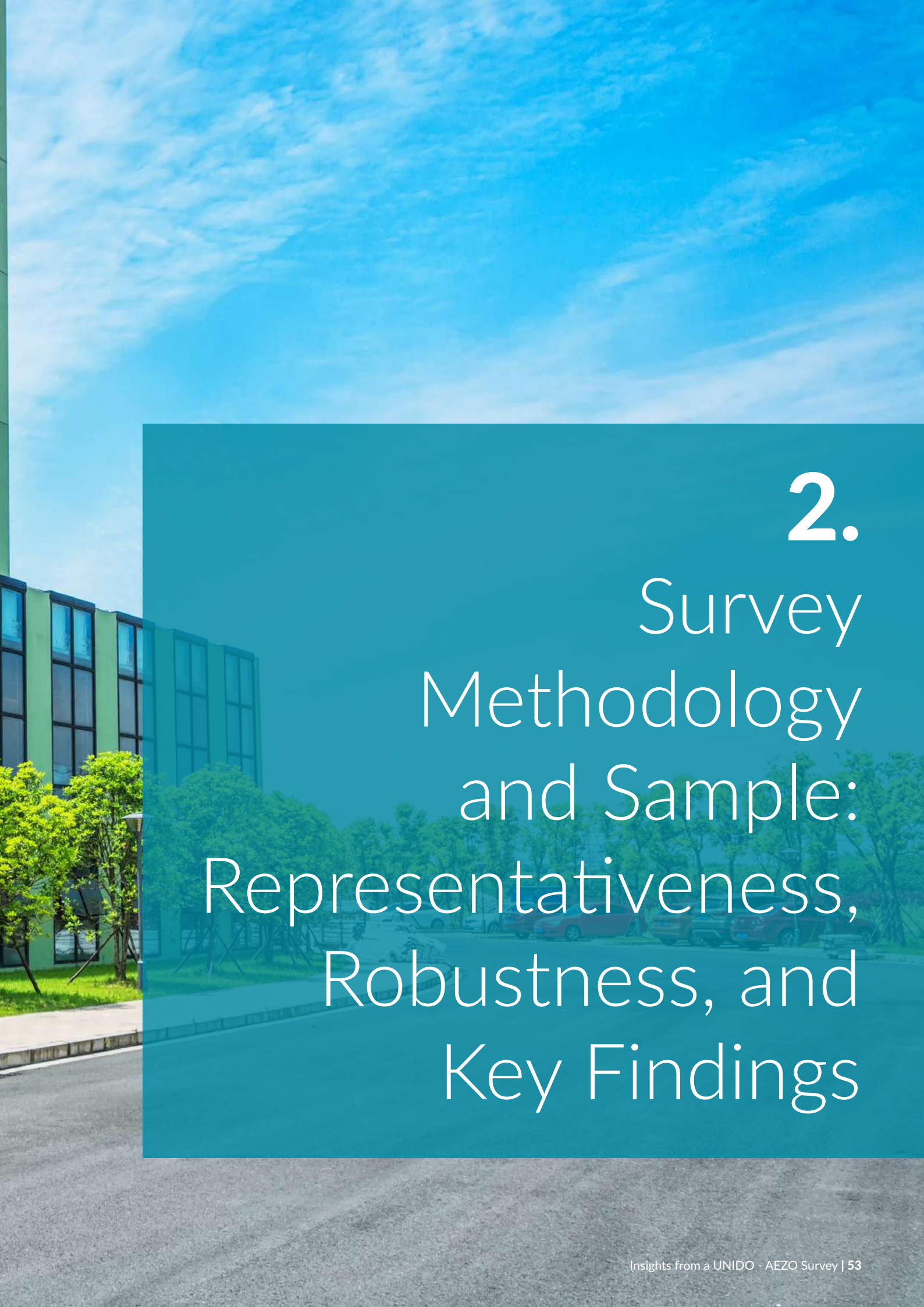
Similarly, Vastveit (2013) flagged Mauritius' use of zones to transition to exporting manufactures, such as apparel products, as well as to tourism and financial services. It also noted the case of Madagascar, which migrated from exporting mainly agricultural products in the 1990s to an exports profile comprising 50% of manufactured products by 2005, mainly produced in the country's zones – with about 90% of the zone production in 2002 being made up of textile and apparel products exported to the US and European markets.

More recently and insightfully, however, UNCTAD (2019) noted specific countries effectively targeting diverse sectors and higher value addition through their SEZ programmes. They observed, for example, that Morocco had oriented its zones to high-tech activities and the automotive industry, that Rwanda's and Senegal's programmes were now displaying a broad range of value-add activities, that South Africa had seen the emergence of the successful agro-industrial Dube AgriZone, and that Nigeria (where at least 10 SEZs, are under construction or have been announced which are intended to promote oil and gas processing), with oil refining and downstream processing-linked SEZs was diversifying its export profiles skewed toward unprocessed resources.

UNCTAD & AEZO (2021), furthermore, found in an instructive survey of African SEZs that, while the agro-food sector accounted for the highest share of exports, with 40% of respondents considering it one of the three most important exports, it was followed by resource-based light manufacturing, and that other important export industries now included automotive, construction materials, and textiles and apparel. Compared to the overall export profile in Africa, the continent's SEZ exports thus appear to be more concentrated on at least some manufactures, and less on unrefined mineral products, which accounted for 33% of intra-African exports and 50% of total exports from Africa to the rest of the world during 2014 – 2016.

Overall, according to UNCTAD's (2021) findings, a distinctive feature of SEZs is, however, their lack of sectoral specialization. Indeed, 89% of African SEZs are multi-activity in nature, with only a few examples of specialized advanced manufacturing zones, such as Morocco's Tanger Automotive City (which boasts an ecosystem of more than 150 tier 1, 2, and 3 operators from the Automotive sector), Casablanca Midparc Free Zone (focused on aeronautics), and Rabat and Oujda Technopoli (targeting technology-intensive sectors). It also noted that just 1% of African SEZs might be properly classified as logistics hubs, i.e. providing commercial, warehousing, and logistics services, and located close to seaports and airports for transhipping and re-export: the few real examples include the Saint-Louis Freeport in Mauritius, the Luba Freeport in Equatorial Guinea, and Tanger Med's logistics zone, Medhub, in Morocco. Corroborating these findings, Rodriguez-Pose et al. (2022) confirmed that zones in Cameroon, Ghana, and Kenya encompassed a large variety of activities, although some sectors were admittedly more represented than others, with food processing and natural resource-intensive industries being the most common.

In sum, African zones tend toward natural-resource-based sectors and would benefit from further expansion into both value-added manufacturing sectors and service sectors like Information and Communications Technology (ICT) and tourism.



2. Survey Methodology and Sample: Representativeness, Robustness, and Key Findings

2. Survey Methodology and Sample: Representativeness, Robustness, and Key Findings

This section outlines the methodology used to analyze the results of the survey underpinning this paper, which was carried out during the third quarter of 2022 as a joint effort between UNIDO and AEZO. Its primary objective was to collect data on SEZs in Africa, establishing a foundation for the analysis presented in this report, while also promoting awareness about SEZs through their voluntary participation and provision of profile information.

The methodology employed in this study included, first of all, a review of the existing literature on SEZs, aimed to provide context and highlight established knowledge pertaining to SEZs in Africa. Such review involved conducting a search through journals, reports, and other relevant sources to gather information about SEZs in Africa: this work became the foundation for creating a survey questionnaire and identifying research questions for this study.

The survey questionnaire was then carefully designed to collect data on SEZs, focusing on their unique characteristics, emerging trends and challenges. The UNIDO and AEZO teams developed the questionnaire based on insights gained from the literature review and in collaboration with experts in the field of SEZs. It consisted of 46 questions in total, both close-ended, for data analysis, and open-ended, to encourage respondents to provide detailed insights and perspectives.

The target population for this survey were SEZs located in Africa. To create the sampling frame, UNIDO utilized existing databases, reports, and information provided by AEZO.

UNIDO and AEZO have collaboratively compiled a comprehensive inventory of SEZs across Africa, consisting of 307 entities. Among these, 218 were designated as active or ongoing project. This dataset of 307 SEZs, regardless of their operational status, served as the primary universe for analysis, with a specific focus on the 218 active SEZs.

Efforts to establish contact with these SEZs constituted a primary challenge. The team diligently attempted telephone outreach and updated email contacts wherever possible. This endeavour resulted in the augmentation of contact details from 118 to 212. After removing duplicates (representing multiple SEZs within the same country), the team was left with 103 unique contacts. Consequently, out of these 103 contacts, the team was able to successfully obtain responses from 63 SEZs.

The direct ratio of contacts to responses cannot be conclusively determined, as some contacts provided multiple responses in certain cases. Additionally, while a focal point may represent multiple SEZs, the Survey team often received only one response from the entity. This intricacy underscores the complexity of the data collection process.

To collect the data, the team sent out survey questionnaires to the identified SEZs via email. Along with the questionnaire, a cover letter explaining the purpose of the survey and ensuring confidentiality and anonymity was included. The team also sent follow-up reminders to those SEZ who did not respond with the aim to maximize Survey response rate.

The data collection period lasted two months, from September to November 2022, before compiling all the data for analysis.

A total of 63 SEZs were included in the survey, out of which 47 were actively operating. These SEZs were spread across 26 countries in Africa. However, it is worth noting that the geographical distribution of the responses was biased towards West and East Africa. Nigeria and Ethiopia accounted for 42.2% of the responses, while Southern Africa was underrepresented. Although efforts were made to include SEZs from across the continent, it should be acknowledged that the report's findings are limited by this skew.

To analyze the survey data, the UNIDO survey team utilized both qualitative and quantitative methods. Descriptive statistics were applied to analyze close-ended questions in order to identify patterns and insights. To present these findings clearly and concisely, graphs and charts were used as representations. Additionally, a thematic analysis was conducted on open-ended survey responses and comments to extract insights that complemented the quantitative data analysis.

To ensure the accuracy and relevance of the findings, a review process was carried out by experts in the field of SEZs. The survey results were shared with the experts, who in turn provided their feedback and suggestions to improve the work. Their inputs played a role in refining the content of this report and ensuring the validity of the analysis.

In summary, the study employed methods including literature review, survey design, sampling, data collection, data analysis, and expert review. The survey provided an overview of SEZs in Africa, gathering data from 63 SEZs across 26 countries. While the survey results retain a certain geographical bias determined by the concentration of responses received from specific countries, response concentration reflects nonetheless an important degree of consistency between the "orders of magnitude" of actual SEZ presence in the various sub-regions of Africa, which reinforces the survey results robustness.

UNIDO's comprehensive SEZ survey has provided valuable insights and up-to-date information about various SEZs across the African continent. While certain data from the survey is confidential, it was decided to integrate the findings pertaining to publicly available information into the **industrial parks section of UNIDO's Invest in ACP platform.**

The Invest in ACP platform is a valuable part of UNIDO's **ACP Business Friendly Programme**, aimed at fostering investment and economic growth in ACP countries. It serves as a vital resource for investors by offering detailed and comprehensive information on 112 industrial parks, more than half of which are located in African countries. The platform provides essential data such as the location of industrial parks, ownership and management details, financial and tax incentives available to investors, critical information on infrastructure and other relevant aspects that are crucial for informed investment decisions.

By making this information accessible, the platform enhances transparency and facilitates better decision-making for potential investors. It underscores UNIDO's commitment to promoting industrial development and economic cooperation within ACP countries. Through this initiative, UNIDO aims to attract more investment, stimulate economic growth, and contribute to the sustainable development of SEZs and industrial parks across these regions.

2.1. Numbers and Location

The survey collected responses from ***63 SEZs*** around the African continent, 47 of which are in operation. ***SEZ survey respondents hail from 26 countries,*** 21 of which have fully operational zones.

Although efforts were made to ensure representativeness, it must be underscored from the outset that, due to a response bias, this survey sample is heavily skewed, in terms of geography, towards West Africa, with significant East Africa results, but perhaps unrepresentative of the rest of the African continent (which, together, accounts for less than a quarter of all responses: see ***Figure 5***).

In a similar vein, it bears note that, in a continent of 54 countries, over a quarter of all survey responses (26.6%) come from Nigeria alone, and nearly a sixth (15.6%) from Ethiopia (whose share rises to 21.3% if one counts only operational SEZs); together, these two countries therefore account for 42.2% of responses, heavily influencing survey findings.

In contrast, the Southern African region as a whole (including its numerous SEZs and vibrant SEZ programmes in South Africa, Madagascar, Botswana, and Mauritius) accounts for just 7.8% of all responses: two were captured from operational zones in South Africa, three from Mauritius, two from Madagascar, and none from Botswana and Namibia.

Responses, overall, cover around half of the countries on the continent, whereas a number of countries with established SEZ programmes (like Egypt, the Democratic Republic of Congo, Kenya, Tanzania, Botswana, Sierra Leone, Djibouti, Côte d'Ivoire, and Togo) are not accounted for in the survey findings (***Figure 6***). Wherever possible, it was attempted to correct for this shortcoming through anecdotal remarks drawn from the UNIDO experience in the SEZ field.

Figure 5: *Location of park/zone by region in Africa*

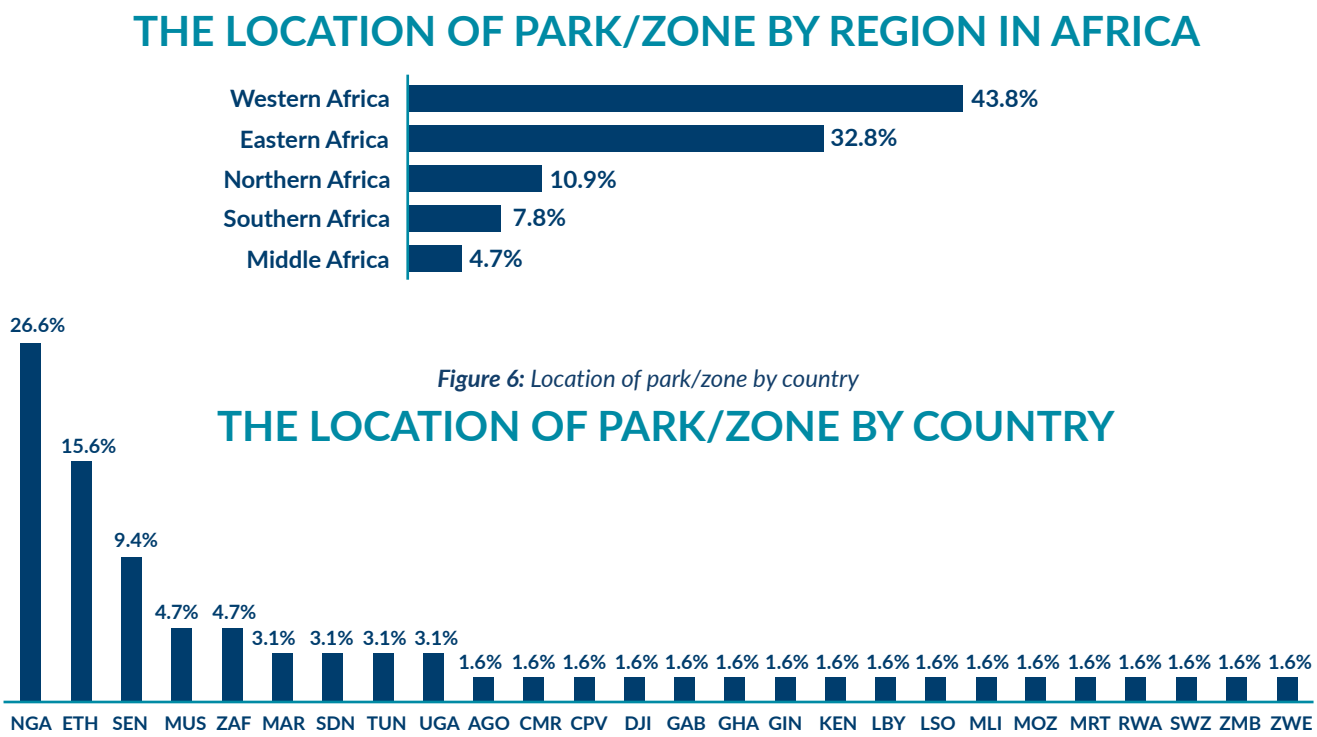
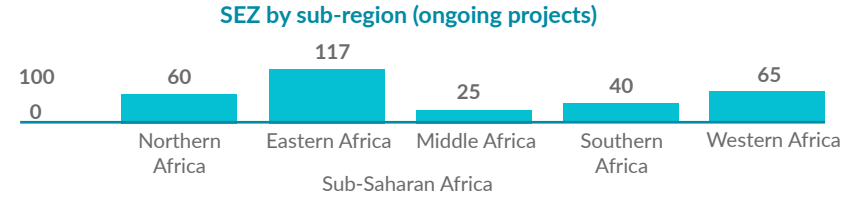


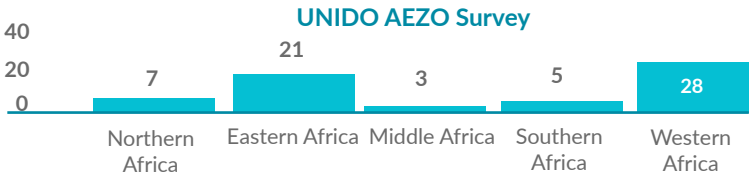
Figure 6: *Location of park/zone by country*

*There is some consistency between the "orders of magnitude" of actual SEZ presence in the various sub-regions of Africa (**Figure 7**), based on previous surveys, and the survey's collected results, which reinforces its results' usefulness.*

***Figure 7:** SEZ Projects*

307
Ongoing projects





As independently verified by Farole (2010), nearly 30 countries in Africa at the time (corresponding to 60% of the continent's countries) have SEZ programmes, with more than 80% of them having started within just the previous 20 years.

