Michele Pigliucci (Ed.)

Special Economic Zones: Challenges and Opportunities for Territorial Development

Geographies of the Anthropocene

Il Sileno Edizioni

Preface by Ugo Patroni Griffi

Michele Pigliucci (*Ed.*)

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The book series “Geographies of the Anthropocene” edited by the Scientific International Publisher “Il Sileno” (Il Sileno Edizioni) will discuss the new processes of the Anthropocene epoch through the various worldviews of geoscientists and humanists, intersecting disciplines of Geosciences, Geography, Geoethics, Philosophy, Socio-Anthropology, Sociology of Environment and Territory, Psychology, Economics, Environmental Humanities and cognate disciplines.

Geoethics focuses on how scientists (natural and social), arts and humanities scholars working in tandem can become more aware of their ethical responsibilities to guide society on matters related to public safety in the face of natural hazards, sustainable use of resources, climate change and protection of the environment. Furthermore, the integrated and multiple perspectives of the Environmental Humanities, can help to more fully understand the cultures of, and the cultures which frame the Anthropocene. Indeed, the focus of Geoethics and Environmental Humanities research, that is, the analysis of the way humans think and act for the purpose of advising and suggesting appropriate behaviors where human activities interact with the geosphere, is dialectically linked to the complex concept of Anthropocene.

The book series “Geographies of the Anthropocene” publishes online volumes, both collective volumes and monographs, which are set in the perspective of providing reflections, work materials and experimentation in the fields of research and education about the new geographies of the Anthropocene.

“Geographies of the Anthropocene” encourages proposals that address one or more themes, including case studies, but welcome all volumes related to the interdisciplinary context of the Anthropocene. Published volumes are subject to a review process (**double blind peer review**) to ensure their scientific rigor.

The volume proposals can be presented in English, Italian, French or Spanish.

The choice of digital Open Access format is coherent with the flexible structure of the series, in order to facilitate the direct accessibility and usability by both authors and readers.

Contents

Preface

The concept of Special Economic Zones (SEZs) has emerged as one of the most significant policy instruments in contemporary territorial development, fundamentally reshaping how nations approach economic growth, spatial planning, and regional integration. From China's pioneering Shenzhen experiment in the 1980s to the proliferation of SEZs across developing and developed economies alike, these designated areas have become laboratories for testing new models of governance, investment attraction, and territorial transformation. Yet, as this comprehensive volume demonstrates, the story of SEZs is far more complex than simple economic success narratives—it is a story of profound territorial challenges, governance innovations, and the ongoing struggle to balance economic objectives with social equity and environmental sustainability.

This volume, Special Economic Zones: Challenges and Opportunities for Territorial Development, emerges at a critical juncture in global economic geography. As the world grapples with the aftermath of the COVID-19 pandemic, accelerating climate change, and growing spatial inequalities, the role of SEZs in territorial development has never been more scrutinized or more essential to understand. The nine contributions gathered here, selected through a rigorous international peer-review process, offer a rich tapestry of perspectives that spans continents, methodologies, and theoretical frameworks, providing readers with both breadth and depth in understanding how SEZs function as instruments of territorial transformation.

The urgency of understanding SEZs in their full complexity cannot be overstated. According to recent estimates, there are now over 5,000 SEZs operating worldwide, affecting millions of workers and reshaping vast territorial landscapes. These zones represent far more than simple economic enclaves; they function as "territorial ecosystems" that fundamentally alter land use patterns, governance structures, social relationships, and environmental conditions in their host regions. As several contributors to this volume demonstrate, SEZs operate simultaneously as spaces of opportunity and spaces of risk—generating employment and investment while potentially exacerbating spatial inequalities, environmental degradation, and social displacement.

The contributors to this volume recognize that SEZs cannot be understood

in isolation from their broader territorial contexts. Whether examining the post-apartheid spatial transformation in South Africa, the marginalized territories of Sicily, or the rapidly evolving landscape of Chinese economic development, each chapter reveals how SEZs are deeply embedded within specific geographical, historical, and institutional frameworks. This territorial embeddedness is not merely a contextual detail but a fundamental aspect of how SEZs function, succeed, or fail in their development objectives.

One of the most significant contributions of this volume lies in its methodological innovation, particularly in the application of Territorial Impact Assessment (TIA) frameworks to SEZ analysis. The integration of TIA methodologies—including the STeMA (Sustainable Territorial Environmental/Economic Management Approach) and other assessment tools—represents a crucial advancement in how we evaluate and govern SEZ development. As demonstrated in the Italian case studies, particularly the work on the "Unique SEZ" in the Mezzogiorno, TIA provides a systematic approach to understanding how SEZs interact with their territorial contexts, affecting everything from governance structures to environmental sustainability.

The volume's emphasis on adaptive governance models reflects a growing recognition that SEZs require flexible, multi-scalar approaches that can respond to changing territorial dynamics. The Russian case study's analysis of site selection processes, the Polish experience with transitioning from geographically bounded SEZs to the nationwide Polish Investment Zone (PIZ), and the South African examination of post-apartheid spatial transformation all demonstrate how SEZ governance must evolve to address complex territorial challenges.

The geographical scope of this volume—spanning from the Mediterranean shores of Tangier to the industrial heartlands of China, from the marginalized territories of Southern Italy to the post-socialist landscapes of Poland and Russia—provides readers with a truly global perspective on SEZ development. This diversity is not merely illustrative but analytically productive, revealing both universal patterns and context-specific variations in how SEZs function as instruments of territorial development. The Moroccan case study of Tangier's free zones offers particularly valuable insights into how SEZs function as "globalized islands" within national territory, simultaneously connected to global economic networks while potentially disconnected from their immediate territorial contexts. This paradox of connection and disconnection

emerges as a central theme throughout the volume, challenging simplistic narratives about SEZs as straightforward drivers of regional development.

Similarly, the Chinese experience, with its evolution from the original four SEZs to the current network of over 2,000 zones, provides crucial insights into how SEZ models can be scaled, adapted, and integrated into broader national development strategies. The analysis of China's Belt and Road Initiative and its relationship to SEZ development offers important perspectives on how these zones are becoming instruments of global economic governance.

Perhaps one of the most pressing contributions of this volume is its frank examination of the environmental and social costs associated with SEZ development. The chapter on environmental and social sustainability in SEZs across developing countries provides a sobering analysis of how the pursuit of economic benefits often comes at significant environmental and social costs. The documentation of overutilization of natural resources, pollution, waste disposal challenges, and carbon emissions associated with SEZ projects highlights the urgent need for more sustainable approaches to zone development. The volume's contributors consistently argue that sustainability cannot be treated as an afterthought in SEZ development but must be integrated into governance frameworks from the outset. The Italian experience with incorporating circular economy principles into SEZ planning, the emphasis on "green SEZ" frameworks in various international contexts, and the development of comprehensive indicator systems for monitoring environmental and social impacts all point toward more sustainable models of SEZ development.

A central theme running throughout this volume is the recognition that effective SEZ governance requires new forms of institutional innovation and territorial coordination. The analysis of governance models across different contexts reveals the importance of multi-level governance approaches that can coordinate across scales—from local communities to national governments to international frameworks. The Italian case studies, particularly the work on Territorial Impact Assessment in the Mezzogiorno, demonstrate how SEZs can serve as platforms for broader territorial cohesion strategies. Rather than functioning as isolated economic enclaves, SEZs can be designed and governed as integrated components of regional development strategies that promote spatial justice, environmental sustainability, and social inclusion.

The volume's emphasis on participatory governance models—from the Community Impact Evaluation approaches in Campania to the stakeholder engagement processes documented in various international contexts—reflects a growing recognition that SEZ success depends not just on economic metrics but on the quality of governance relationships and the extent to which local communities are meaningfully involved in development processes.

As this volume makes clear, the future of SEZs as instruments of territorial development will depend on our ability to learn from both successes and failures across different contexts. The contributors point toward several key areas for future research and policy development: adaptive governance systems that can evolve with changing territorial dynamics and incorporate continuous learning and adjustment mechanisms; integrated assessment methodologies for evaluating SEZ impacts across multiple dimensions; sustainable development models that integrate sustainability principles from the outset; territorial justice approaches that ensure equitable benefit distribution; and global governance coordination frameworks that align SEZ development with international sustainability goals.