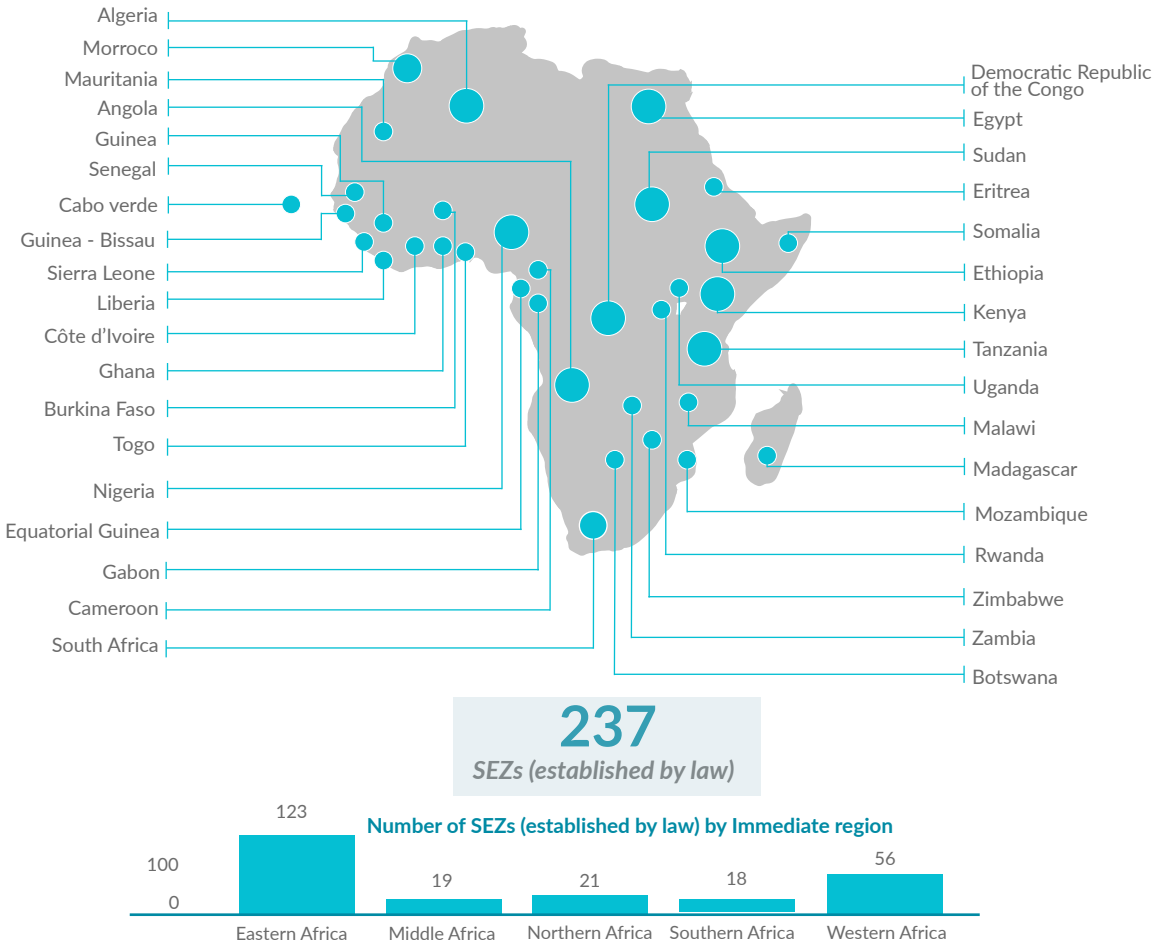
Rodriguez-Pose et al. (2022), for their part, found that 38 African countries had at least one SEZ, whilst others had plans to establish them. The UNIDO-AEZO survey collected responses from a roughly similar 26 countries, which would therefore appear to represent nearly 70% of African countries with SEZs.

Furthermore, as found by UNCTAD in 2019 (***Figure 8***), East Africa is the sub-region of the continent with the highest number of zones (51.9%), followed by West Africa (23.6%). Thus, UNCTAD also found comparatively few zones in Northern (8.9%), Middle (8%), and Southern Africa (7.6%).

According to UNCTAD's (2021) findings, the highest numbers of SEZs can be found in Kenya, Nigeria, Ethiopia, and Egypt, with East Africa being the region where most SEZs are located. Overall, UNCTAD found some 237 SEZs in Africa, constituting about 4% of the global tally. That said, UNCTAD also estimated that the number of fully operational SEZs in Africa is only about half of that amount, given that at least 56 zones were still found to be under construction and others at an early stage of development. Finally, and most recently, Rodriguez-Pose et al. (2022) found that the number of SEZs on the continent expanded from a mere 20 in 1990 to 237 in 2020. Although they found Africa to be the continent with the highest share of countries without SEZs (16 in total), the pace of SEZ development "gathered breakneck speed" in the 2010s, when 40% of all African SEZ programmes were set up. Moreover, they confirmed the African subregion hosting the most zones to be East Africa (with 50% of the total), followed by West Africa (24%) and North Africa (10%).

The African countries with the highest concentration of SEZs were Kenya (61 SEZs), Nigeria (38), Ethiopia (18), and Egypt (10). ***Thus, in terms of both subregional ranking and orders of magnitude of SEZ presence in Africa, UNIDO's current findings corroborate previous research findings.***

Figure 8: *Number of SEZs (UNCTAD, 2019)*



The average African SEZ surveyed had been designated and come into operation an approximate 14 years prior to the survey, which is to say around 2008, in a time of global financial crisis, and has been part of the continent's economic fabric and evolution only since that period.

This is of some interest and relevance in several respects: for one, it tends to show (although dampened through the sampling error's exclusion of most zones from such programmes as Kenya's, Tanzania's, Uganda's, and Djibouti's) that ***most current African SEZs are relatively newly established,*** rather than the product of the two first successive free zone and export processing zone waves of the late 1940s through early 1990s, notably in the Americas, Europe, and in Asia-Pacific.

14.1 Years *Avg. experience of respondents*

This finding, to some degree, confirms previous research conclusions, notably including the Farole (2010) and UNCTAD (2021) findings, that the vast majority of African SEZs had been established no earlier than 1990.

Instead, African SEZs seem to form part of what the literature sometimes refers to as "the third wave" of SEZs, a global trend that began in the mid-1990s in parallel with the establishment of the WTO and the opening of global trade.

This finding, combined with the fact that these African SEZs continue to be in operation to date, tends to counter the idea that countries establish SEZs for the sole economic policy objective to secure pre-WTO "first-mover advantage", through (then legal) export subsidy strategies.

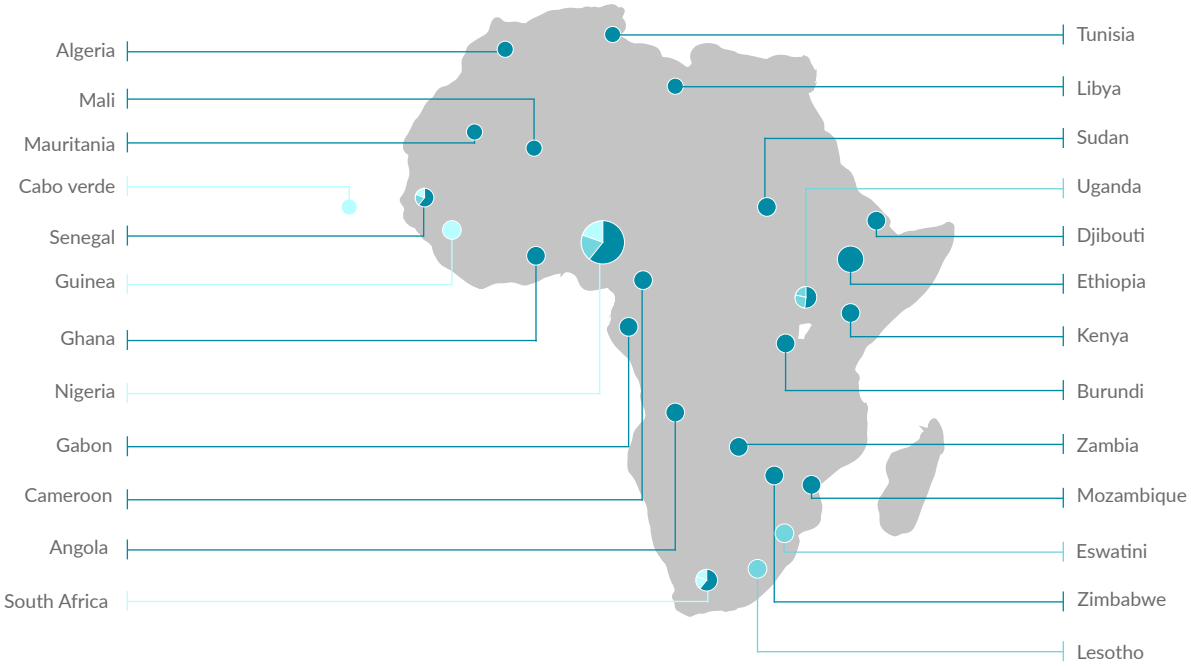
However, it must also be cautioned that most African countries continued to benefit from least developed country (LDC) or landlocked developing country (LLDC) "special and differential" status with regards the possibility of permeating export subsidies until the phasing out of such programmes occurring during the first decade of the 21st century.

Almost three quarters of the responses (to be precise 47, or 74.6% of the total) emanate from "operational" SEZs, rather than zones in the planning or construction stages (Figure 9). This helps guarantee that the survey ***findings are neither "speculative musings" nor the "wishful thinking" of zone programme personnel, but are instead based on actual SEZ experience*** around the continent. Only very few of the surveyed zones in Nigeria, Zimbabwe, South Africa, and Cape Verde were either still in planning or construction. For the purposes of the analysis, this report therefore takes as a general assumption that the responses emanate from operational SEZs.

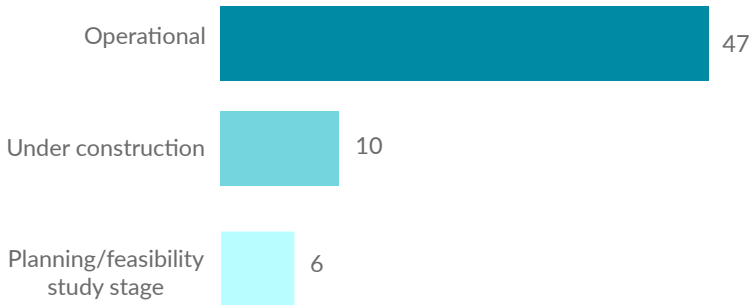
Figure 9: *Operating status of the park/zone*

SAMPLE CHARACTERISTICS

Q15. Operating status of the park/zone



 # by Operating status of the park/zone



When extrapolating the findings from the sample, namely that 26% of SEZs have not reached operational status, they corroborate the UNCTAD finding that nearly 60 of the 237 SEZs on the 2019 UNCTAD list are non-operational.

As UNIDO pre-survey communication stressed that only operational SEZs were being targeted, the response bias in this survey toward operational zones as opposed to SEZs at the planning/feasibility stage or under construction may hence be considerably higher.

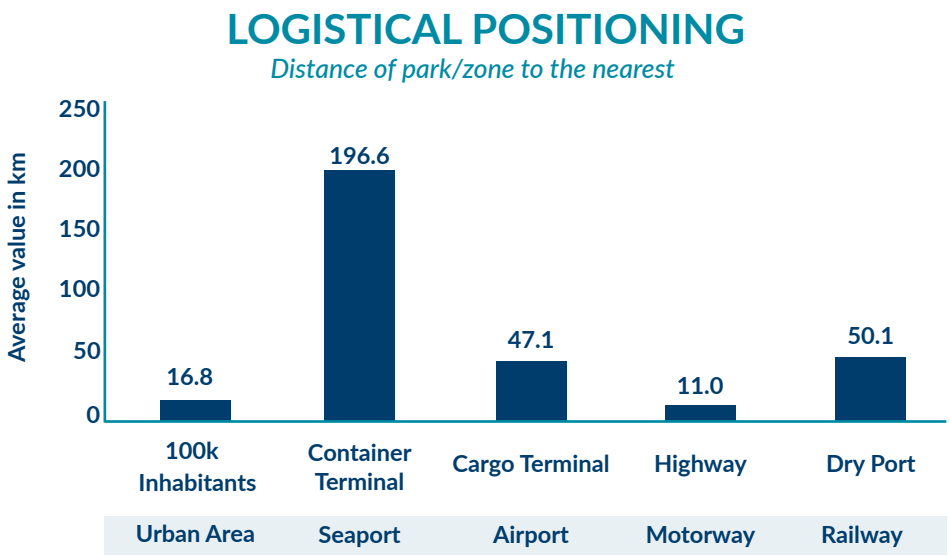
2.2. Logistical Positioning

In terms of logistical positioning, the survey's results are surprising:

Although Africa's SEZs are on average 11km from a motorway or highway, less than 17km from an urban area, and within 47km of a cargo airport, they are on average (outliers excluded) almost 200km from the nearest container port (Figure 10).

While a bit further from highways and a bit closer to urban areas than one might expect, the findings on these two fronts, as well as the zones' distance from air cargo terminals, are generally within global ranges.

Figure 10: *Logistical positioning of SEZs*



The reported distance from ports is a startling departure from international averages, which tend to see an overwhelming majority of SEZs located within 18km of a seaport container terminal[33], in order to better facilitate trade. Even the previous UNCTAD & AEZO 2021 research on SEZs in Africa specifically found these distances to be of under 60km.

While three times above world averages, this was still well below the current survey's finding.

As regards distance from an airport cargo terminal, previous research finds global average distances to be less than 30km[34], i.e. less than two thirds of the distance being travelled by enterprises in African SEZs.

The likely economic and trade facilitation impact of this planning reality cannot be sufficiently underscored: ***because of their overwhelmingly inland nature, African SEZs would appear to be operating at a considerable disadvantage relative to SEZs around the rest of the world.***

[33]World Bank, unpublished (2011).
[34]World Bank, unpublished (2011).

Figure 11: *Logistical positioning of SEZs in non-landlocked countries*

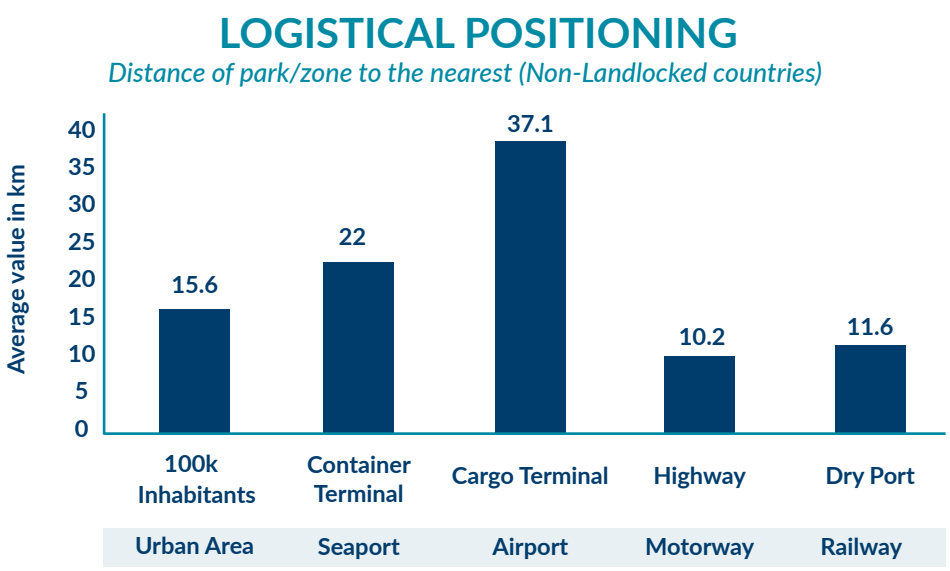
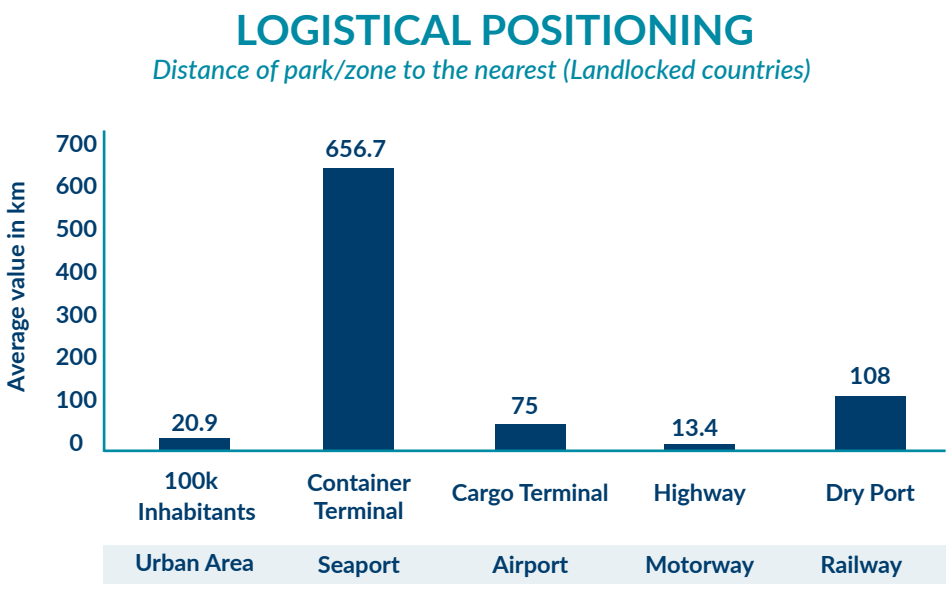


Figure 12: *Logistical Positioning of SEZs in landlocked countries*



Given the above findings, UNIDO also broke down and assessed them on the basis of whether countries were landlocked or not. This produced telling results, outlined in ***Figure 11 and Figure 12.***

As this breakdown shows, ***if one factors out landlocked countries (which represent about a third of the total, or nine countries out of the 26 in the sample-set), the average distance from SEZs to seaport cargo terminals is just 22km, and just 37.1km to airport cargo terminals, only marginally more than the worldwide average.***

What is noteworthy, apart from what one might have suspected regarding distance from seaports, is that African landlocked countries chose to locate SEZs further away from urban areas, airports, motorways and railways, too.

This would appear to reflect a relatively poor understanding of the factors leading to positive SEZ economic contributions in many of the non-coastal African countries surveyed. This, however, cannot be considered universally true.

Bole-Lemi Industrial Park in Ethiopia, the Kigali Free Zone in Rwanda, as well as the Kampala Industrial & Business Park in Uganda are all close to both airports and motorways. There are thus likely to be laggard and less laggard landlocked countries, as well as laggard and less laggard zones within landlocked countries.

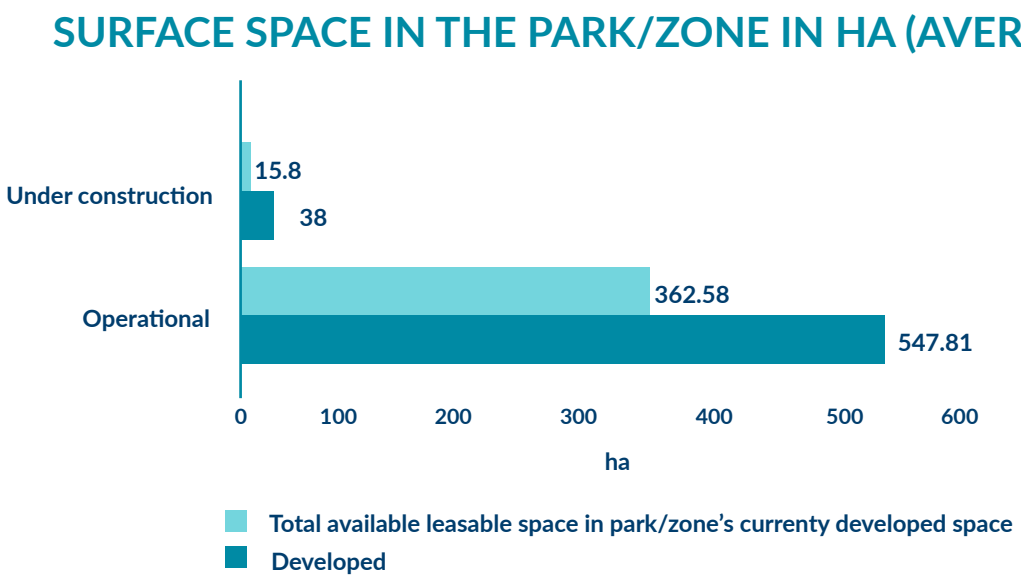
2.3. Scale, Occupancy, Expansion, and Capital Investments

One of the most interesting findings of the survey concerns African SEZ's average size. In this regard, the survey informs us that, on average, African zones typically measure nearly 550ha in size, of which around 360ha on average are utilizable, leasable land (***Figure 13***).

Comparatively, the World Bank's CIIP programme research from 2017 reported an average global SEZ size of 905 hectares. This finding positions African SEZs as smaller relative to global averages.[35] Additionally, unpublished FIAS research in 2008 found the average size of African SEZs to be 264 hectares, and UNCTAD (2021) reported the median size as 300 hectares. The survey's median size of 68ha (350ha on average) is significantly smaller than both the reported average and median sizes from the other studies, suggesting considerable variability in SEZ sizes across different sources.

Africa has thus replicated neither the "Chinese model" nor the "Free Port model" of large-scale mega-zones, encompassing entire provinces, governorates, and cities with SEZs typically larger than 1,000ha. The average size of African zones does not lead to the dynamic benefits generated in other countries with zones boasting internal, intra-firm markets.

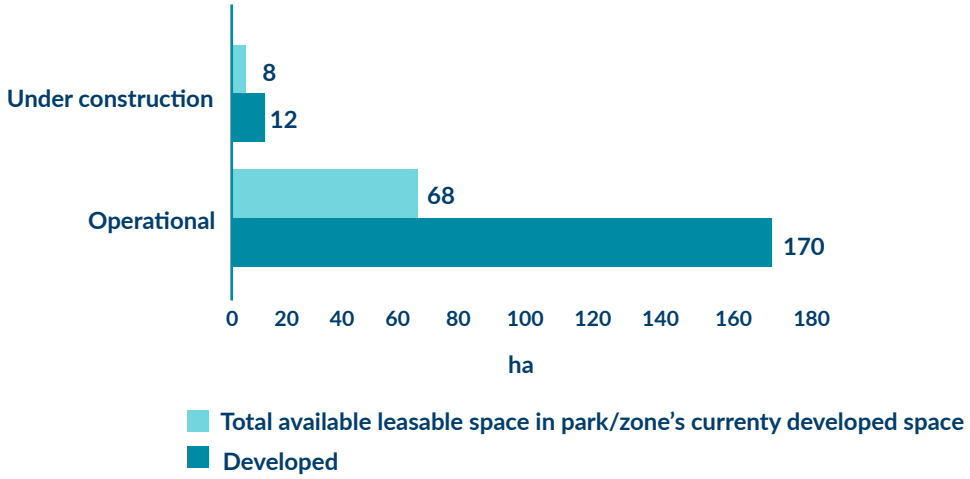
Figure 13: *Surface space in the park/zone (average)*



[35]The same research, however, found the median global zone size to instead be of 164ha, making our finding regarding African zones potentially seem fairly large. Proper comparison between these datasets remains difficult, due to methodological challenges discussed in the Conceptual Background section of this paper.

Figure 14: Surface in the park/zone (median)

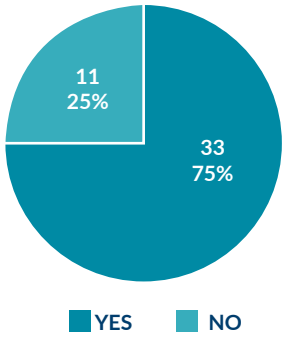
SURFACE SPACE IN THE PARK/ZONE IN HA (MEDIAN)



*Nonetheless, African SEZs cannot per se be defined as small, at least by traditional industrial park standards, which see industrial parks typically below 150ha in size. Moreover, African SEZs appear to be both vibrant and growing. Indeed, three quarters of operational African SEZs are currently planning to expand significantly (**Figure 15**), on average by 143ha more.*

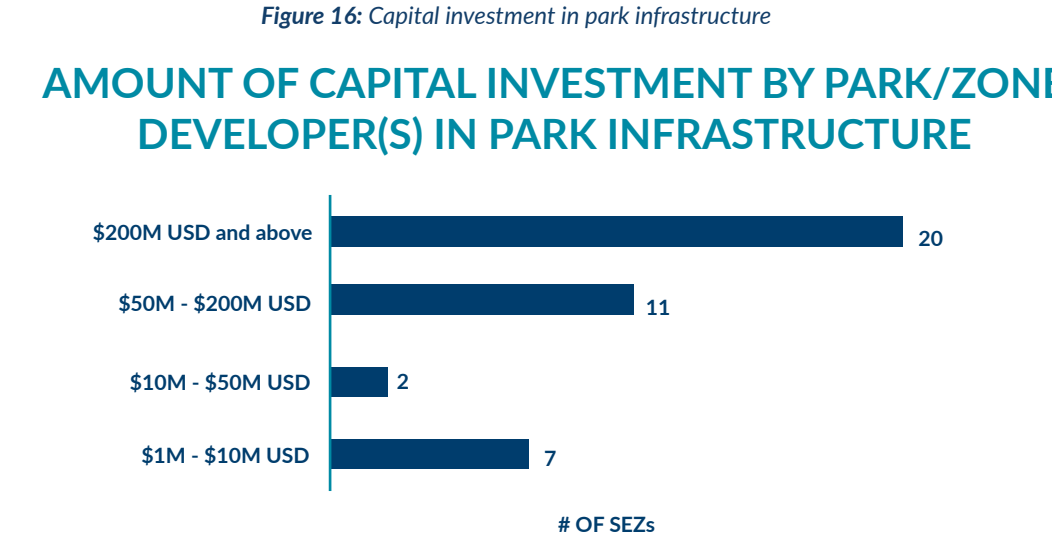
Figure 15: Expansion plans

ARE UPCOMING EXPANSION PHASES PLANNED?



*A full half (50%) of African zone developers invest over US$ 200 million in their SEZ's infrastructure, while over three quarters (77.5%) of them invest at least US$ 50 million (**Figure 16**). Thus, most of Africa's SEZs are in line with global zone infrastructure spend averages.*

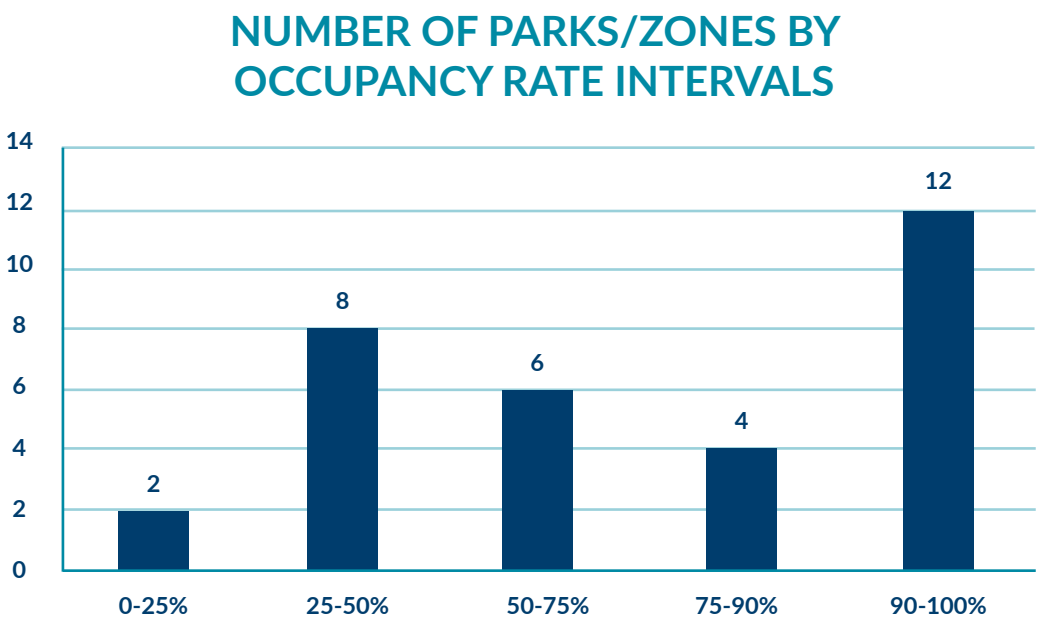
Figure 16: Capital investment in park infrastructure



Furthermore, the survey found an average 70.7% occupancy rate in African SEZs at that point in time:

70.7% *Average occupancy*

Figure 17: Occupancy rate of park/zone



Without going into further details on how occupancy alters according to variations in SEZ size, it seems that small zones of under 20ha in size tend more often than not to be over 90% occupied.

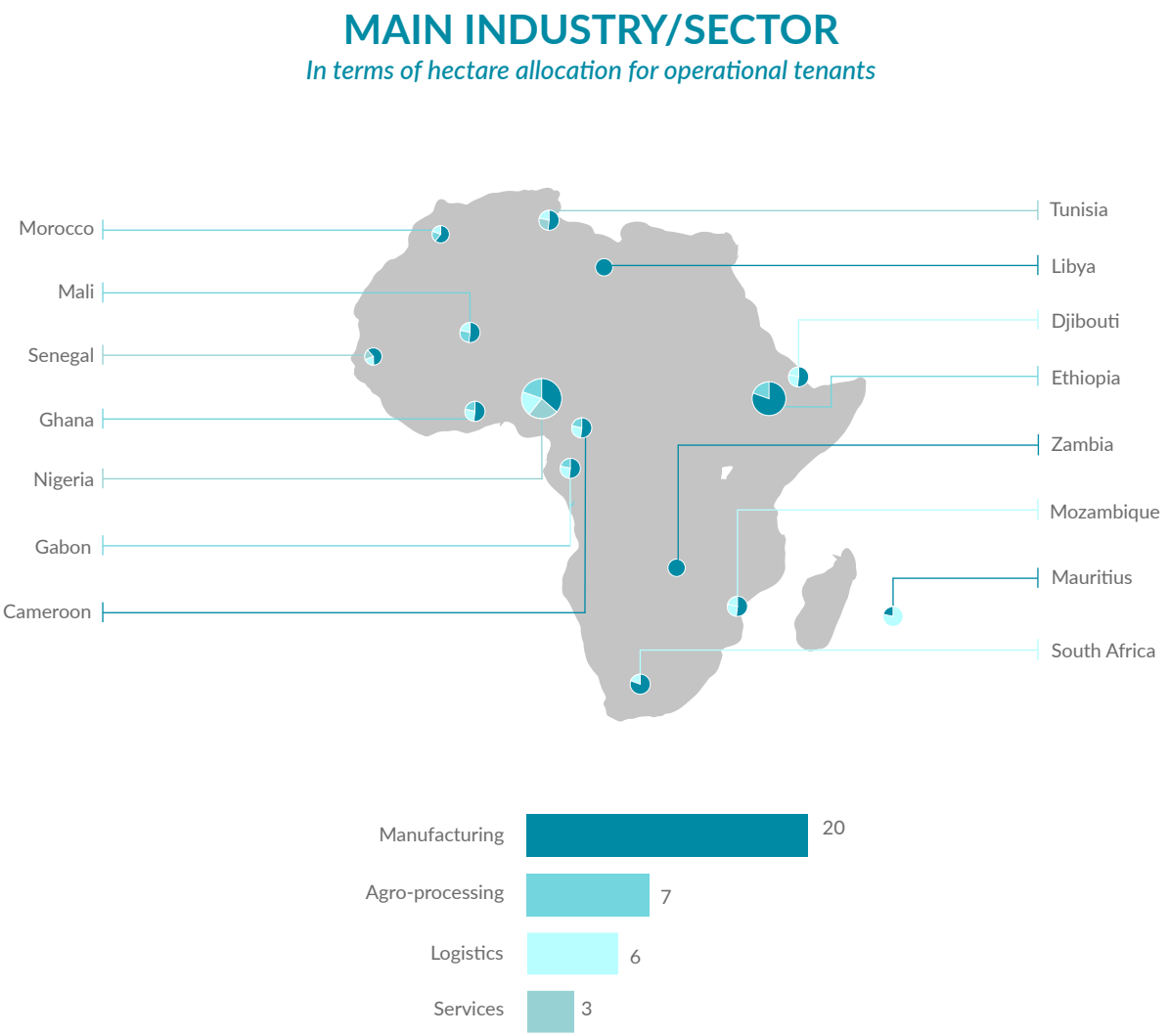
For SEZs larger than 20ha, results on occupancy are more mixed and do not portray a clear progressive logic tied to SEZ size.