This volume positions SEZs not simply as economic policy instruments but as laboratories for territorial innovation—spaces where new models of governance, sustainability, and development can be tested and refined. The diversity of experiences and approaches documented here demonstrates that there is no single model for successful SEZ development, but rather a need for context-sensitive approaches that are grounded in rigorous analysis of territorial dynamics. The contributors to this volume have provided scholars, policymakers, and practitioners with both the analytical tools and the empirical insights necessary to navigate the complex challenges of SEZ development in the 21st century. Their work reminds us that the ultimate success of SEZs must be measured not just in terms of economic outputs but in terms of their contribution to more just, sustainable, and resilient forms of territorial development.

As we face an era of unprecedented global challenges—from climate change to growing spatial inequalities to the need for more inclusive forms of economic development—the insights provided in this volume offer valuable guidance for reimagining how SEZs can serve as instruments of positive territorial transformation. The future of SEZs, as this volume demonstrates, depends on our collective ability to learn from diverse experiences and to

develop more sophisticated, sustainable, and socially responsible approaches to territorial development. The editors and contributors to this volume have provided an invaluable service to the scholarly community and to practitioners working on territorial development around the world. Their work sets a new standard for rigorous, comparative analysis of SEZ development and points toward more promising futures for these important policy instruments.

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SECTION I

Theoretical Foundations and Conceptual Approaches

1. Special Economic Zones as a tool for territorial development: a literature review

Michele Pigliucci[1]

Abstract

Special Economic Zones are geographically defined territories wherein some special conditions are provided for attracting investment: in this sense, this is an advanced tool for territorial development. This chapter aims at providing a literature review on this role of SEZs in territorial development, tracing the evolution of SEZs and analysing their role in attracting foreign direct investment (FDI). The chapter reviews some literature on the topic, highlighting the conditions through which SEZs can contribute to socio-economic growth, like infrastructure quality, governance, localization strategies, and policy coherence, while considering common challenges such as social inequality, environmental degradation, and policy misalignment. By highlighting both success factors and limitations, the chapter provides a conceptual framework for understanding how SEZs can support balanced territorial development, offering critical insights for policymakers in designing SEZs to be aligned with national sustainable development goals.

Keywords

Special Economic Zones, regional development, lagging regions, FDI, territory.

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1. Introduction

The institution of geographically delimited areas subjected to distinct regulatory, fiscal, and administrative frameworks, became in recent years a central instrument to stimulate industrial activity and attract foreign direct investment (FDI) in lagging regions.

Special Economic Zones (SEZs) have proliferated worldwide, also in developing economies (UNCTAD, 2019) with different impact on territories (Wong, Buba, 2017). The beginning of this tools is usually related to the setup of Shannon, Ireland, SEZ in the 1950s: since then, SEZs have evolved from simple export processing zones (EPZs) (Jayanthakumaran, 2003) to complex economic hubs integrating technologies, urban planning, and sustainable development goals (Farole & Akinci, 2011). Today, there are thousands of SEZs worldwide, particularly in Asia and Africa, which have proven valuable in achieving regional development goals.

This chapter aim at providing a literature review on the topic of SEZs as tools for territorial development, exploring the challenges and opportunities they present, by synthesizing key findings from academic studies, focusing the role of this tool in fostering regional socio-economic growth.

Objective of this chapter is to offer the conceptual framework for the chapters of the book, selected through an international Call for Chapters, which examine SEZs role in territorial development from different perspectives. By drawing on literature, this review aims to deepen the role of SEZs in boosting territorial development, highlighting the success and failure factors.

2. SEZs and Territorial Development

In order to draw a theoretical framework for SEZ role in territorial development, an economic geographical scientific approach need to match with development economics and industrial policies. SEZs are basically designed to overcome geographical and structural weakness of territorial systems, providing territories with elements aimed at boosting economic growth in specific regions (Zeng, 2011), where some condition prevents full attractiveness of investments. From

an economic geographical perspective, SEZs serve as drafting competitiveness enclaves able to attract investments to create agglomeration economies (Frick et al., 2019), facilitating positive spillovers by reducing transaction costs, and enhancing productivity through clustering of firms and industries (Kline & Moretti, 2013). In this sense, SEZ are "growth poles" able to attract targeted investments to catalyze broader economic development (Perroux, 1950).

SEZs are also intended as tool for the integration of lagging regions in global value chains (GVCs) by attracting FDI and promoting export-led growth (Warr, 1989). By offering incentives such as tax exemptions, simplified regulations and infrastructure support, SEZs create business-friendly environments aimed at compensating territorial weaknesses (Farole, 2011): furthermore, the effectiveness of the measure lays on a strong government commitment, (Moberg, 2015) without which the measure can eventually fail in achieving the development targets (Mugano, 2021).

Literature investigates also how the institution of this form of "enclave" can benefit the surrounding zone (Kleibert, 2018), by activating a development process for the entire region. On contrary, sometimes this measure can exacerbate regional disparities eventually improving inequalities (Parwez, 2016), worsening regional disparities and social inequalities (Aggarwal, 2007). The theoretical debate thus centres on whether SEZs can balance global integration with local embeddedness, ensuring that economic gains translate into broader territorial benefits.

Literature highlights the potential of SEZs in attracting FDI, promoting export and creating job, leading to territorial development. Particular interest needs to be dedicated to the role of SEZs in accelerating Chinese development, transforming economy through attracting FDI and increasing GDP growth, thanks to a strategic definition of the localization, good investments in infrastructure and a flexibility in policy making (Wang, 2013). South Korea followed the Chinese path to development, using SEZs for speeding the transition from labor-intensive to high-tech system (SaKong & Koh, 2010).

Furthermore, not every experience is such positive: in Africa and Latin America, for example, became evident how success depends on structural factors (Rodríguez-Pose et al., 2022) like infrastructures, accessibility, internationalization and governance (Farole, 2011). Some SEZs in these regions suffer from weak connections with local economies, and poor industry system

(Newman & Page, 2017) and failed to reach a robust territorial development. The gap in results between SEZs, highlights the importance of territorial-based decisions: integration in national development strategies and a specific selection of incentives were crucial elements for efficiency of Indian SEZs (Aggarwal, 2012; Hyun & Ravi, 2018) even among land acquisition conflicts (Nielsen, 2010; Parwez, 2015), while effectiveness of SEZ setup in Singapore is related to the decision to focus on high-value industries.

In addition to economic growth, the establishment of a SEZ is useful to impact on socio-economic and environmental framework of a territory, eventually by creating labor-intensive jobs (Johansson and Nilsson, 1997). However sometimes, especially in less-developed countries, these jobs lack social protections, especially for women, bringing sometimes to a worsening of quality of life (Parwez, 2016).

Furthermore, the role of SEZs in human capital development is crucial in several contexts: through skill formation and technology transfer, SEZs are sometimes able to boost innovation capacity of firms, stimulating knowledge transfer (Cheng, 2019), while in some cases territory is unable to turn SEZs in development (Frick et al., 2019).

When incorporating sustainable practices, such as green infrastructures or renewable energy, SEZs are able to foster environmental quality, helping territory to align with global sustainability goals (Danja, Wang, 2024). On contrary, poorly planned SEZs usually lead to environmental degradation, due to uncontrolled overbuilding and industrial pollution (Zeng, 2019).

3. Challenges in SEZ Implementation

SEZs can bring a significant development potential, while many elements need to be considered in order to guarantee efficiency of this measure: several challenges can undermine ability of SEZ in boosting territorial development: when paying not enough attention in some key elements, establishment of special enclaves fails in bringing benefits on territory, and even risks damaging existing industrial structure and socio-economic context. It is worth remembering that SEZ setup is a way for the Government to

intervene – even with low investment – in accelerating industrialisation of territories through building of a business-friendly environment, able to attract investments (Sinenko, Mayburov, 2017). In successful case studies, SEZ guaranteed a socio-economic development to lagging behind territories, by attracting investments able to bring benefits to the territory overcoming assistance-led economy. This turnaround usually is accompanied by major public investments in infrastructures, and by fiscal advantages able to stabilise economic development.