Occupancy levels in this survey's data set are remarkably high compared to the results from earlier UNCTAD & AEZO 2021 data, which found zone occupancy levels to be lower than 50% in more than half of all zones: the present survey indicates that this is the case for only 31% of zones.

Sample variations could be an explanatory factor for such deviations, and the divergent findings suggest that more in-depth research would be necessary to gain more clarity on this pivotal metric of SEZ performance.

Although a fuller discussion of sectoral focus in Africa's SEZs will follow in the next section of this report, it is already interesting to note that, according to survey findings, currently operating ***manufacturing tenants would appear to require on average 20ha plots, agro-processing tenants 7ha plots, and logistics tenants 6ha plots (Figure 18). These findings indicate a need for surprisingly large plots for tenants' facilities*** – at least in large markets such as Nigeria's and Ethiopia's.

Figure 18: *Main industry of operational tenants in terms of hectare allocation*

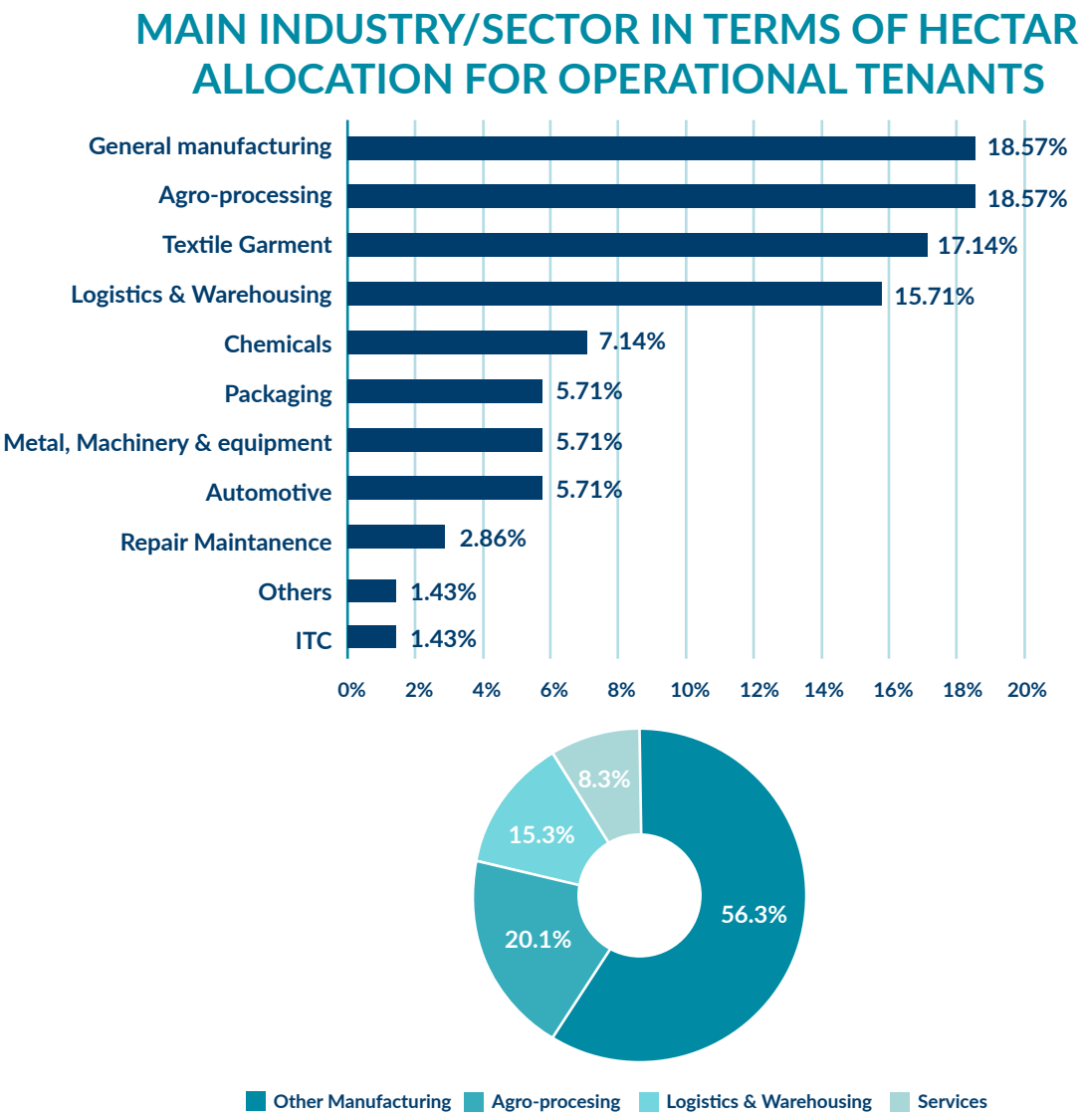


2.4. Sectoral Focus

In terms of sectoral focus of investment, the survey's methodology for analyzing the main industry/sector in terms of hectare allocation for operational tenants (***Figure 19***) involved a weighted approach due to respondents listing multiple industries in a single field.

Industries mentioned in the first option, such as Leather, F&B, and Chemicals, were given higher weights in the analysis, regardless of the number of industries listed in the second field. This approach allowed for a nuanced calculation of each industry's share in the total score, accommodating the varied responses. The resulting findings are displayed in ***Figure 19*** below.

Figure 19: *Sectoral focus of investments*[36]



[36]Agro-processing" category includes agro-processing, food & beverages, wood-processing, and leather products; "Chemicals" category includes pharmaceuticals, chemical manufacturing & chemical production;"Transportation equipment" includes all automotive, aeronautical, and shipyard activity.

To the best of the survey's ability to ascertain, ***African SEZs' production-related activities are focused primarily on agro-allied work (agro-processing, food & beverages, wood-processing, and leather products), at 18.57% of the activities, followed closely by the stitching of ready-made garments, representing 17.14% of all investment.***

This is fairly consistent with almost all of the more robust, data-driven literature on this point since 2008. UNCTAD & AEZO (2021) found that 40% of African zones' exports, for instance, were agro-food related. ***It is not clear to what extent anecdotal evidence and conjectures in the literature suggesting that African SEZ activity is or was primarily focused on textiles and garments was ever in fact supported by hard data. At all odds, the data collected by the current survey should be taken as meaning that this is not the case at this point in time.***

Logistics, warehousing, packaging, repair, and maintenance, as a group of closely related activities ancillary to manufacturing, account together for 24.28% of the investments. While this too tends to reconfirm such findings as those provided by FIAS' 2008 and UNCTAD's 2021 research, the finding comes up much more clearly in the present survey.

More interestingly, perhaps, is that ***pharmaceutical and chemicals (including petrochemicals) come next, accounting for another 7.14%, followed by vehicle assembly (including in the automotive, aeronautical, and shipyard niches), reaching 5.71%.***

While this confirms some previous findings on petrochemicals, oil, and gas (FIAS 2008, UNCTAD 2019, Rodriguez-Pose 2022) ***the vehicle assembly results are novel and fascinating:*** the literature had previously only noted the focus of Morocco's Tanger-Med Zone and Tanger Med Industrial Platform on this particular value chain, mainly through the development of a comprehensive and integrated ecosystem for the automotive sector (Tanger Automotive City).

Although it is difficult to identify specific manufacturing activities outside of Ready-Made Garments (RMG), pharmaceutical and chemicals, and vehicle assembly, Word Cloud analysis in Figure 20 shows that ***other manufacturing areas include construction materials (such as cement and stones) and electronics***, which reflects a traditional area of manufacturing focus around the continent. Indeed, FIAS (2008) anecdotally found strengths in these same two manufacturing niches. Surprisingly, metalworking, machinery, and equipment manufacturing today come in at a combined 5.71%, being no more representative an activity than motor vehicle assembly. This seems to represent a shift away from one of the African zones' traditional focus areas.

ICT, computing, and software related activities remain negligible, at 1.43%, as do financial sector (including offshore finance) activities and tourism, which are all but non-existent.

The continued lack of application of the SEZ concept to the African tourism sector represents a missed opportunity, given the tourism (resort) SEZ model's success elsewhere, including for instance in Southeast Asia, the Caribbean, and the Russian Federation.

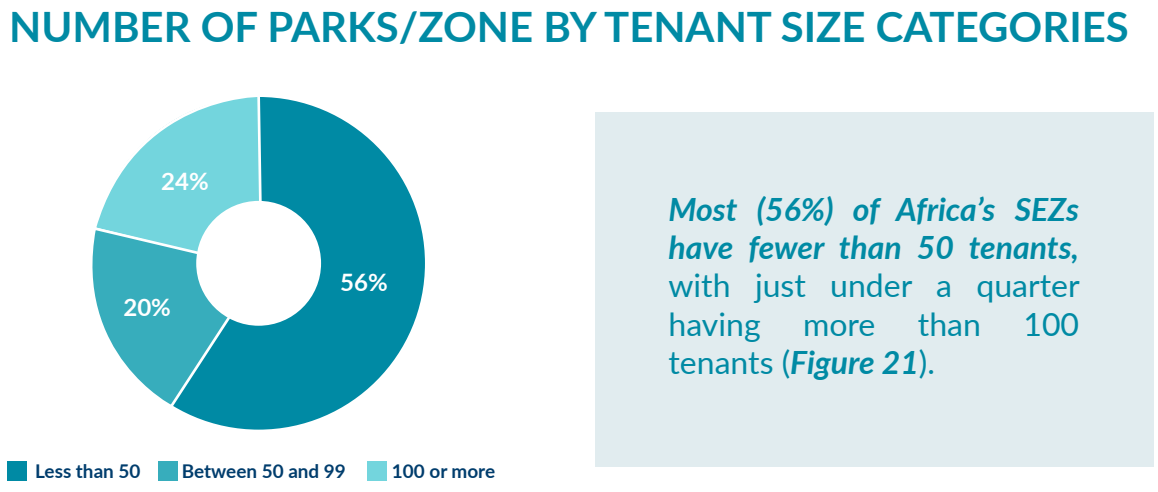
Figure 20: *Sectoral focus of SEZs*

Overall, corroborating Farole's (2011) findings and contrary to the AfDB's (2015) conclusions, the present survey data can be read as showing only ***limited impact or evolution in terms of the impact of African SEZs on sectoral diversification in their host economies. Having said that, this survey's finding that vehicle assembly now represents 5.71% of African SEZ investment is new and noteworthy***, with these activities being as prevalent as the combined sectors of metalworking, machinery, and equipment manufacturing today. This seems to represent at least one promising evolution with respect to the African zones' traditional focus areas.

2.5. Investment and Job Creation Impact

2.5.1. Investment

Figure 21: *Number of parks/zones by tenant size*



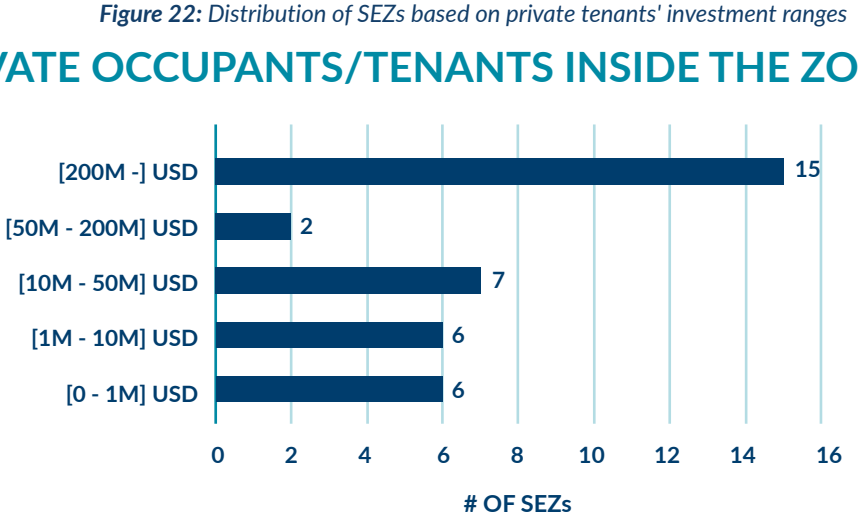
Most (56%) of Africa's SEZs have fewer than 50 tenants, with just under a quarter having more than 100 tenants (***Figure 21***).

Attempting to compare these findings with previous ones raises some important questions. In 2008, FIAS found an average of 13 investors per SEZ in Sub-Saharan Africa and 131 in North Africa, for an overall continental average of 59 – a figure comparing favourably to global findings of just 45.Working with a far more limited sample-set of just six countries, Farole (2010) found a lower average of 35 firms investing in each African zone. UNCTAD (2021) found an average of 60 firms per African SEZs (a figure nearly identical to that of FIAS), with more than 50% of SEZs having between 50 and 200 tenants, and 6% over 200.

Our survey's own findings, while less precise, are clearly closer to Farole's results than to those of FIAS and UNCTAD. They would also seem to suggest that ***investment in African zones is not far off world averages.***

Having said that, this survey, which asked additional questions, finds that ***African zone tenants tend to be large investors in terms of overall average investment by tenant. Indeed, as reported by SEZ administrators, almost half (47.2%) of tenants in Africa's SEZs make an investment of over US$ 50 million in their host zone and, in fact, over 40% (41.7%) have invested over US$ 200 million (Figure 22).*** This data is new and makes a valuable contribution to the literature.

Figure 22: *Distribution of SEZs based on private tenants' investment ranges*



2.5.2. Employment

In terms of employment creation, ***the median African SEZ has created just slightly over 2,000 jobs (2,075). This is a strong employment creation record when contrasted with the best available data regarding global results,*** which showed zones creating an average of 1,153 jobs (FIAS, 2008).

In Africa, UNCTAD (2021) found that over 50% of SEZs created an even higher average of 3,000 jobs for their host regions. However, as the UNCTAD multiple-choice question and response band was broad while the questions posed in this survey were close-ended, our findings should be viewed as the more robust ones on this narrower point.

Our survey reports a total of 322,000 jobs within SEZ across Africa. This figure should not be directly compared to the 563,000 jobs reported in the unpublished FIAS (2008) data due to differences in sample sizes and the zones surveyed: this study does not include SEZs in Egypt, which were significant contributors in the FIAS data. To provide further context, the 2008 FIAS study reported direct employment of approximately 1.04 million for 114 SEZs across SSA, averaging at about 9,122 jobs per zone.

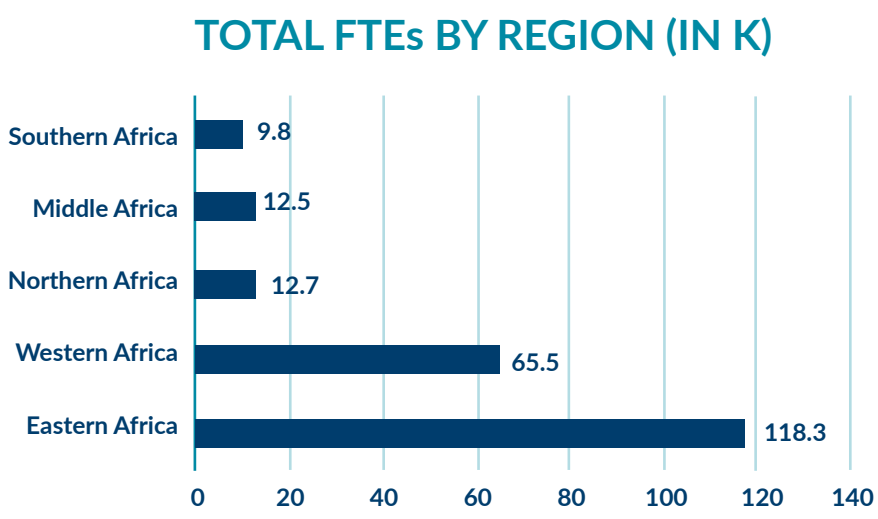
322K	*Total FTE created*
7.2K	*Avg. FTE created*
2075	*Median FTE created*

In contrast, UNIDO-AEZO data shows 207,000 jobs for 35 SEZs in SSA, with an average of approximately 5,900 jobs per zone. The average employment per zone in this survey is roughly one-third lower than the average reported in the FIAS study.

The reduction might support Farole's (2011) conjecture about a downturn in SEZ employment due to the end of the Multi-Fibre Agreement. This agreement's conclusion led to the elimination of developed nations' protectionist import policies, which had previously limited the export competitiveness of production locations in East and South Asia - impacts that were only partially offset by initiatives such as the United States' African Growth and Opportunity Act (AGOA).