Intervention of the State is mandatory, in a second moment, for guaranteeing efficiency of measure, by providing infrastructures needed for the new-installed companies: it is crucial to prevent the retirement of the State in this guiding role, eventually leaving to SEZ the full role of management of the territory. On contrary, the State must coordinate infrastructure updating with investors, in order to guarantee the fulfilment of the needs of private firms.

In this sense, according to literature, some elements need to be carefully considered.

3.1. Duration of the benefit

Since the final target is to definitively reverse the depletion path of a territory, SEZ can never be considered a short-temporary measure. If not lasting enough to guarantee territorial development, SEZ is an enclave, inside which companies are reached by specific benefits: the inequality of condition inside and outside SEZ is due to need to turn a territory attractive to investment, more than surroundings. Investors will be attracted by this speciality and will help territory to overcome initial disadvantage.

SEZ can even damage territory by attracting outer firms through benefits, while damaging existing ones without guaranteeing profits. In some cases, a SEZ area risks to became a tax exemption island, able to impoverish local economies (Zeng, 2021).

Lasting of the benefit is important in this sense to guarantee that SEZ become so attractive to register higher growth levels than surrounding areas, attracting human capital, services, and new investments, turning territorial economy in self-standing.

A wrong foresee of the benefit durability will bring to a reduction in attractiveness, due to distrust from investors in recover the investment. Furthermore, in the absence of a guarantee of sufficient duration of the incentive to protect the investment reducing the risk of loss, the Zone will interest only ephemeral investments, just attracted by the desire to take quick advantage of the benefit: successful SEZs needed at least 5/10 years to guarantee the attended result (Farole, 2011).

3.2 Infrastructures

Sometimes, among the main reason to set up a SEZ there is a poor infrastructures equipment, mainly for geographic, economic or political reasons. Provision of benefit, in this case, aims at offsetting this lack, by providing financial or administrative advantages.

Furthermore, even in this case, public investment in strengthening the infrastructure network is mandatory, for guaranteeing long-term efficiency (Ambroziak, Hartwell, 2018).

Once the investment has arrived in the Zone, and productive activities have been setup thanks to the forecast of a profit, the State is called upon to intervene to ensure that this activity is effectively and durably embedded in the global network.

In particular, the literature agrees that the lack of a significant public investment in adapting infrastructure to new production needs is the cause of the failure of many ZES: in the Chinese context, for example, the effectiveness of the measure is often attributed to the efficiency of the infrastructure network (cf. Wu et al., 2021; Yeung et al., 2009).

The link with infrastructure investments thus aims to create “development corridors”, competitive and dynamic communication backbone that can represent important tools for boosting competitiveness through the rapid attraction of resources, human capital, market (Farole, 2011).

3.3. Territorial delineation and selection of benefit

Poor selection of a territory is another reason for failure of some SEZ (Pigliucci, 2025). The importance of a definition based on territorial evidence come from the need for the territory to take advantages from the opportunities: too little SEZs lack of enough territory to guarantee diversification of productive activities but can be useful to strengthen a specific sector (Esposito, 2024); too large SEZ can bring to a dispersion of the benefit, and an improvement of disparities between internal territories, especially when lacking territorial differences in provision of benefit. Territorial definition needs to start from the place-based knowledge, bringing to enhancing existing productive bases (Farole and Akinci, 2011).

Furthermore, governance issues, such as corruption or bureaucratic inefficiencies, can deter investors and reduce SEZ competitiveness (Moberg, 2015). On some occasions, literature refers about land-grabbing clashes in occasion of set up of a SEZ, especially in developing countries (Nielsen, 2010).

4. Opportunities for Territorial Development

SEZs face several challenges able to undermine their effectiveness: governance issues, corruption and bureaucratic inefficiencies can prevent investments and reduce SEZ competitiveness (Moberg, 2015). Also social resistance is a challenge, as SEZs often involve land acquisition and displacement of local communities, leading to conflicts and protests (Parwez, 2016). Environmental impacts are also significant, with SEZs potentially contributing to pollution and resource depletion if not properly regulated (Zeng, 2019).

Despite the challenges, SEZs offer significant opportunities for territorial development: when well designed and implemented, they can push towards an enhancement of connectivity and infrastructure, even outside from the area. In Mexico SEZs has been used to face economic inequality between northern and southern regions (Gómez Zaldivar, 2018), while in Laos, for example, a SEZ located in a strategic border position was able to bring a significant strengthening of the economic ties with Thailand and global markets (Brown, 2019).

Literature pays specific attention to the role of SEZs as test zones for policy development: Governments can test reforms by applying in the area, assessing effectiveness (Tantri, 2012), like in the case of China, where SEZs became laboratories for experimenting further open market reforms (Xu, 2011). China's SEZs are often cited as exemplary models of successful implementation (Su & Wang, 2024). The set up of SEZs was a turning point in China's economy, attracting significant FDI and pushing for industrialization (Zeng, 2011). China's hundreds SEZ contribute significantly to the country's GDP and export growth (Yeung et al., 2009), while facing challenges like environmental degradation and social inequality.

In Russia, SEZs were introduced to stimulate regional development and attract investment, but they had to face bureaucratic inefficiencies and a lack of adequate infrastructure (Sosnovskikh, 2017): furthermore, some SEZs have been able to leverage strategic locations and attract investments.

Since the measure is not new in regional development policies, literature is asking what kind of direction this tool will take in the context of a quickly changing economic framework, characterised by the new role of digital economy, the crisis of globalisation, and the policy framework of sustainability (Narula, & Zhan, 2019), forcing SEZ to address contemporary challenges, such as climate change and fast-updating digital technologies. For instance, some SEZs in Asia are starting to incorporate advanced technologies in order to enhance efficiency and competitiveness (UNCTAD, 2019), while some other are more focusing on social inclusion, promoting gender equality, local entrepreneurship, and community engagement, like in Rwanda, where SEZ programs are emphasizing local supplier integration to maximize spillovers (RDB, 2024).

In this sense, several topics are interesting paths for future researches: the issue of the measure of long-term territorial impacts of SEZ, for example, still lacks quantitative studies, and so the topic of governance models and role of leadership in different state models (Chauke, 2022), as well as environmental sustainability issues.

Through the lens of literature, SEZs look like a multifaceted tool for territorial development: while able to drive economic growth of lagging regions, the success of this instrument lays on strategic planning of territory, territorial-based choice of benefits, selection of a strong and efficient governance model...

Far from being an automatic tool for development, in facts, it face several challenges to be addressed, such as enclavism (Kiesel, Dannenberg, 2023), improvement of social inequalities, unwanted territorial impacts… As SEZs continue to evolve, their potential to face development issues, keeping an eye to territorial equality and sustainability, remains a topic to be explored for research and practice.

References

Aggarwal, A. (2007). *Impact of Special Economic Zones on Employment, Poverty and Human Development*, Working Paper no. 194, Indian Council for Research on International Economic Relations (ICRIER).

Aggarwal, A. (2012). *Social and Economic Impact of SEZs in India*. OUP Catalogue.

Brown, A. (2019). Territorial (In) Coherence: Labour and Special Economic Zones in Laos's Border Manufacturing. *Antipode*, 51(2). 438-457.

Chauke, K. R. (2022). Special Economic Zones: Is it an Elixir for economic growth in South Africa. *Technium Soc. Sci. J*., 33, 16.

Cheng, T. (2019). Special Economic Zones: A Catalyst for International Trade and Investment in Unsettling Times?. *The Journal of World Investment & Trade*, 20(1), 32-67

Danja I.I., Wang X. (2024). "Matching comparative advantages to special economic zones for sustainable industrialization", *Heliyon*, Volume 10, Issue 14.

Esposito V. (2024). «Reflections on exploiting the potential of Special Economic Zones», *GeoProgress Journal*, Vol.11 Special Issue 1, ISSN 2384-9398, pp. 33-48.

Farole, T., & Akinci, G. (2011). *Special Economic Zones: Progress, Emerging Challenges, and Future Directions*. World Bank.

Farole, T. (2011). *Special Economic Zones in Africa: Comparing Performance and Learning from Global Experience*. World Bank.