The sub-region where surveyed SEZs have had the greatest job impact is East Africa, where they have been responsible for the generation of nearly 120,000 jobs (118,300). In fact, this figure is likely an undercount, due to the absence of notable countries' SEZ programmes from this total (e.g. Kenya, Tanzania, Uganda, Djibouti). ***The second key region in terms of SEZ job impact is West Africa,*** with over 65,000 jobs created through zones (Figure 23). Again, with some countries with zone programmes missing from the survey results (e.g. Sierra Leone, Togo, Côte d'Ivoire), this is likely to underestimate the actual employment impact, at least to an extent.

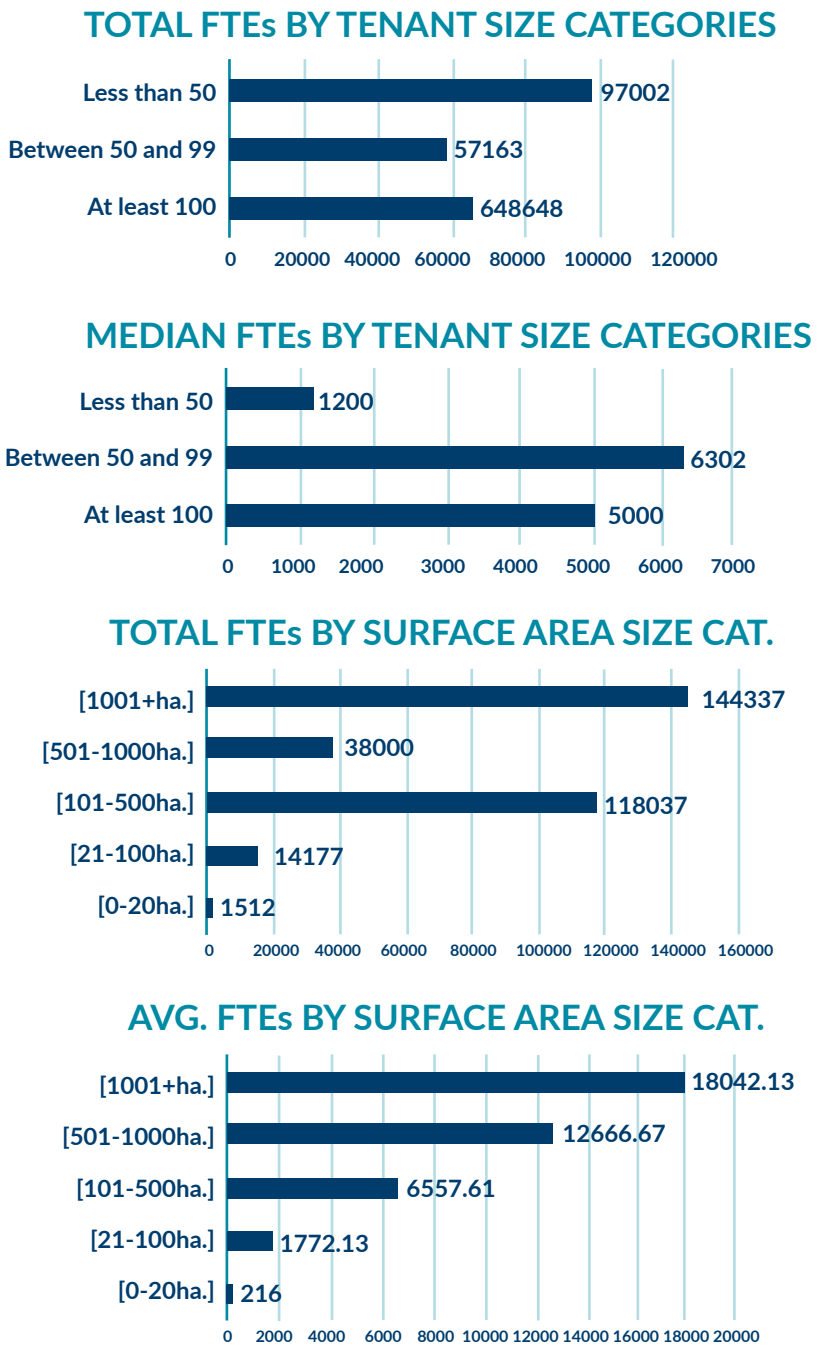
Figure 23: *Total FTEs by region*



These findings tend to corroborate previous research. Indeed, the literature reviewed in the conceptual background portion of this report also anecdotally reports a greater number of countries in East Africa as having been particularly effective at generating jobs through SEZs (with seven countries frequently cited in this regard, i.e. Mauritius, the Seychelles, Lesotho, Kenya, Madagascar, Ethiopia, and Djibouti), followed by West Africa (with three such countries, i.e. Nigeria, Ghana, and Liberia), and less limited information regarding similar examples in Southern and Northern Africa (with one such country each, i.e. respectively the Republic of South Africa and Tunisia). It is interesting to observe that even the relative order of magnitude of these findings is roughly the same as the UNIDO-AEZO findings.

Further disaggregation of the data reveals a number of other points of note:

Figure 24: *Disaggregated data on FTE in SEZs*



01

African SEZs come in all sorts of shapes and sizes concerning absolute job creation impact, being equally spread amongst zones creating fewer than 500 jobs to zones creating over 10,000 jobs, and everything in between.

02

While in aggregate and absolute numbers most SEZ jobs around the continent are created by zones with fewer than 50 tenants, it is in fact the medium-density zones (with between 50 and 99 tenants) that employ the highest number of people, with each such SEZ employing a median of about 6,300 people. This is accounted for by the fact that there are far more low-density zones (these sorts of SEZs make up over 70% of the total) than medium-density ones (which account for less than 20% of SEZs).[37]

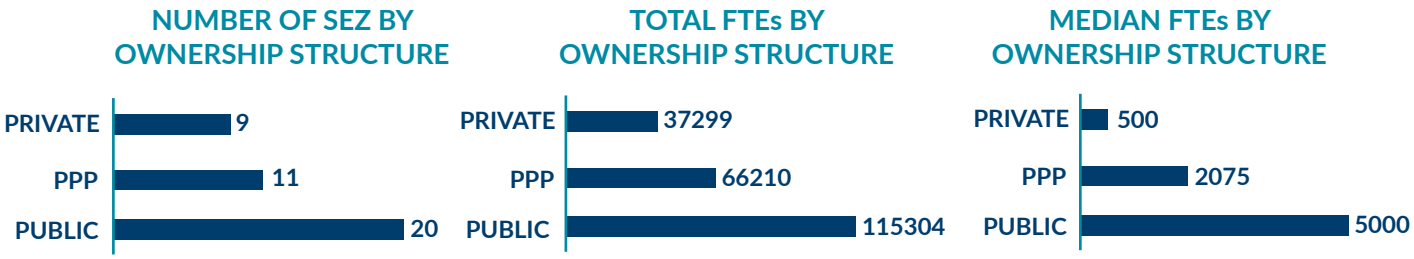
03

Regarding actual physical scale, it is the largest SEZs (of over 1,000ha in size) that host the most jobs in the aggregate, followed by the average-sized SEZs (of 100-500ha), to an even greater extent than zones of an "in-between size". The employment impact of the average-sized zones is primarily down to their sheer numbers, as they account for over 42% of all SEZs on the continent. Average jobs per zone, however, perfectly tracks size, with more and more jobs created by zones of a larger and larger size.

Finally and interestingly, as shown in the bar charts below, ***it is Africa's PPP-based SEZs that generate the most employment each, with a median 5,000 jobs per zone, followed by its public SEZs, at a median 2,075 jobs per zone, with private African SEZs generating a median 500 jobs each. It is very tempting to speculate, on this basis, that the combination of attributes, managed risks, and pooled skillsets of a PPP-based SEZ ownership structure helps deliver the best economic results in Africa's challenging political economies.***

[37]While it may not be surprising than the zones with the least tenants only tend to hire an average of around 1,000 people each, it is rather more surprising that those with over 100 tenants hire fewer people on average than medium-density zones. Efforts to unpack this data, based for instance on types of industries represented in different zone layouts and their distribution throughout the continent is a complexity beyond the scope of this Report.

Figure 25: Key figures related to SEZs' ownership structure

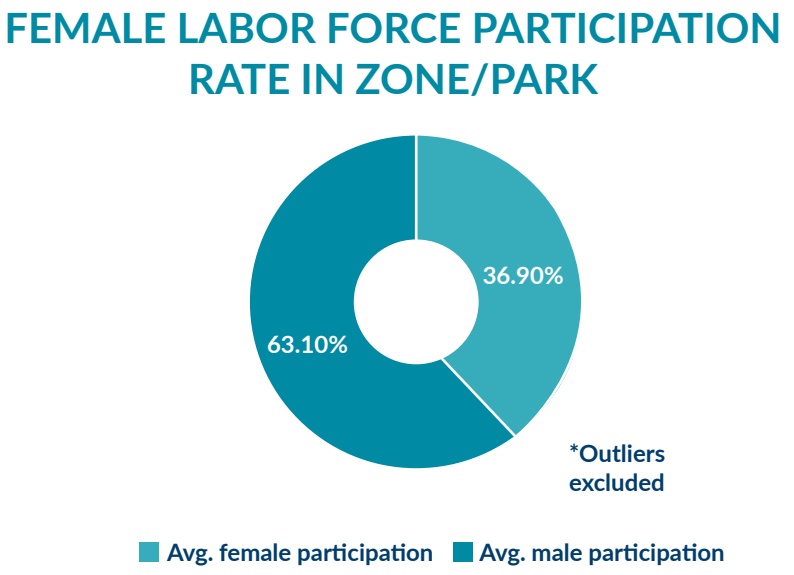


2.5.2.1. Female Employment

It is also an interesting finding of the survey that, ***contrary to conventional wisdom, female employment creation accounts for a mere 36.9% of the total***, outliers excluded. The received idea that an overwhelming predominance of RMG cutting and stitching and electronics assembly activity within SEZs means that most SEZ jobs are mainly carried out by women appears to be a false one. The agro-allied, vehicle assembly, chemical & pharmaceutical, and logistics activities now also present in African SEZs may be responsible for a shift in this regard.

UNCTAD & AEZO (2021) found the overall continental average female employment figures to be of just over 15%, confusingly, however, also finding that the average for over two thirds of zones was of 35% female employment. This was attributed to methodological problems. In some sense, if one relies on the latter figure only, this ***survey's results tend to corroborate UNCTAD & AEZO's (2021) findings in this regard.***

Figure 26: Female labor force participation rate in zone/park

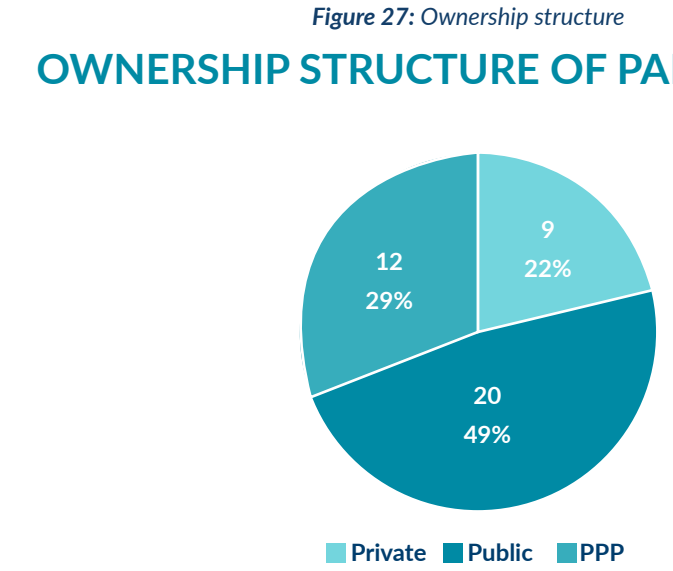


2.6. Governance and Ownership

2.6.1. Ownership

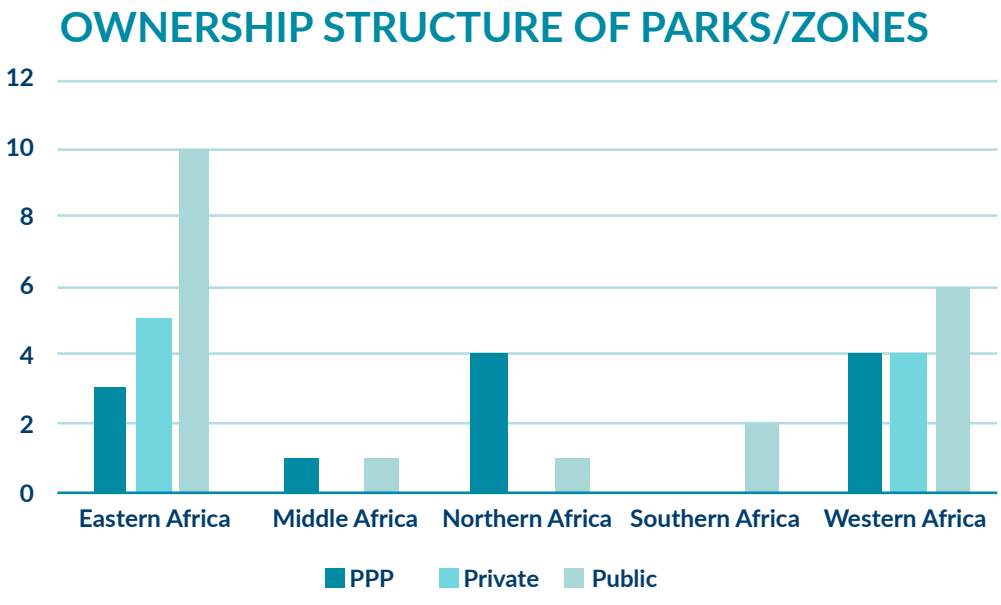
It is another interesting finding of this survey that, contrary to global norms (whereby zones have tended to be overwhelmingly privately owned and managed for decades), nearly half of Africa's SEZs are public (***Figure 27***).

Figure 27: *Ownership structure*



Having said that, these findings do vary by sub-region. Indeed, ***North Africa appears to present an exception to the publicly dominated zones approach, the sub-region having implemented more SEZs in a public-private partnership (PPP) framework. It is also worth noting that, in West Africa, the combined sub-total of private and PPP based zones, together, outweighs public ones (Figure 28).***

Figure 28: *Ownership structure by region*



Comparing these results to past ones provides little insight. In 2008, FIAS found a majority (17 SEZs, or nearly 57%) of reviewed African SEZ regimes to be private management focused; a minority (eight SEZs, or about 27%) to be public management focused; and an even smaller group (five SEZs, or nearly 17%) to be PPP focused.

These findings were, however, based on a comparison of laws, rather than actual, operational zones. While looking at the question through a different methodological lens, Farole (2011) nevertheless still found a majority (51%) of African SEZs to be privately managed.

It thus came as something of a surprise when, in 2017, the World Bank's CIIP program found Africa's SEZs to be mostly publicly, or PPP managed.

However, the sample set difference rendered this latest research data difficult to interpret. Additional confusing data became available in 2021, when the results of two additional surveys were published.

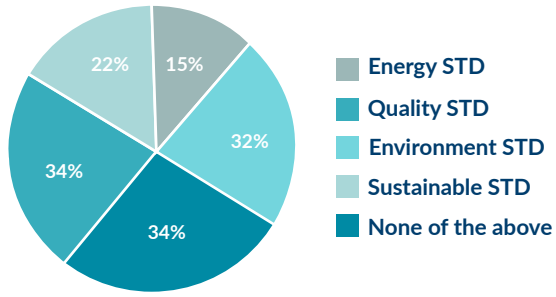
An UNCTAD survey found 43% of African SEZs to be publicly managed, 41% privately managed, and 16% to be PPP managed. An UNCTAD & AEZO survey found 53% to be PPP managed, 25% to be publicly managed, and 20% to be privately managed. Again, sample-sets were all different.

There is a general lack of consistency amongst the results, except perhaps between the 2017 World Bank findings and this study. On balance, studies suggest that the majority of African SEZs are publicly managed.

2.6.2. Management Standards

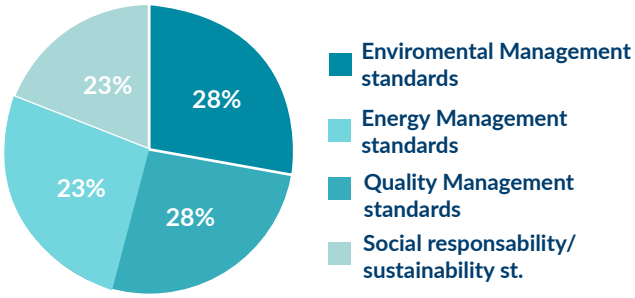
Responsible socio-environmental stewardship within the continent's zones could stand to be further professionalized. Only just under a third (32%) of Africa's operating SEZs claim to implement good environmental practices[38] , and less than a fifth (22%) to implement social sustainability practices (Figure 29).

Figure 29: *Certification or best practices implemented*



Looking at the question in another way, through the lens of the presence of dedicated personnel for these matters within the zone operators, reveals substantially similar results, as displayed in ***Figure 30***.