Frick, S. A., Rodríguez-Pose, A., & Wong, M. D. (2019). Toward Economically Dynamic Special Economic Zones in Emerging Countries. *Economic Geography*, 95(1), 30–64.

Gómez Zaldívar, F., & Molina, E. (2018). Special economic zones and their impact on regional economic development. *Problemas del desarrollo*, 49(193), 11-32

Jayanthakumaran, K. (2003). Benefit–cost appraisals of export processing zones: A survey of the literature. *Development policy review*, 21(1), 51-65

Johansson, H., & Nilsson, L. (1997). Export Processing Zones as Catalysts. *World Development*, 25(12), 2115–2128.

Hyun, Y., & Ravi, S. (2018). Place-based development: evidence from special economic zones in India. *Institute for Economic Development (IED) Working Paper Series*, Boston University.

Kiesel, C., & Dannenberg, P. (2023). Special Economic Zones in the Global South: Between integrated spaces and enclaves–a literature review. *DIE ERDE–Journal of the Geographical Society of Berlin*, 154(1-2), 5-19.

Kleibert, J. M. (2018). Exclusive development (s): Special economic zones and enclave urbanism in the Philippines, *Critical Sociology*, 44(3), 471-485.

Kline, P., & Moretti, E. (2013). Local Economic Development, Agglomeration Economies and the Big Push: 100 Years of Evidence from the Tennessee Valley Authority. *The Quarterly Journal of Economics*. 129.1, 275-331.

Moberg, L. (2015). The Political Economy of Special Economic Zones. *Journal of Institutional Economics*, 11(1), 167–190.

Mugano, G. (2021). Special Economic Zones: Showcasing Success and Failures. In: *Special Economic Zones*. Palgrave Macmillan, Cham

Narula, R., & Zhan, J. (2019). Using Special Economic Zones to Facilitate Development: Policy Implications, *Transnational Corporations*, 26(2).

Newman, C., & Page, J. M. (2017). *Industrial clusters: The case for special economic zones in Africa* (No. 2017/15). WIDER Working Paper

Nielsen, K. B. (2010). Contesting India's development? Industrialisation, land acquisition and protest in West Bengal. *Forum for Development Studies* (Vol. 37, No. 2, pp. 145-170). Routledge

Parwez, S. (2016). A Study on Special Economic Zone Implicated Land Acquisition and Utilisation. *International Journal of Development and Conflict*, 6(2), 136–153.

Perroux F. (1950). "Growth Poles. Economic Space: Theory and Applications", *Quarterly Journal of Economics*, 64, 89-104.

Pigliucci M. (2025). *La Zona Economica Speciale Unica. Geografia economica della ZES del Mezzogiorno d'Italia*, FrancoAngeli, Milano.

Rodríguez-Pose A., Bartalucci, Frick S.A., Santos-Paulino A.U., Bolwijn

R. (2022). “The challenge of developing special economic zones in Africa: Evidence and lessons learnt”, *Regional Science Policy & Practice*, Volume 14, Issue 2, pp. 456-482,

Sakong, I., & Koh, Y. (2010). *The Korean economy: Six decades of growth and development*, Korea Development Institute, Seoul.

RDB (2024). *Rwanda Development Board Annual Report*. RDB.

Sosnovskikh, S. (2017). Industrial clusters in Russia: The development of special economic zones and industrial parks. *Russian Journal of Economics*, 3(2), 174-199.

Sinenko O., Mayburov I. (2017). «Comparative Analysis of the Effectiveness of Special Economic Zones and Their Infl uence on the Development of Territories», *International Journal of Economics and Financial Issues*, 7(1), 2017, pp. 115-122.

Su, X., & Wang, S. (2024). Impact of China’s free trade zones on the innovation performance of firms: Evidence from a quasi-natural experiment. *Humanities and Social Sciences Communications*, 11(1), 1-17.

Tantri, M. L. (2012). China’s Policy for Special Economic Zone: Some Critical Issues. *India Quarterly*, 68:3. 231-250

UNCTAD. (2019). *World Investment Report: Special Economic Zones*. United Nations.

Wang, J. (2013). The Economic Impact of Special Economic Zones: Evidence from Chinese Municipalities. *Journal of Development Economics*, 101, 133–147

Warr, P. G. (1989). Export Processing Zones: The Economics of Enclave Manufacturing. World *Bank Research Observer*, 4(1), 65–88.

Wong, M. D., Buba, J. (2017). *Special economic zones: an operational review of their impacts.* Washington, D.C.: World Bank Group.

Wu M., Liu C., Huang J. (2021). The special economic zones and innovation: Evidence from China, *China Economic Quarterly International*, Volume 1, Issue 4, Pages 319-330,

Xu, C. (2011). The Fundamental Institutions of China’s Reforms and Development. *Journal of Economic Literature*, 49(4), 1076–1151.

Yeung, Y. man, Lee, J., & Kee, G. (2009). “China’s Special Economic Zones at 30”. *Eurasian Geography and Economics*, *50*(2), 222–240. https://doi.org/10.2747/1539-7216.50.2.222

Zeng, D. Z. (2011). How do Special Economic Zones and Industrial Clusters Drive China’s Rapid Development?, *World Bank Policy Research Working Paper No. 5583*.

Zeng, D. Z. (2019). *Special Economic Zones: Lessons from the Global Experience*, PEDL Paper Series.

Zeng D. Z. (2021). The Past, Present, and Future of Special Economic Zones and Their Impact, *Journal of International Economic Law*, Volume 24, Issue 2, p. 259–275.

2. Exploring the SEZs from the perspective of Environmental and Social Sustainability in SEZs

Shweta Dwivedi[1] & Tamali Chakraborty[2]

Abstract

The SEZs are developed to achieve various economic benefits, such as employment, investment, technological innovation, skill enhancement, and industrialization, with the aim of promoting local and regional development through spillover and cluster effect. The spillover and cluster effect represent the spatial concentration of firms, which improves competition and firm performance, enabling SEZs' economic benefits. However, the success of SEZs depends on their implementation, policy design, and locational strategy. The question arises at what cost economic benefits are achieved, environmental and social costs. In the purview of economic benefits outweighing the environmental and social costs, the chapter identifies various sustainability issues associated with SEZs. The chapter is classified into three important parts: economic benefits, environmental costs, and social costs, primarily focusing on developing countries. The first part explores the economic benefits associated with SEZs. The chapter identifies that SEZs act as a catalyst for economic growth among developing countries following the global value chain and agglomeration approaches. The second part discusses various environmental issues due to SEZs, such as overutilization of natural resources, pollution, waste disposal, and carbon emissions by SEZ projects. Further, anthropogenic activities disturb the natural habitat, leading to the loss of the environment and increasing the environmental costs. The last part reviews the impact on marginalized and local communities' livelihoods. It is observed that due to a lack of skills, marginalized people and local communities suffer from the loss of livelihood and inadequate compensation, which reduces the spillover and multiplier effect. Further, the situation worsens when agricultural land, assets, and properties are lost. Moreover, SEZs bring global competition and cluster effects, which change demography due to the influence of other societies. Thus,

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there is an enormous environmental and social cost associated with SEZs. The chapter concludes that SEZ sustainability should be followed to achieve long-term economic benefits. It also explores the possibility of trickle-down effects in neighbouring regions where SEZs are established. Furthermore, it explains the ongoing struggle between economic benefits and environmental-social costs.

Keywords

SEZs, Sustainability, Environment, Economic and Social.

1. Introduction

The concept of the Special Economic Zone was popularised by China at the end of the 1970s, and it primarily focused on building industrial towns (Chen,1995; Wang & Bradbury, 2016). Prior to its introduction, there were trade-based SEZs and manufacturing-based SEZs. The early 16th and 17th centuries were the era of trade-based SEZs aimed at facilitating free trade zones, especially with superpower countries (Chen, 1995; Aggarwal, 2010). These zones offered warehouses, duty-free areas, storage, and distribution facilities for transshipment, trade, and re-export operations. Thereafter, the manufacturing-based SEZs began in the late 1920 century and aimed to increase exports through the value addition in the available raw materials in the country (Chen, 1995; Aggarwal, 2010). The inception of SEZs resulted in a focus on manufacturing activities in export processing zones (Chen, 1995). When the entire zone was set aside exclusively for export-oriented businesses licensed under a Special Economic Zone (SEZ) framework, these zones included industrial estates that provide unique incentives and facilities for manufacturing and allied activities primarily targeted at export markets (Łukaniszyn et al., 2023). The new attribute of this zone was that it could be set up anywhere with good connectivity (Łukaniszyn et al., 2023). Further developing countries such as India and Taiwan joined the league. In 1965, India became the first Asian nation to create an EPZ in Kandla, and in 1966, Taiwan established the Kaohsiung EPZ. Subsequently, the count improved much more (Aggarwal, 2010).