Figure 30: *Personnel dedicated to implementing standards*



[38] Although an attempt was made to do so, it is unfortunately not possible to adequately disaggregate or distinguish efficient and responsible energy resource use from good environmental practices, based on the Survey methodology and data.

Nonetheless, things may not be as bleak as it would appear. 13 SEZ operators, or 28% of the total, have dedicated personnel for quality management. Comparable responses were obtained on staff specifically devoted to social aspects of sustainability and energy management (each reporting 11 SEZs, or 23%) as well as environmental risk management. These figures are greater than those reported in the question about specific practices: it can be concluded that, for most of these areas, SEZ operators often have at least some dedicated staff working on them, even if they have not yet gone as far as to obtain a certification or fully rationalizing the corresponding best practices. This can be considered an important prerequisite for the situation to improve in the future.

Word Cloud analysis (***Figure 31***) reveals that wastewater management, forestry resource management, use of alternative energy sources, and resource circularity are the sorts of environmental sustainability practices that may be found in Africa's various SEZs. ***Workforce health programmes (including, for instance, anti-malaria programmes) and on-site clinics, training and upskilling, free canteens, sports facilities and programmes, as well as security and police presence are the principal social sustainability approaches found in the various African zones. Amongst these approaches, healthcare and training programmes appear to be the most common.***

Figure 31: *Social and sustainability projects in parks/zones*

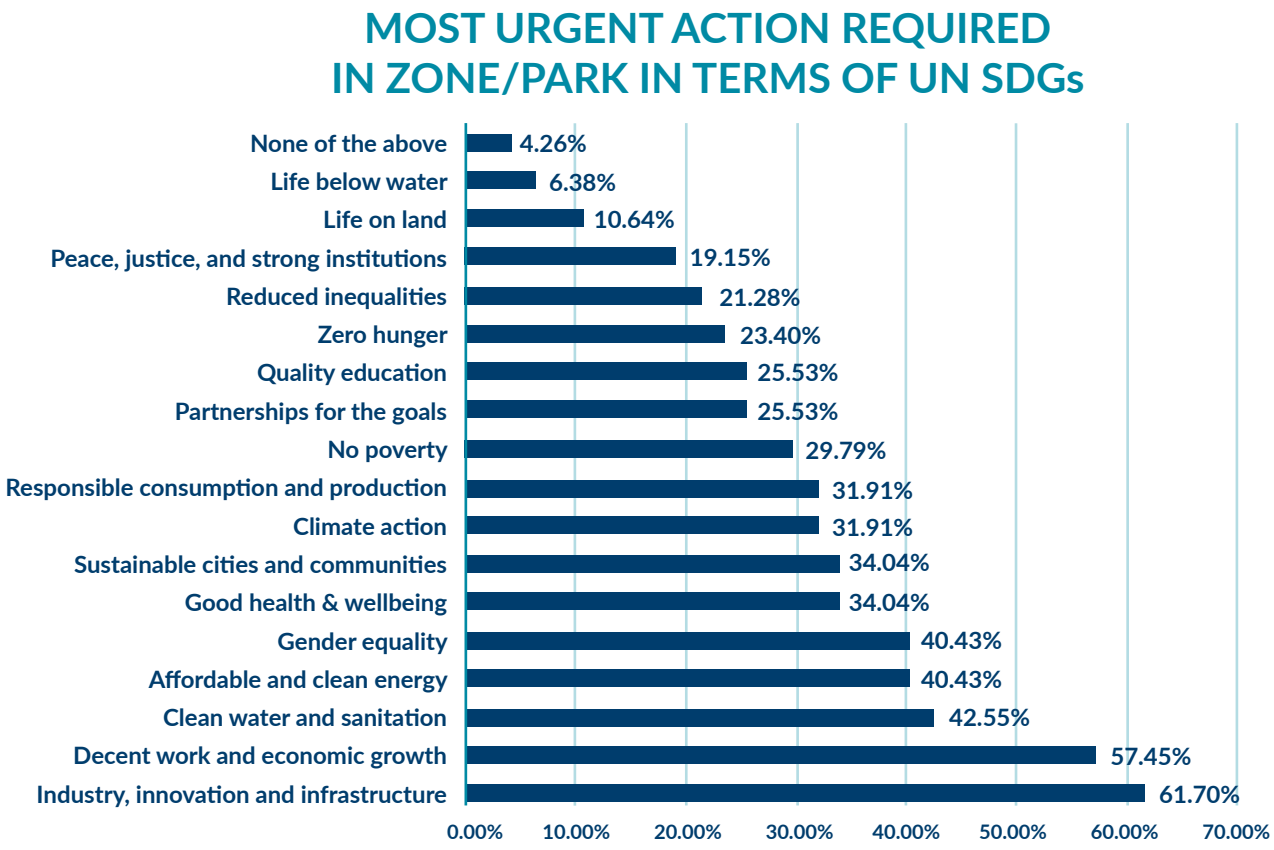
If one assesses these efforts as an attempt to focus in on programmatic priorities, there may be a relationship to another survey finding: in other words, the management standard findings outlined so far could also be interpreted according to a "distance to horizon" logic. Indeed, most (over 57.5%) of operational zones in Africa still see the UN Sustainable Development Goal (SDG) relating to "Decent Work" as "requiring urgent action", as shown in Figure 32 below.

Looking at the same result for SDG "Quality Education", this number rises to 83%. 42.6% of the respondent zones have the same perception about "Clean Water and Sanitation", together with 40.4% about SDGs "Clean Energy" and "Gender Equality", and over a third (34%) about "Good Health and Wellbeing".

Gender equality is a crucial part of reducing overall inequalities because disparities between genders can contribute significantly to broader socio-economic inequality.

When considering "reduced inequality" in conjunction with gender issues, the prioritization of gender equality increases significantly. Specifically, when these two aspects are combined, 61.7% of respondents identify gender (in)equality as one of the key priorities.

Figure 32: *Sustainable Development Goals requiring action in parks/zones*



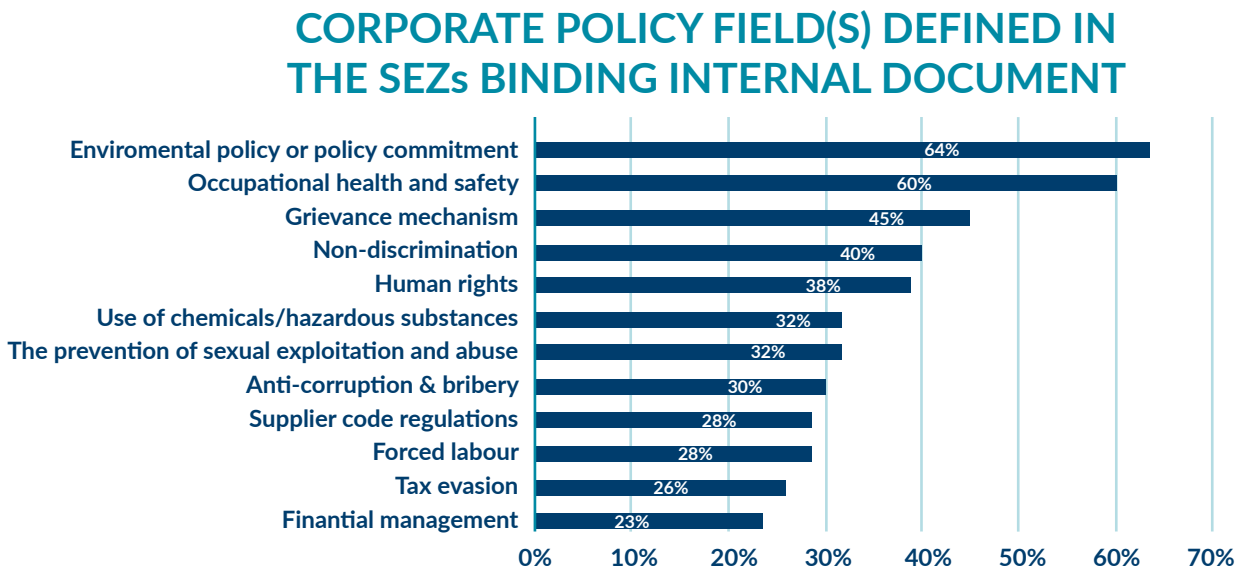
The challenge, at least in some measure, appears to concern the ability of SEZ programmes to match their goals with actual outcomes, and is therefore one of management.

Figure 33 shows how, for example, 64% of African SEZs have an environmental policy, 60% of African SEZs have occupational health and safety policies, and 38% of them worker rights policies.[39]

[39] It is difficult to disaggregate hazardous substance handling and work condition grievance mechanisms from the reported occupational health & safety figure, as well as non-discrimination and sexual misconduct policies from the human rights policies reported. These findings are thus presented as a minimum number, in terms of zones having such policies. The actual number may be greater.

A smaller number (but still close to 30%) even impose one form or another of good governance standards on tenants, including anti-corruption, anti-bribery, supplier code, tax evasion, and financial management standards. By combining these findings with those in Figure 32, one can readily see that there can be a significant gap between having environmental goals (64%, as already presented) and achieving good practices as assessed by Question 27 of the survey (32%).[40] In the same manner, the gap between having social and working condition goals (60%) and achieving them to a satisfactory degree (reported as at 22%[41]) is large as well.

Figure 33: *Corporate policies of SEZs*



All of ***this is consistent with the literature,*** which universally finds the situation with respect to the management quality of African SEZs to be overall quite poor (Watson 2001, FIAS 2008, Farole 2011, Woolfrey 2013, AfDB 2015, World Bank CIIP 2017).

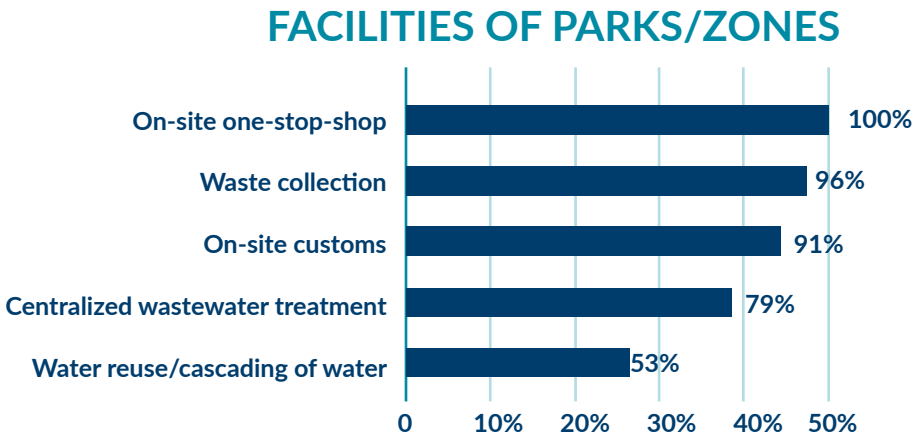
2.7. Infrastructure and Services

2.7.1. Basic Services, One-Stop Shops, and On-site Customs

An absolute majority of all African SEZs offer water, wastewater treatment, on-site customs, and a one-stop shop of some sort. Fairly consistently with other reported findings on African SEZs' dedicated policy frameworks and efforts at environmental management, the survey revealed that ***all operational zones in Africa declare having an on-site one-stop shop for administrative and regulatory services; almost all have waste collection (96%) and central wastewater treatment (79%) services; and 53% can count on cascaded water supply. Further confirming their nature as SEZs and free zones, rather than ordinary industrial parks, 91% of them have an on-site customs presence as well (Figure 34).***

[40] Derived from Survey Q27 "Environmental Standard" certification or best practice application response, factoring out non-responses to overall management standards question.
[41] Derived from Survey Q27 "Sustainability Standard" certification or best practice application response, factoring out non-responses to overall management standards question.

Figure 34: *Facilities of parks/zones*



Given Farole's (2010) limited sample (6) and UNCTAD's (2021) smaller number of respondents (39), the information the survey provides regarding one-stop shops, read cautiously, would seem to indicate a progressive increase in their presence amongst African SEZs. Farole (2010) indicated that most African zones had a one-stop-shop, while UNCTAD (2021) found this to be true for only a third of them.

This survey finds almost 96% of SEZs or SEZ programmes to have one. It is almost certain that this cannot be read as "in situ, in each SEZ", but rather as some sort of one-stop shop for the SEZ programme. Nevertheless, our ***findings on one-stop shops provide strong corroboration of earlier World Bank data by Farole (2011) and, indeed, a likely accentuation of this trend over the years since.***

The on-site customs presence information is also valuable. Previous data on the topic were scarce. Farole used words like "some", "several", and "not all" to describe the presence of on-site customs services in African SEZs. In fact, of the six countries he surveyed in 2010, three, or, in other words, half (Nigeria, Kenya, and Senegal), had on-site customs, whilst another three (Tanzania, Lesotho, and Ghana) did not.

Again, the UNIDO-AEZO survey, based on a larger and more recent sample of 49 responses, shows 91% of them as having an on-site customs presence. This may cautiously be read as ***evidence of an increase in the availability of on-site customs services.***

Finally, the waste collection and central wastewater treatment services findings are entirely new information, on which the literature has not previously been able to shed any light, given the absence of any data on these points until now.

As shown in the bar charts below (Figure 35), while a relatively important share of African SEZs (at 26%, or seven out of 27 respondents) have a water supply capacity of under 100m3/day, an even higher number (33%, or 9 out of 27 respondents) have one of over 1,000m3/day. Furthermore, looking at it from a slightly different angle, there are fewer (48%, or 13 out of 27) providing less than 1,000m3/day of water to their tenants than the opposite (52%, or 14 out of 27). Similarly, while a relatively important share of African SEZs (42%, or 13 out of 31) have a capacity to supply tenants with 1-10MW, an even higher number (48%, or 15 out of 31) reaches a capacity of over 50MW.

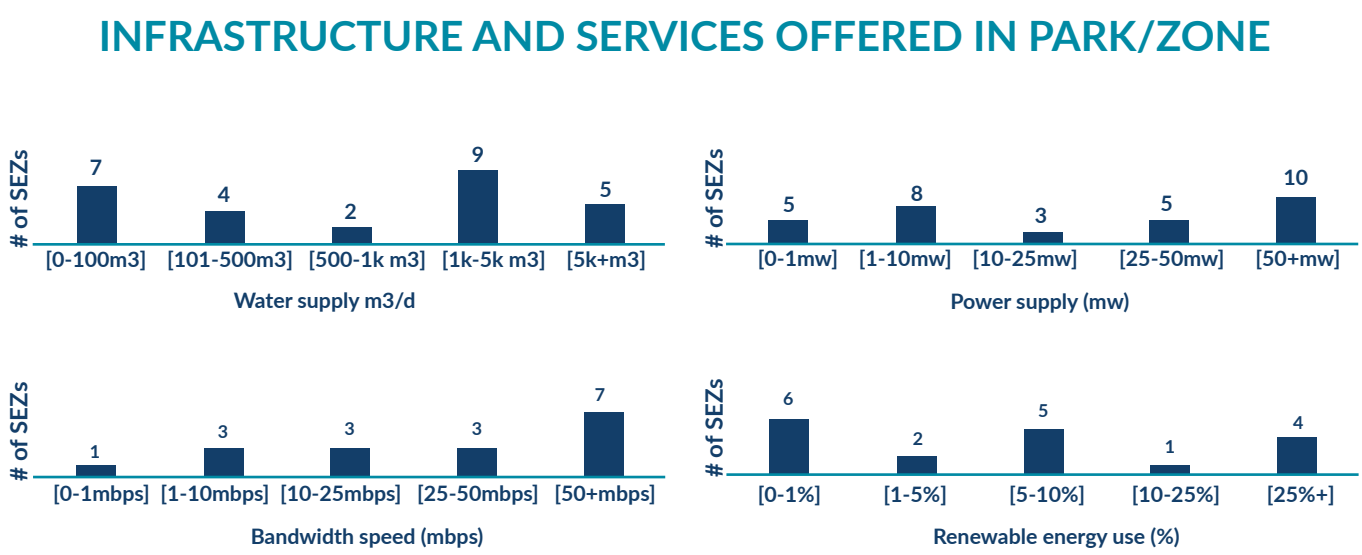
In terms of Internet bandwidth, while 41% (or seven out of 17) African SEZ operators provide tenants with low-speed (3G) Internet of under 25Mbps, a 59% majority (10 out of 17) provide their tenants with over 25Mpbs of bandwidth.

Finally, ***while 44% (or eight out of 18) of respondent African SEZ operators obtain less than 5% of their energy from renewable sources, a 56% majority (i.e. 10 out of 18) passes this threshold, and half of these exceed even 10% of energy generated from renewable sources (Figure 35). However, given that the share of renewables in the global power generation mix was of 29% in 2022[42], a median usage of renewable energy of just 6% in African SEZs still lags far behind world standards.***

This finding dovetails with and tends to corroborate other findings, reported above in Section 2.6.2 of this report, that "Affordable and Clean Energy" is an important and "urgent priority" for Africa's operational zones.

Indeed, it is ranked fourth (after infrastructure, growth, and clean water needs), and cited as an urgent priority by 40% of such zones. As further previously noted, at least 64% of these zones have environmental goals or policies, but just 32% believe they have achieved good practices or outcomes in this regard. The need for greater leveraging of renewable energy, while recognized, thus currently starts from a low base. Having said that, it should be acknowledged that transition to renewables is not solely a matter in the hands of SEZ operators, as it also depends on the overall energy mix of any given zone's host country. SEZ investment into its own autonomous renewable energy infrastructure could be prohibitive due to the high capital investments required and competing needs and priorities.

Figure 35: *Infrastructure and service capacities of SEZs*



[42] IEA, Electricity Market Report 2023, p. 7, downloadable at: ieablobcorewindowsnet/assets/ElectricityMarketReport2023

2.7.2. Power and Bandwidth

Median power supply in African zones is of 20MW and median available data bandwidth of 40Mbps.

Figure 36: *Median infrastructure and service capacities of SEZs*

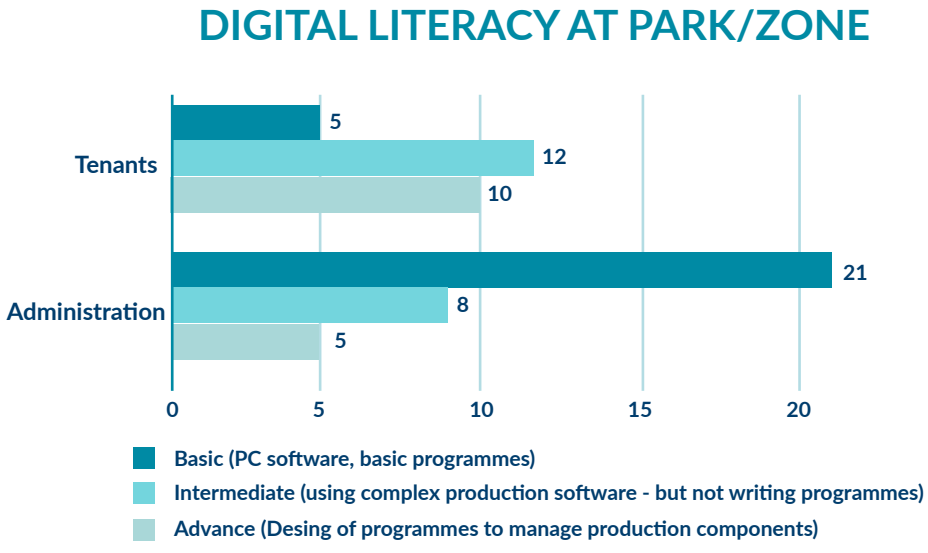
2700	*Water supply (m3/d)*
20	*Power supply (mw)*
40	*Bandwidth speed (mbps)*
6	*Renewable energy use (%)*

All of this data is new and has not been discussed in prior literature on SEZs in Africa.

2.7.3. Digitalization

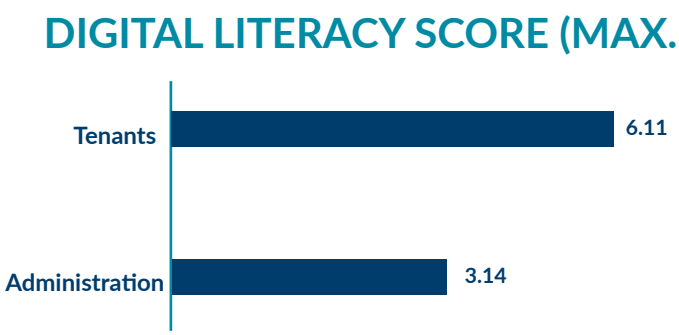
Excluding the use of basic programmes, ***the level of ICT knowhow in African SEZs is, unsurprisingly, higher amongst tenants than it is amongst their (largely public) zone operators***, as displayed in Figure 37. This is essentially down to tenant knowhow in the areas of production and production management software.

Figure 37: *Digital literacy in SEZs*



*Still, even tenant digital literacy (**Figure 38**) is viewed as just at a "6 out of 10" level (as opposed to "3 out of 10" for operators); the level of ICT services outsourcing is about the same, both for the zone tenants and operators, as is the capacity for internally resourcing such services.*

***Figure 38:** Digital literacy score*



The global average mobile Internet download speed is 30.8Mbps. This survey finds that African SEZs compare well to this standard, offering a median of 40Mbps speed. For fixed broadband, available in most of the world's SEZs, the global average download speed is, however, of 67.3Mbps.[43] Therefore, ***African SEZs perform poorly by global standards on a fixed bandwidth metric.*** In fact, just six African countries are considered as having relatively decent bandwidth by "Broadband Search", while four of the world's slowest five countries in terms of Internet speed are located on the continent.[44] Industry 4.0 is centered on the Internet of Things (IoT), cloud computing and analytics, AI and machine learning. These are generally considered to require 5G[45] or Wi-Fi 6 supporting platforms and bandwidth.

Still, some ***commentators highlighted the ability of basic Industry 4.0 solutions' to function on 4G networks too[46], with their speeds of 10Mbps-1Gbps.[47]***

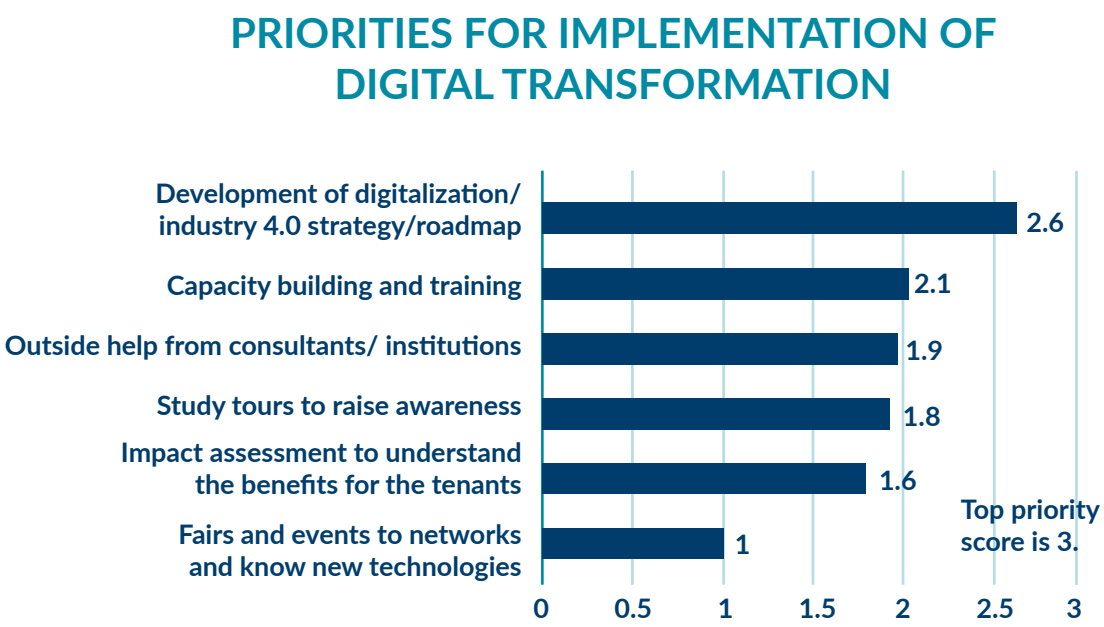
Indeed, 4G, as appears to be available in African SEZs, passes the minimum "high-speed" bandwidth test of 25Mbps or more.[48] The 40Mbps speed in African zones is hence sufficient to permit lower-level data volume processing for Industry 4.0 solutions, but clearly has its limits for the complex, data-intensive processes of a fully digital factory.

Surveyed respondents indicated three key items as being of some priority in the context of any digital transformation of Africa's SEZs:

1. *The development of an Industry 4.0 Strategy.*
2. *The associated capacity-building, including through donor assistance, technical advisory, and study tours.*
3. *Technology impact studies, as visualized in **Figure 39**.*

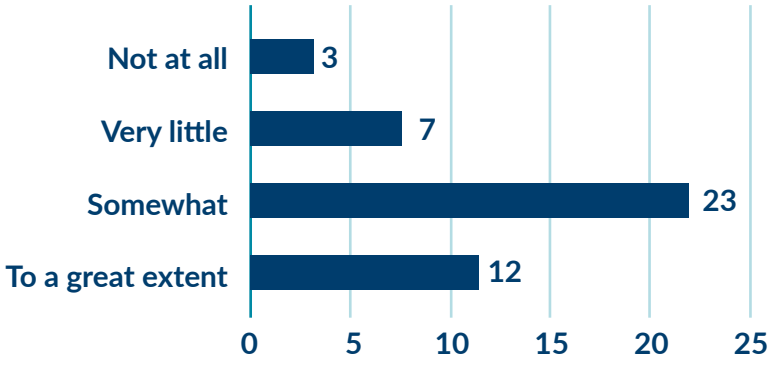
[43] While this data is available in only average form, it remains relevant in the insights it provides.
[44] See: broadbandsearch/blog/averageinternetspeed-aroundtheworld
[45] See: ieeexploreieee/stamp/stamp
[46] See: gsma/iot/networksindustry40
[47] See: electgo/resources/connectivity-interoperabilitypart1theultimateenablersforindustry40
[48] Whereas 3G was capped at 14Mbps. See: attsavings/resources/internet/speedguide/whatishighspeed/

Figure 39: Priorities for implementation of digital transformation



Finally, almost three quarters of Africa's SEZ operators indicate the COVID-19 Pandemic had at least some effect on accelerating the digital transformation amongst their tenants (***Figure 40***). This may make tenants of African SEZs more demanding in terms of improved ICT infrastructure on site. SEZ administrations in Africa are hence likely to put more emphasis on future re-investments into components of ICT infrastructure. At the same time, progress on tenants' digitalization could prompt African SEZ administration to foster their own institutional digitalization to avoid a further widening of the digital literacy gap, as reported earlier.

Figure 40: Effects of COVID-19 pandemic on SEZ's digital transformation



2.7.4. Facilities and Warehousing

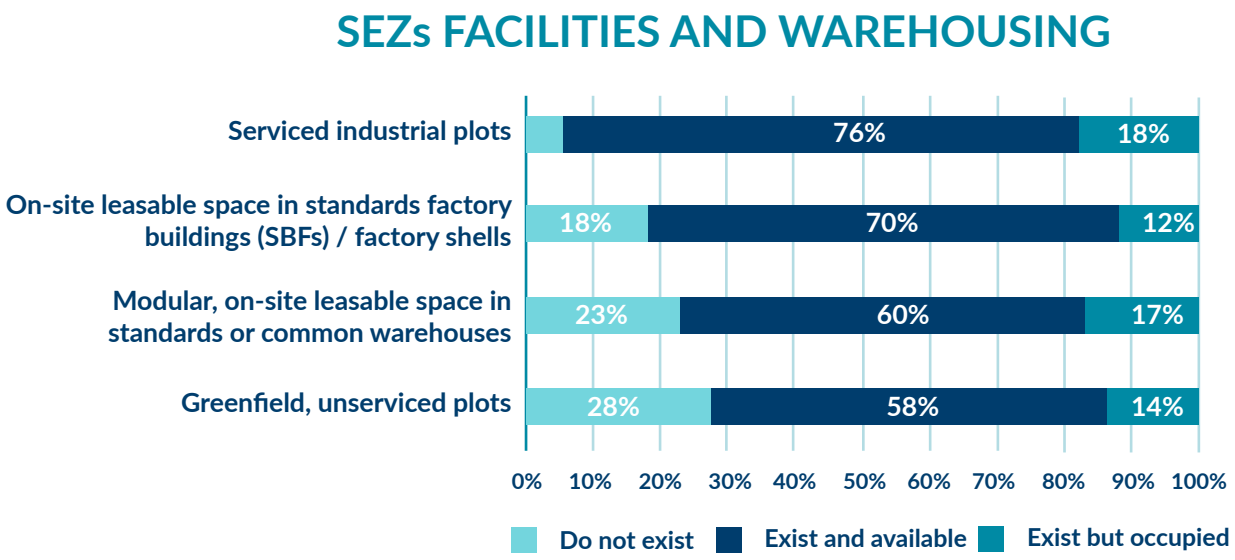
A variety of corporate location options are available to investors choosing to operate in Africa's SEZs. Indeed, 94% of them offer serviced plots to investors, 82% standard factory buildings (SFBs), 72% unserviced plots, and 77% common warehousing space (***Figure 41***). The offer is an effective one, as 76% of this stock of serviced industrial plots is currently available, just like 70% of SFBs, 60% of common warehousing, and 58% of unserviced greenfield plots. ***One of the most interesting findings of the survey is the very high number of African zones offering SFBs and common warehousing, with both figures at around the 80% level.***

This is high by global standards: unpublished FIAS data found that just 32 of 186 SEZs reviewed in 2008 (i.e. 17% of the total) had common warehousing.

This perhaps suggests an understanding on the part of African zone operators that zone developer-operators should mitigate the risks associated with high capital outlays on immoveable assets to match the needs of investors.

On the other hand, the risk of high initial investment costs for the developer not leading to expected occupancy levels is also significant, which could lead to a heightened risk of zones failure.

Figure 41: *SEZs' facilities and warehousing*



As shown in ***Figure 42 below, a preponderance (i.e. 32%) of African SEZ warehouses are in the 1,000-5,000m2 size range; the next largest share (at 26%) is the 5,000-10,000m2 range, meaning that 58% of warehouses fall between 1,000m2 and 10,000m2 in size. Another 26% are under 1,000m2, while just 16%, or a total of five survey respondents, indicated they had warehouses of over 10,000m2 in size, with four of these having over 20,000m2 in warehousing space available.***

Figure 42: Warehouse sizes by area

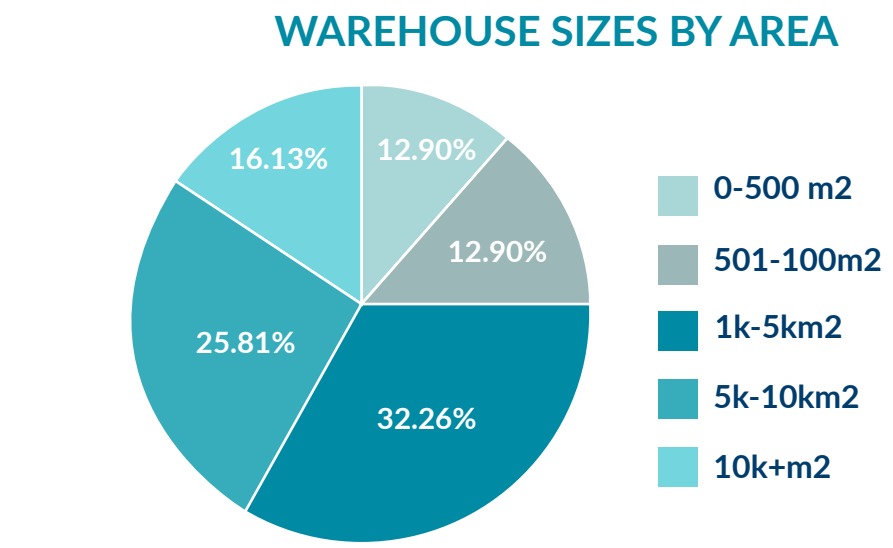
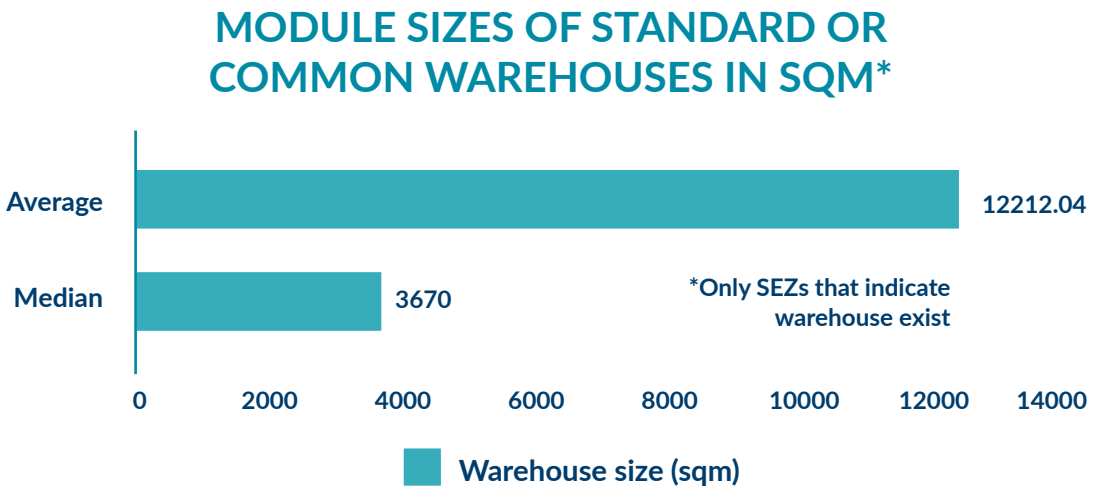


Figure 43: Key figures on warehouse sizes



While the median 3,670m2 size of the continent's SEZ common warehousing facilities (Figure 43) is very small by world standards (for reference, the average warehouse measures nearly 17,000m2 in the US[49] and 32,000m2 in the UK in 2020[50]) , the fact that nearly 60% still have warehousing space capacity available suggests that they are rightsized for their markets. Our survey's findings on whether African SEZ plots are serviced, on SFBs, on warehousing space, and on their size and availability, provide new data to an area of study that was previously unavailable within the literature.