By the end of 1970, China came up with the concept of a special economic zone inspired by the notion of the "Industrial District." It is defined as *"a socio-territorial entity characterized by the active presence of both a community of people and a cluster of firms in one bounded area"* (Aggarwal, 2010). These zones were designed to attract foreign direct investment, promote exports, and create global cities in China. Since then, many benefits of SEZs have been observed in terms of economic growth, employment, export promotion, and technology diffusion (Aggarwal, 2010).

Further, there has been an evolution in special economic zones. First-generation SEZs focused on low-cost labor-intensive industries. Second-generation SEZs mainly focus on technical aspects, which require skill development. Third-generation SEZs focus on technology innovation and dissemination (Chen, 1995). Subsequently, other new zone varieties were established, including

sector-specific, enterprise-specific, high-tech parks, and cross-border SEZs. Theoretical frameworks have shown development from neo-classical to heterodox, global value chain, and agglomeration models (Frick & Rodríguez-Pose, 2023). Nations following new theoretical frameworks have experienced various economic advantages, such as employment, investment, skill enhancement, industrial development, technological innovation, and attracting global companies (Łukaniszyn et al., 2023). The objective is to encourage local and regional development (Jafarzadeh & Yang, 2023) through spillover and cluster effect (Łukaniszyn et al., 2023). The cluster and spillover effect results in firms' spatial concentration, improving firm performance and competition, enabling SEZs' economic returns (Hamzah et al., 2023) to act as a catalyst.

2. Methodology

This chapter reviews the literature to synthesize the existing research on Special Economic Zones (SEZs) from the perspective of sustainability. This chapter provides a comprehensive and analytical assessment of Special Economic Zones' conceptual work, impacts, and evolving dynamics in many national and regional contexts. A narrative synthesis process improves the systematic approach, enabling a deeper contextual analysis and thematic interpretation of the literature.

Scopus and Google Scholar were used to identify the comprehensive literature from peer-reviewed journal articles, working papers, book chapters, and policy reports published in English. The studies focusing on SEZs from the perspectives of sustainability, including environmental and social perspectives from diverse geographical contexts, were included for the review. The literature was organised systematically to identify the themes into distinct conceptual domains. The following section highlights the themes identified from the literature.

3. SEZ as a catalyst for economic growth among developing countries:

Seeing the importance of economic benefits, various developing countries such as Africa, India, and other Asian countries promoted industrial activity through infrastructure provision, fiscal and non-fiscal incentives, and improved services through SEZs (Frick & Rodríguez-Pose, 2023). New approaches, such as global value chains (Agarwal, 2022) and locational advantages (Narula & Zhan, 2019), have revolutionized the global economy by focusing on comparative advantages for industrial development in developing countries (Agarwal, 2022). This facilitates spillover effects and accelerates the process of economic transformation.

3.1 Economic Benefits

The primary objective of SEZs is to promote industrialization, which acts as a link between the formal and informal sectors of the economy. This connection creates nexuses with various sub-sectors, resulting in several opportunities for business services, suppliers, retailers, and distributors (Danja & Wang, 2024). Consequently, SEZs facilitate employment generation, mitigate income disparity, encourage intersectoral collaborations, and bolster the development of micro, small, and medium enterprises (Danja & Wang, 2024). Recognizing these benefits, various scholars have investigated the economic benefits of SEZs, especially regarding industrialization, employment, and investment.

Based on Industrialisation: SEZs are crucial in developing industrialization by attracting foreign investment, strengthening export capabilities, and accelerating manufacturing growth. Tao and Lu (2018) emphasise that SEZs have been significant in the advancement of China's manufacturing and export industries, resulting in substantial improvements in infrastructure (Dang & Wang, 2024). The Saemangeum Industrial Complex in South Korea shows an industrial development effort to boost regional advancement and industrial expansion. The development of this industrial region has been significantly improved in terms of infrastructure, ports, utilities, and road building that reinforce industrial operations (Hee-seok & Keun-sik, 2024). Africa has considerable potential to utilize SEZs for industrial development

and to strengthen their global value chains (Rodríguez-Pose et al., 2022). This potential can be mainly realized by integrating the advance digital technology and Industry 4.0 concept in areas where the continent dominates a comparative advantage, such as agriculture (Danja & Wang, 2024). The adoption of digital solutions can improve efficiency, productivity, profitability, and competitiveness, helping Africa emerge as a prominent player in the world economy (Rodríguez-Pose et al., 2022). Furthermore, a robust connectivity infrastructure encompassing telecommunications system, transportation networks, and digital platforms, is crucial for optimizing the effectiveness of SEZs (Danja & Wang, 2024). Strategically located and equipped SEZs with committed infrastructure can efficiently utilize digital technologies to facilitate trade, strengthen market connectivity, and modernize logistics. By incorporating infrastructure, such as intelligent digital ports and transportation systems, SEZs can further develop operational efficiency, effectiveness, and competitiveness, ensuring smooth incorporation into global supply chains (Danja & Wang, 2024). Consequently, SEZs became a stimulating factor for industrialization by advancing an environment that supports investment, competition, innovation, and economic growth.

Based on Employment: SEZs serve as a significant development for promoting skill development and creating job opportunities. Costa Rica's Free trade zones have successfully attracted high-tech industries such as the medical-related products industry and electronics manufacturing. Not only have these zones increased employment opportunities, but they have also helped local workers improve their skill sets (Monge-González et al., 2005). By being encouraged by such gains, the government and private sectors have become a team to create vocational schools and training programs. Thereby, nurturing a skilled labor pool to fulfill the business requirements and to avail the benefits of innovation and technology transfers (Monge-González et al., 2005). Similarly, the Gwangyang Bay Free Economic Zone in South Korea has gained attention from technology-intensive industries and enabled associations between foreign and domestic firms (Hee-seok & Keun-sik, 2024). These associations have facilitated technology and knowledge transfer, innovation, and industrial development in sectors such as shipbuilding, petrochemicals, and steel-based production (Hee-seok & Keun-sik, 2024). Further, Ghana is a strong competitor in natural resources like gas, oil, and gold reserves in these industries across Africa (Danja & Wang, 2024). The country capitalizes its comparative advantage in energy and mining industries attributed to its

significant gold reserves and production, along with the expansion of oil and gas sector (Danja & Wang, 2024). Ghana can also take advantage of its natural resources by promoting industrial development and generating employment through establishing SEZs for mineral processing (Danja & Wang, 2024). These establishments in mineral processing may strengthen Ghana's competitiveness in these industries (Danja & Wang, 2024). Moreover, increasing resources and expertise in these zones can enhance specialization, build a skilled workforce, and facilitate higher-value product production (Danja & Wang, 2024).

Based on Investment: SEZs are projected to attract foreign and domestic investments. The inflow of foreign investment may accelerate knowledge and technology transfer, foster economic diversification, and advance infrastructure development (Ortiqbek o'g'li, 2025). In China, these investments have deepened competition among domestic firms, whereas in India, they have promoted development in the IT sector. In Dubai, these investments have enabled advanced technology transfer and infrastructure growth (Ortiqbek O'g'li, 2025). In African nations, foreign direct investment (FDI) enhances their comparative advantages, especially regarding natural resources. For instance, Ethiopia can gain a comparative advantage by attracting foreign direct investment in labor-intensive sectors like textiles and leather through SEZs (Danja & Wang, 2024). Cambodia has also seen substantial FDI in its SEZs across a variety of sectors. These include 30.13 percent of power, solar, warehouse, and telecommunications, 14.35 percent of wood-related manufacturing, 10.74 percent of electrical equipment and computer and electronic production, 9.68 percent of garment and footwear manufacturing, 8.23 percent of tobacco products, and 4.82 percent of the automobile industry products (Therith, 2022). Research indicates that SEZs contribute to the synergies and development of human capital and technological capabilities (Ortiqbek O'g'li, 2025). It has been observed that capital-intensive, skill-intensive, labor-intensive, and technology-intensive firms coexist within India's SEZs. Therefore, all these effects will likely be significant in the Indian context. Their analysis reveals that «employment generation» is the primary channel through which SEZs address human development concerns in India (Aggarwal, 2019). The employment created within these zones offers competitive remuneration, with wage rates not being lower than those outside the zones. Furthermore, non-monetary benefits (such as food facilities, health services, and transportation), working conditions, incentive packages, and social security systems encourage formal employment and SEZs. However,

the role of SEZs in human capital formation and technological upgrade has been found to be limited.

In contrast, SEZs' economic benefits come at the cost of environmental and social aspects (Priandani et al., 2024). For example, while Africa aims to replicate the success of SEZs, it struggles due to poor design and implementation. Africa must invest in infrastructure, construct robust institutional frameworks, cultivate comparative advantages, and execute strategic location policies that promote innovation, employment, exports, and industrialization. On the contrary, India has realized numerous economic gains while also increasing the rural-urban disparity through its location-specific policies. Particularly, land designated for Special Economic Zones (SEZs) is often located on the peripheries of major cities, often encompassing rural regions. The acquisition of this land has negatively impacted the livelihoods of vulnerable communities by displacing their jobs, hence worsening poverty (Priandani et al., 2024).

3.2 Environmental Cost

SEZs raise alarms over environmental mismanagement, especially with the greenhouse gas emissions produced by industrial activities. A study by T.S. Aung et al. (2022) observed that the establishment of Special Economic Zones in Myanmar associated with the Belt and Road Initiative has caused the relocation of agricultural land and forests, leading to habitat loss. Since the initiation of the BRI project on Maday Island in Myanmar, there has been a notable reduction of 12 percent in forest cover and 35 percent in mangrove areas. The study determined that the environmental detriments surpass the advantages derived from SEZ expansion. Comparable environmental hazards have been observed in India, where projected Special Economic Zones have elicited much apprehension. In response, the legislation mandates the execution of environmental and social assessments before proposing new Special Economic Zones (Chatterji & Samaddar, 2022). Hamzah et al. (2023) advocated for implementing policies centered on sustainable development, highlighting the utilization of environmentally friendly products and efficient disposal methods. It is imperative to reduce dependence on non-renewable resources and to amend environmental standards and regulations to facilitate the sustainable growth of SEZs.

3.3 Social Cost

The reallocation of resources incurs social costs associated with the displacement of local residents in developing nations (Aggarwal & Kokko, 2022). Numerous studies have indicated that the interconnections between firms within SEZs and local enterprises outside these zones could potentially generate multiplier effects. However, the actual outcome is that global competition and investment in SEZs frequently result in the deterioration of local businesses. Displaced populations face significant challenges, including poverty and unemployment, stemming from the loss of agricultural land and the destruction of village infrastructure, such as wells, boreholes, and cattle sheds. Additionally, they suffer from the loss of livestock and common property resources, like grazing grounds (Levien, 2013). Limited employment opportunities, often due to specific skill requirements, exacerbate these issues. To mitigate these adverse effects, the government offers compensation packages, which include a promised job in the SEZ for at least one person in each displaced family. However, disputes occur regarding the acquisition of land, employment opportunities for displaced people within SEZs, compensation discrepancies, payment methods, and the implementation of such policies. Therefore, this study focuses on the environmental and social costs associated to SEZs in both developing and developed countries.

Studies by Pangemanan et al. (2023), Jafarzadeh & Yang (2023), and Hamzah et al. (2023) showed the trade-off between economic benefits and environmental and social costs by emphasizing the significance of sustainability in SEZs. Hamzah et al. (2023) stated that appropriate planning is required for prioritizing sustainability. Nonetheless, some initiatives were taken for SEZs keeping sustainable development in mind, but they were ineffectively executed (Jafarzadeh & Yang, 2023). This shows that determining sustainable SEZs demands an extensive knowledge of local or regional environmental and social contexts (Łukaniszyn et al., 2023). These environmental concerns can be regarding the utilization of natural resources, pollution, waste management, and carbon emissions associated with SEZ developments (Pangemanan et al., 2021). Further, the impact of SEZs on the lives of residents becomes the social cost of SEZs (Łukaniszyn et al., 2023).

Overall, the inconsistencies in institutional frameworks between developing and industrialized nations are significant (Aggarwal & Kokko, 2022). Developed economies, like OECD nations and the United States, demonstrate

a predominantly market-oriented corporate climate, irrespective of the implementation of place-based regulations (Aggarwal, 2019). Contrary to this, the corporate environment in developing nations is typically less efficient than that in mature market economies (Aggarwal, 2019). Place-based policies have led to the establishment of SEZs designed to provide a business climate comparable to that of a fully operational market (Aggarwal, 2019; Li et al., 2021). Countries including India, China, South Africa, Brazil, and Russia, along with numerous other emerging economies, have instituted place-based policies and Special Economic Zones (SEZs) to promote their development (Aggarwal, 2019; Li et al., 2021). Nonetheless, the efficacy and influence of SEZs are progressively evaluated regarding their Sustainability (Aggarwal, 2019; Aung et al., 2022). Current best practices highlight the significance of incorporating sustainable development principles in the operation of SEZs.

Over the past decade, there has been increasing pressure at local, national, and supranational levels to mitigate the negative impacts of SEZs and investments on communities and the environment. Due to reputational risks, the private sector is now adhering to stricter environmental, social, and corporate governance standards (Zhasn, 2018). This trend is also reflected in the growing interest in corporate social responsibility initiatives among multinational enterprises (Kumar et al., 2024).

References

Aggarwal, A. (2010). Economic impacts of SEZs: Theoretical approaches and analysis of newly notified SEZs in India.

Aggarwal, A. (2019). SEZs and economic transformation: towards a developmental approach. *Transnational Corporations*, *26*(2), 27–47. https://doi.org/10.18356/d5636c42-en

Aggarwal, A., & Kokko, A. (2022). SEZs and poverty reduction: evidence from Andhra Pradesh, India. *International Journal of Emerging Markets*, *17*(8), 1793–1814. https://doi.org/10.1108/IJOEM-03-2019-0234.

Aung, T. S., Overland, I., Vakulchuk, R., & Xie, Y. (2022). The environmental burdens of special economic zones on the coastal and marine environment: A remote sensing assessment in Myanmar. *Remote Sensing Applications: Society and Environment*, *28*(December 2021), 100809. https://doi.org/10.1016/j.rsase.2022.100809

Chen, X. (1995). The evolution of free economic zones and the recent development of cross-national growth zones. *International Journal of Urban and Regional Research*, *19*(4), 593-621.

Danja, I. I., & Wang, X. (2024). Matching comparative advantages to special economic zones for sustainable industrialization. *Heliyon*, *10*(14), e34411. https://doi.org/10.1016/j.heliyon.2024.e34411.

Frick, S. A., & Rodríguez-Pose, A. (2023). What draws investment to special economic zones? Lessons from developing countries. *Regional Studies*, *57*(11), 2136–2147. https://doi.org/10.1080/00343404.2023.2185218.

Hamzah, S., Pangemanan, D., & Aprianti, E. (2023). The Environmental and Sustainable Factors on the Special Economic Zones Development. *Civil Engineering Journal (Iran)*, *9*(2), 334–342. https://doi.org/10.28991/CEJ-2023-09-02-06.

Jafarzadeh, H., & Yang, D. (2023). Impacts of the Belt and Road Initiative on Sustainability: Local Approaches to Spatial Restructuring in the Aras Special Economic Zones. *Sustainability (Switzerland)*, *15*(16). https://doi.org/10.3390/su151612347.

Kumar, D., Patel, S. K., & Srivastava, H. (2024). A Study of Corporate

Social Responsibility in Adani Ports and Special Economic Zone (APSEZ) Limited. *International Journal of Innovative Research in Engineering and Management*, *11*(4), 81–85. https://doi.org/10.55524/ijirem.2024.11.4.10.