[49] See:amsc-usa/blog/warehouse-size/average20business
[50]See: savills/research_articles/229130/Thewarehouse,increased2011

2.8. Investment Policy and Marketing

2.8.1. Policy and Legislation

It is significant that ***almost all (92%) programmes of the survey respondents appear to be promoted through a dedicated regulatory framework.*** The implication of this finding is that, whatever the marketing semantics and national political considerations, ***most African countries have adopted a "Special Economic Zone" program, by any conventional definition, rather than limiting their serviced industrial infrastructure offering to simple industrial parks.***

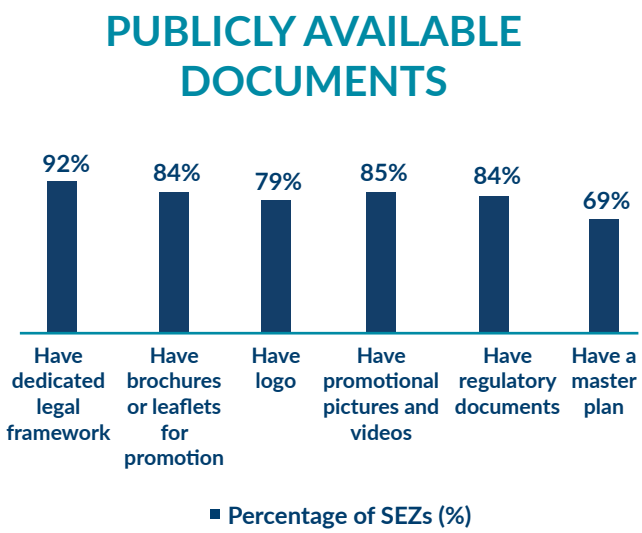
Comparing these findings to past ones, it is interesting to note that, using a different approach, UNCTAD (2021) found just 37 of the 54 African countries (or 69% of them) to have a dedicated legal framework for SEZs. It is therefore possible to interpret this survey's findings as indicating ***progress on this front in both absolute and relative terms.***

2.8.2. Marketing

From an investment marketing standpoint, the survey conclusively demonstrates that traditional marketing is favoured by most African zones, with 84% of them using brochures or leaflets, 79% branding themselves with a logo, and 85% of them utilizing photos or videos in their marketing efforts (***Figure 44***).[51] ***What is not clear is how sophisticated the web-based and social media strategies of African zones programmes are.***

How many have websites at all, and how interactive are they? Are these websites designed to be mobile-phone compatible and mobile-app friendly? Is it possible to file application forms of various types through form-field based submissions, document management system (DMS) software functionality and ERP treatment? Is there cross-functionality with national online investment promotion agency and one-stop shop portals? How many African SEZ websites leverage geographic information systems (GIS) to provide detailed information for corporate location decision-making? Do their sites link to national legal databases? Do the websites enable sophisticated customer relationship management (CRM) through appropriate customer tracking and ERP software interface? Do the zones have LinkedIn or Facebook pages and social media strategies?

Figure 44: *Publicly available documents*



[51] Numbers include non-responses.

3. Conclusions

3. Conclusions

This report aimed to share insights stemming from an in-depth survey of the African SEZ landscape. Its results are based on quantitative and qualitative evidence and offer some important findings:

Africa's SEZs are sited at a mean distance of almost 200km from their nearest container port – a significant disadvantage, when compared to international averages. This is primarily due to the fact that landlocked countries represent about a third of the continent's total SEZ count.

African zones typically offer 360ha in leasable land to investors, in contrast to the large-scale Chinese and Freeport mega-zones models of East Asia, but remain larger than conventional industrial parks' scale, globally. They also appear to be vibrant, with three quarters currently planning to expand, on average by an additional 150ha.

With average investments of over US$ 200 million, Africa's zones are in line with global SEZ infrastructure spending norms. Most operational African SEZs boast waste collection services (96%) and wastewater treatment (79%), and over half has (53%) cascaded water supply. Median power supply in African zones is 20MW.

A vast majority of African zones offer SFBs (82%) and common warehousing (77%) - a very high share by global standards - suggesting that SEZ operators understand that the risks associated with high capital outlays on immoveable assets by tenants necessitate mitigation measures. Although the median 3,670m2 size of the African zones' common warehousing facilities is very small by world standards, the fact that nearly 60% still have available space suggests they are rightsized for the market.

While most (56%) African zones have fewer than 50 tenants, this is not far off global norms. Notwithstanding, African tenants to tend to be large investors. A full half (50%) of African zone developers invest over US$ 200 million in their SEZ's infrastructure, while over three quarters (77.5%) of them invest at least US$ 50 million.

Given the 29% share of renewables in the global power generation mix in 2022, the median value of just 6% recorded in African SEZs still lags far behind world standards. This tends to corroborate a finding that "affordable and clean energy" is an "urgent priority" for 40% of African SEZs, ranked fourth overall (after infrastructure, growth, and clean water). While nearly 64% of zones have environmental goals or policies, less than a third (32%) believe that they have achieved good practices or outcomes in this regard. However, it is noteworthy that investment in autonomous renewable energy infrastructure could currently prove rather prohibitive in practice for many zones.

Clinics and health programmes, along with training, followed by canteens, sports facilities and programmes, as well as security, are African SEZs' main social amenities. Actual outcomes, however, largely fail to match prescribed CSR goals. While 64% of African zones have an environmental policy, 60% occupational health and safety policies, and 38% worker rights policies, only few succeed in effectively delivering on them.

Almost all (92%) of surveyed African zone programmes possess a dedicated regulatory framework and thus offer a true "Special Economic Zone" programme, as opposed to simple industrial parks. Almost all operational African SEZs boast an on-site regulatory one-stop shop and customs (91%) presence, with survey evidence pointing to an increase in the availability of such services.

Advanced ICT knowhow and digital literacy in African zones is rated "6 out of 10" for tenants, but just "3 out of 10" when it comes to operators, whereas use of outsourced services was estimated to be about the same. Moreover, African zones perform poorly by global standards as regards fixed bandwidth, at a median 40Mbps. Nevertheless, basic Industry 4.0 solutions remain functional on the sub-gigabyte 4G networks available in most African SEZs, as these still exceed minimum "high-speed" bandwidth standards of 25Mbps. Furthermore, almost three quarters of African zone operators indicate that the COVID-19 Pandemic accelerated digital transformation amongst their tenants.

Contrary to most of the rest of the world, where SEZs tend to be privately owned and managed, nearly half of Africa's zones are in public ownership.

Most African SEZs favour traditional marketing. A lot of aspects related to online communication and visibility remain little explored and/or unclear, and constitute therefore potential avenues for future research: how many SEZs have websites; how interactive they are; whether they are designed to be mobile-phone compatible and mobile-app friendly; whether it is possible to file and see SEZ forms of various types through form-field, DMS, and ERP applications; whether there is cross-functionality with national investment promotion agency and one-stop shop portals; how many zone websites leverage GIS in corporate location decision-making; whether existing zone sites link to national legal databases; enable CRM through customer tracking and ERP software, or have LinkedIn or Facebook pages and social media strategies, to mention a few.

The median African SEZ has created over 2,000 jobs - a strong record globally. Nonetheless, zone employment continent-wide, at around 322,000, may have decreased from the FIAS (2008) figures of 563,000, representing a downward inflexion that has seemingly emerged following the end of the Multi-Fibre Agreement. African PPP-based zones generate the most jobs, with on average 5,000 jobs each, followed by public zones at 2,000, and private ones at 500. It seems probable that a PPP-based ownership structure seems to deliver the best results for Africa's political economy. Women account for a mere 36.9% of totals jobs created. This result contrasts the perception that employment generated in RMG cutting and stitching and electronics assembly activities is most female. The agro-allied, vehicle assembly, chemical & pharmaceutical, and logistics activities that are now present in African SEZs seem likely to have led to this shift.

African zones are primarily focused on agro-allied activities (18.6% of investments) and RMG (17.1%), with ancillary logistics and related activities altogether accounting for nearly another quarter (24.3%). More interestingly, pharmaceutical & chemicals come next (7.14%), followed by vehicle assembly (at 5.71%). Other manufacturing areas include construction materials and electronics. While survey data can be read as showing limited evolution in terms of the impact of African zones on sectoral diversification, this survey's finding that vehicle assembly now represents 5.71% of African SEZ investment, is new and noteworthy. Such activities prevalently comprise metalworking, machinery, and equipment manufacturing combined. This noteworthy result represents at least one promising shift from the African zones' traditional focus areas.

The way forward for African SEZs

Overall, what do these findings infer? With reference to UNCTAD's (2021) list of lessons learned in SEZ planning, design, and implementation, it is important to reiterate the following considerations:

- Leverage strategic locational advantages
- Give infrastructure sufficient emphasis
- Think bigger – size matters
- Choose an appropriate sectoral focus
- Boost ESG performance as a competitive edge
- Assess the financial viability of a zone throughout its development and implementation
- Place sufficient emphasis on investment promotion

Examining the UNIDO-AEZO survey's findings at a macro/meta level, it is possible to narrow down the considerations above to three salient, potentially critical lessons regarding African SEZs that are yet to be more fully internalized. These results are, namely, that:

1 *Zones are relatively well set up, but have poor (often publicly-driven) management structures, which by design and/or operations impede the achievement of progress on the zones' prescribed goals.*

2 *The important need for SEZs to harness digitalization as a means to develop and deliver more economic impact.*

3 *African countries would benefit from a sustained and greater focus on using SEZs policies to foster sectoral diversification in the respective economies.*

On the first point, the location, scaling determinations, infrastructure and services offered and provided by African SEZs are overall relatively sound.

The relative lack of long term, transformational economic impact from these zones in their respective host economies is likely stemming from their sub-optimal design and set-up, as well as from a poor management that fails to capitalize on their asset base. Indeed, the survey finds that the gap between having goals and achieving them to a satisfactory degree is a large one, and this result is consistent with the literature that universally finds the situation with respect to the management quality of African SEZs to be unsatisfactory. ***Improving the quality of overall SEZ management and the understanding of how to manage zones effectively and purposefully is therefore a key priority.***

One of the areas in which this is manifest lies in the need for further leveraging of the benefits from digitalization, both at the infrastructural level, in terms of connectivity and bandwidth, and at the operational level, in terms of digitally promoting zones and the businesses within them. ***Improving ICT facilities in African SEZs should therefore also be a key priority, especially through developing an Industry 4.0 Strategy; implementing associated digitally aligned capacity-building, achieved through comprehensive technical assistance and advisory support (peer-to-peer learning, study tours, etc.); and undertaking technology impact studies.***

Finally, African SEZs offer a distinct opportunity to diversify the sectoral make-up of their host economies. Survey findings suggest that Africa's SEZs production-related activities are focused primarily on agro-allied productive activities, closely followed by the stitching of ready-made garments.

Given the incentives which SEZs can provide to various enterprises, the continued lack of application of the SEZ concept to the African tourism sector - a major growth area - represents a missed opportunity, given the success of the (resort) tourism SEZ model implemented and applied in Southeast Asia, the Caribbean, and the Russian Federation. Similarly, ICT, computing, and software related activities remain negligible in African SEZs, as does the financial sector (including offshore finance activities), which are all but non-existent in the continental economic structure.

Sectoral diversification in African SEZs through specialized applications, particularly in tourism and ICT, thus remains an important opportunity which has yet to be capitalized upon.

Moving forward, African SEZs should focus on these three strategic opportunities for improvement and development in order to more strategically promote foreign and domestic direct investment in emerging economic growth areas, and thereby ensure that such growth path serves to maximize the zones' future success and economic impact at continental level.

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Annex

Questionnaire of the UNIDO-AEZO survey

1. Official name of the park/zone.
2. Country in which the park/zone is located.
3. Location of the park/zone.
4. Web address (URL) of the park/zone.
5. Facebook page.
6. LinkedIn page.
7. E-mail address.
8. Telephone numbers.
9. Skype ID.
10. Twitter handle.
11. Please provide the details of the highest-ranking official of the economic zone/industrial park management.
12. Please provide the contact details for the external communication or public relations manager.
13. Please indicate the promotional statement of the park/zone.
14. Are the documents listed below publicly available for the zone/park?
15. Operating status of the park/zone.
16. Surface space in the park/zone. (Developed surface space, Total available leasable space in park/zone's currently developed space)
17. Are upcoming expansion phases planned?
    - **17.a.** What is the total available pre-leasable space in upcoming phases (in ha)?
18. Main industry/sector in terms of hectare allocation for operational tenants.
19. Is there a dedicated park/zone legal framework?
    - **19.a.** If a dedicated park/zone legal framework exists, please cite law/regulation name and reference.
20. What are the key tax and financial incentives offered by law in the park/zone?
21. Distance to the nearest. (National highway/motorway, Railway dry-port, Sea-port container terminal, Airport cargo terminal, Urban area with > 100,000 inhabitants)
    - **21.a.** Name of the nearest. (Sea-port container terminal, Airport cargo terminal)
22. Amount of capital investment by. (IP/SEZ developer(s) in park infrastructure, Private occupants/tenants inside the IP/SEZ)
23. How many full time equivalent (FTE) jobs were created inside the park/zone?
    - **23.a.** What is the female labor force participation rate in this SEZ?(%)
24. What is the park/zone management entity (name)?
25. What is the park/zone ownership structure?
26. What is the park/zone management modality?
27. Mark if the park/zone has certification or implement the best practices on. (the quality management standards (like ISO 9001 or equivalent), the environmental management standards (like ISO 14001 or equivalent), the energy management standards (like ISO 50001 or equivalent), the social responsibility/sustainability standards (like ISO 26000 or equivalent).)
    - **27.a.** If there are dedicated personnel (as part of the park management entity) to plan, manage, and enforce environmental, social, and governance standards, mark where it is appropriate. **27.a.i.** Are there any social/sustainability projects that the park/zone administration has initiated? **27.a.i.a**. If yes, please provide details about the social/sustainability projects.

28. Which United Nations Sustainable Development Goals has your Park/Zone identified as requiring the most urgent future action?
29. What is the park/zone regulatory authority/agency/ministry name?
30. Please indicate the park/zone regulatory authority/agency/ministry website.
31. Are there the following facilities? (On-site one-stop-shop, On-site customs, Waste collection, Centralized wastewater treatment, A physical network for water reuse/cascading of water)
32. Can you please indicate the following capacities? (Water supply (m3/d), Power supply (MW), Communication bandwidth speed (Mbps)
    32.a. What is the share of renewable energy use for electricity and heat production in the industrial park?
33. Please indicate the key investor services offered in the park/zone by the park/zone operator.
34. Current availability of. (Serviced industrial plots, Greenfield, unserviced plots, On-site leasable space in standard factory buildings (SFBs) /factory shells, Modular, on-site leasable space in standard or common Warehouses)
35. If standard or common warehouses are available, indicate the module sizes in square meters (sqm).
36. Number of total occupants/tenants.
    36.a. Leased only.
    36.b. Production facilities under construction.
    36.c. Operational.
37. How would you assess the level of digital literacy at the industrial park?
38. In the field of digitalization/Industry 4.0, the industrial park has.
39. How mature do you think are industry 4.0 and digitalization among the tenants of this industrial park in the following areas?
40. Where is the industrial park seeing the biggest chances when it comes to the implementation of digital technologies?
    40.a. If you selected manufacturing and product development, which of the following digital technologies would be the most beneficial for the tenants of the industrial park?
41. To what extent following items are impediments for the adoption of industry 4.0 and digitalization in this industrial park?
42. Suppose the industrial park has sufficient resources to fund digital transformation. Which of three items among the following areas would be selected for the implementation?
43. How much has the demand increased in the following areas in your line of work due to the COVID-19 pandemic?
44. Has the COVID-19 pandemic accelerated the industrial park's digital transformation?
45. Please choose the corporate policy field(s) treated/defined in your park/zone's binding internal document?
46. Please provide the following details about the respondent.

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INDUSTRIAL DEVELOPMENT ORGANIZATION

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