Levien, M. (2013). Regimes of dispossession: From steel towns to special economic zones. *Governing global land deals: The role of the state in the rush for land*, 185-210.

Li, X., Wu, X., & Tan, Y. (2021). Impact of special economic zones on firm performance. *Research in International Business and Finance*, *58*(May), 101463. https://doi.org/10.1016/j.ribaf.2021.101463.

Łukaniszyn-Domaszewska, K., Mazur-Włodarczyk, K., & Karaś, E. (2023). SPECIAL ECONOMIC ZONES (SEZS) AS AN ELEMENT OF SUSTAINABLE DEVELOPMENT IN EMERGING COUNTRIES: A CASE OF POLAND. *Scientific Papers of Silesian University of Technology. Organization & Management/Zeszyty Naukowe Politechniki Slaskiej. Seria Organizacji i Zarzadzanie*, (179).

Monge-González, R., Rosales-Tijerino, J., & Arce-Alpízar, G. (2005). Cost-Benefit Analysis of the Free Trade Zone System: The Impact of Foreign Direct Investment in Costa Rica. *OAS Trade, Growth and Competitiveness Studies*.

Narula, R., & Zhan, J. X. (2019). Using special economic zones to facilitate development: policy implications. *Transnational Corporations*, *26*(2), 1–25. https://doi.org/10.18356/72e19b3c-en.

Ortiqbek o‘g‘li, O. N. (2025, January). The Role of Foreign Investment in the Development of Special Economic Zones. In *International Conference of Economics, Finance and Accounting Studies* (Vol. 13, pp. 85-87).

Pangemanan, D., Latief, R. U., Arifuddin, R., & Hamzah, S. (2023). Literature Review and Conceptual Framework: Sustainability Construction of Implementation in Development of Special Economic Zone (SEZ) Likupang. *IOP Conference Series: Earth and Environmental Science*, *1134*(1). https://doi.org/10.1088/1755-1315/1134/1/012051.

Priandani, M., Hartono, D. M., Soesilo, T. E. B., Koestoer, R. H., & Habiburrachman Alfian, H. F. (2024). Measuring The Impact of Special Economic Zone (SEZ) Arun Lhokseumawe on the Sustainability of its Peripheral Area. *Environmental Research, Engineering and Management*, *80*(1), 87–100. https://doi.org/10.5755/j01.erem.80.1.32658.

Rodríguez-Pose, A., Bartalucci, F., Frick, S. A., Santos-Paulino, A. U., & Bolwijn, R. (2022). The challenge of developing special economic zones in Africa: Evidence and lessons learnt. *Regional Science Policy and Practice*, *14*(2), 456–481. https://doi.org/10.1111/rsp3.12535.

Tao, Y., & Lu, Z. (2018). *Special Economic Zones and China's Development Path*. Springer.

Theot Therith, C. (2022). Effect of Investment Promotion through the Special Economic Zone Mechanism on the Distribution of FDI in Cambodia. *Economies*, *10*(9). https://doi.org/10.3390/economies10090231.

Wang, J., & Bradbury, J. H. (1986). The changing industrial geography of the Chinese special economic zones. *Economic Geography*, *62*(4), 307-320.

SECTION II

SEZs in Practice: Comparative Territorial Experiences

3. The Evolution of Special Economic Zones in China and the Possible Global Geopolitical Perspectives

Maurizio Scaini[1]

Abstract

China, like other regions of the world, has historically experienced the creation of Special Economic Zones (SEZs). In more recent times, the so-called Unequal Treaties, following the end of the Opium Wars, have set the historical and geographical conditions for the establishment of the most recent SEZs, favored by the Chinese government, from the eighties onwards. With the accession of China to the WTO, since the years 2000, the Chinese economy has progressively integrated itself in the international economic circuit while maintaining its specificities. Since then, the SEZs have lost some of their distinctive features as the Popular Chinese Republic has implemented a policy of tax harmonisation covering the entire territory. The Chinese SEZs, of the era of reforms, were and are still much more than simple areas for attracting investments. They have become, rather, the symbol of a model of unprecedented socio-economic development, symbol of dynamism and constant process of experimentation, subsequently spread over the entire national territory. Today, these areas are also an important experiment for the *Belt and Road Initiative.* This article aims to define the role and evolution of SEZs in China and in China's rise at global level.

Keywords

Special Economic Zones, Belt and Road Initiative, Sustainable Development, East Asia globalization.

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1. Introduction

The empirical basis of this study relies primarily on data from the World Bank Report (2017), World Trade Organization Report (2019) and International Labour Organization Report (2020). The article employs a methodology that builds on a critical appraisal of existing research, considering developments not only within the Chinese context but also across the international scholarly landscape. In addition, a range of publications considered significant—conducted across different geographical contexts and over various time periods—were reviewed for their attempts to correlate the most relevant variables. Given the difficulty in reaching general and widely accepted conclusions, the study also seeks to link the phenomenon of the Chinese Special Economic Zones (SEZs) to the specific historical and cultural conditions that have shaped the country's political developments and recent economic growth.

The importance of the role of the Special Economic Zones (SEZs) in China's new developmental course is now well established. We considered a geographical analysis—albeit succinct—of Chinese territory and the resulting demographic distribution fundamental to understanding the dynamics of the SEZs and the rationale behind their location choices. The analysis was supported by a substantial body of qualitatively significant publications authored by both Chinese and international researchers, who frequently collaborate. Moreover, for several decades, numerous detailed datasets have been made available through official government websites. These data have long been the subject of meticulous studies, verifications and comparisons by various scholars and are therefore widely accepted and considered highly reliable.

The Chinese government appears to be the first to show a genuine interest in the evaluation and understanding of the SEZs. The phenomenon, due to its speed, growth, and diffusion, has surprised even the political leadership itself and has profoundly shaken the traditional Chinese socio-economic system, laying the groundwork for significant consequences that are still unfolding. In this perspective, the evolution of the original SEZs—which have now come to assume different roles and functions—has been assessed, along with the possible choices of the Chinese government, based on available data and the country's potential future needs. Finally, the uniqueness of the Chinese case is emphasized. Although China is economically integrated at the global level, it remains to be seen to what

extent the SEZ model can be effectively replicated in other emerging contexts.

If we consider the last twenty years, the number of *Special Eocnomic Zones* (SEZs), globally, has increased constantly[2].The literature on the topic presents divided opinions regarding the results and actual usefulness of these areas on the national economies[3]. The main criticisms highlight the long-term unsustainability of the model, emphasizing excessive economic specialization, the tendency towards isolation and the creation of regional imbalances, exceptions to labor rights and low wages, negative environmental impact, uncontrolled migratory movements and the spread of illegality in border areas leading to practices such as corruption and smuggling. At the same time, other studies highlight the positive potential that the SEZs can foster in terms of sustainability, social equality, gender parity, economic security and education, in line with the contents outlined in the eighth Sustainable Development Goal (SDG).

Currently, it is difficult to assess the phenomenon of the SEZs present in various parts of the world, primarily due to the lack of comparable homogeneous data. The study conducted by the World Bank in 2017, which examined 346 SEZs located in 22 countries with at least five years of operation, reaches the following conclusions that, nonetheless, according to the authors' own admission, should be evaluated cautiously for the reasons mentioned. First, the research states that the SEZs tend to have results similar to the national economic situation. Secondly, eventual economic success of the SEZs is linked to the dynamism of the early years and becomes difficult to sustain in the medium and long term. Finally, in most of the cases observed, it seems that tax incentives play a marginal role in the economic performance of these zones while other benefits would be more effective in attracting capital and businesses[4].

The 2020 report by the *International Labour Organization* (ILO), which proposes monitoring 100 SEZs operating in diverse geographical contexts, confirms the difficulty of reaching shared conclusions about the phenomenon and nonetheless highlights the lag in addressing fundamental issues by the governments and companies operating in these contextsThe 2020 report by

[2] In 2018, the SEZs surveyed by the I.L.O. there were 5,400 with an increase of almost 100% compared to 2000 and by 2030, probably, another 500 will be established. 73% of these were concentrated in South East Asia. On this topic see I.L.O., 2020.
[3] On this topic see World Bank Group, 2017.
[4] World Bank Group, 2017.

the International Labour Organization (ILO), which proposes monitoring 100 SEZs operating in diverse geographical contexts, confirms the difficulty of reaching shared conclusions about the phenomenon and nonetheless highlights the lag in addressing fundamental issues by the governments and companies operating in these contexts[5]. The document expresses, however, a certain optimism, noting the progress made in the last two decades, the increasing awareness of consumers, the spread of environmental sensitivity and the trend, in emerging countries, for workers, women, and indigenous communities to organize. Furthermore, reiterating the conclusions of the *World Trade Report* of 2019[6], it emphasizes the need to move beyond the narrow calculation of costs and benefits, which has so far prevailed, based on exploitation, in order to transform the SEZs into a tool for Sustainable Development. Above all, the message emerges that SEZs are increasingly a global reality, an integral part of the world economy that can no longer be ignored but must be studied and managed in the best possible way.

First of all, it should be emphasized that the implementation and functioning of these zones presuppose and require the development of a coherent economic and industrial policy, with political stability and transparency as essential prerequisites. Since, in many cases, these are emerging countries, such conditions are not always guaranteed. Secondly, the SEZs require medium to long periods before both negative and positive effects manifest, making the assessment still difficult, considering the recent and often fragmented expansion of the phenomenon as a whole. Finally, each case must be contextualized geographically, taking into account levels of democracy, development and infrastructure efficiency, international relations, literacy rates, technological diffusion, presence of natural resources and other socio-economic variables that may be more or less determinant. Overall, China presents itself as an interesting case study, given the particular conditions the country faced at the end of the 1970s and the fact that SEZs have now become a consolidated experience, accompanied by structural reforms in various fields, confirming a comprehensive and ambitious national and international strategy.

[5] The report considers 100 SEZs, in 21 countries. The research emphasizes that only a minority of the companies operating in these zones were able to provide data or adopt measures deemed compatible with the variables to be evaluated: Labor (30%), Environment (27%), Health and Safety (38%), Economic Linkages (36%). On this topic see ILO, 2020.
[6] World Trade Report, 2019.

2. The chinese framework

In principle, it can be asserted that it is difficult to find a country whose geographical characteristics have influenced its history and culture as determinantly as China. Eighty percent of the population is concentrated in the eastern and southeastern part of the country, on a territory roughly the size of half of the United States. This distribution can be explained by the presence of two major rivers, the Yellow River to the North and the Yangtze River to the South, along with one minor and more central, the Pearl River. In addition to these strategic water basins, the so-called 15-inch isohyet should be considered. East of this line, more than 15 inches of rain fall each year, while to the West, the annual rainfall is significantly less. To the South East of this isohyet, agriculture becomes viable while, to the North West, the landscape changes abruptly, giving way to deserts, mountain ranges and plateaus, steppes and forests. For these reasons, the population density per square kilometer in this region is approximately three times higher than the global average[7].

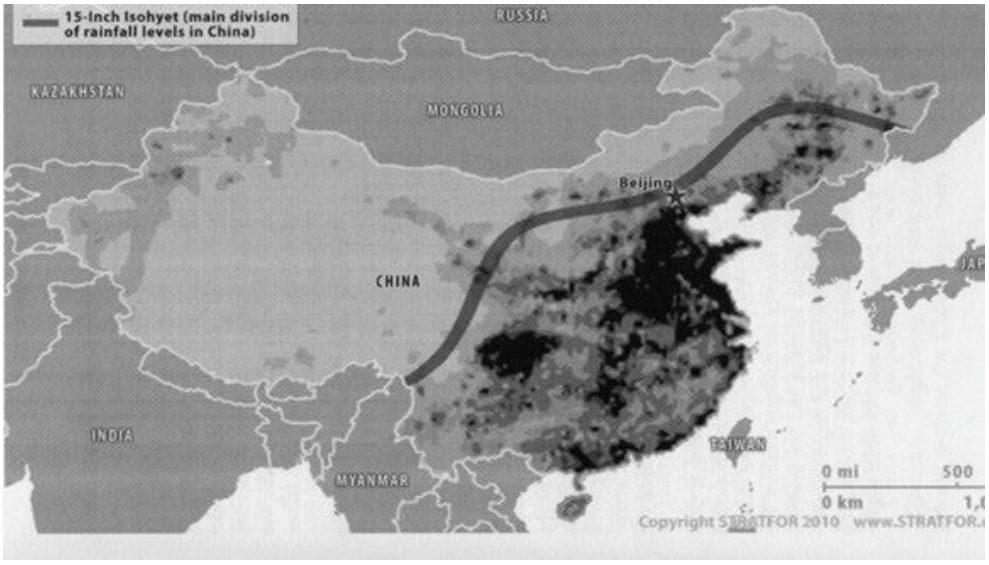

Fig. n. 1. *15 - Inch Isohyet and China Population Density.*

Source: *Stratfor, 2010.*

[7] On this topic see Stratfor, 2010.

This region historically constitutes the Chinese heartland, whose political stability must be carefully preserved. The gradual Sinicization of the surrounding regions by the Ming dynasty, in the early 17th century, addressed these needs[8]. Demographic size, soil fertility, and the presence of important resources have allowed China, at certain periods, to minimize its contacts with the rest of the world. During the Maoist period, for example, China was an insular nation, primarily focused on internal political priorities. When China experiences these periods of isolationism, it tends to become impoverished, although it becomes easier to govern. Conversely, when borders are open and trade flourishes, regional imbalances and internal inequalities tend to intensify, along with foreign interference.

Seen from a historical perspective, overland trade has never posed significant problems for the central government. The potential inequalities arising from the flourishing trade along the *Silk Road* were, on the whole, manageable. However, the industrial dynamics that began to develop in the second half of the 19th century changed both the geography of Chinese trade and its consequences. For the first time, the Pacific coast became the interface with the rest of the world, replacing Central Asia. In short, the disparity between the interior regions and the coastal areas, coupled with the geopolitical ambitions of the major powers of the time, destabilized the Chinese system to its very roots. Mao's triple attempt to restore centrality to the Beijing government, reestablish the unity of the Han nation and distance foreign interests can be seen as a reaction to this state of affairs.

The historical challenge facing the Chinese government remains relevant: while international trade enriches the country, the territorial imbalances between coastal regions and inland areas foster instability and the penetration of foreign interests. Deng Xiaoping's decision at the end of the 1970s to open the Chinese economy to the liberal world was a thoughtful choice, aware of the significant consequences for China and global geopolitics. Thus far, it seems that the central government and the Communist Party have managed the transition, maintaining national integrity and internal stability, despite the inevitable difficulties posed by the initiated dynamics. In this context, the SEZs have become a strategic tool that the Chinese government has implemented to integrate the new production model, reduce inequalities and regional imbalances, control migratory movements, modernize the country and ensure

[8] Arrighi, 2008, pg. 264 and following.

the spread of prosperity.

Following Deng Xiaoping's rise to power in 1978, important reforms were introduced, summarized by the slogan of the so-called *Four Modernizations,* which pertained to the agricultural, industrial, scientific and technological sectors, national defense, and the *Open Door Policy*. This new course materialized, among other things, in the creation of SEZs, areas that offered favorable conditions for investors in terms of customs and tax benefits as well as low labor costs. The process was accompanied by the planning and construction of modern infrastructure, the introduction of administrative autonomies and decentralization, and the subsequent creation of high-tech hubs[9].

Originally, the SEZs were four and were established along the southern coast: Shenzhen, Zhuhai, Shantou in Guangdong province, and Xiamen in Fujian province. In 1988, Hainan Island was added to these. To better understand the evolution of the Chinese economy in recent decades, however, Macao and Hong Kong should also be considered. They returned to Chinese territory in 1997 and 1999, respectively, and enjoy a separate legal status that is not fully defined. Initially, foreign capital was almost nonexistent and the volume of China's foreign trade was negligible, when compared to global exchanges of the time[10]. The four original SEZs were deliberately located far from Beijing to avoid exacerbating already existing regional imbalances and to prevent potential issues in the capital. These areas were overall conceived as a sort of testing ground to assess potential and delineate

[9] In addition to the reduction of tariffs and customs duties, the incentives included tax rates ranging from 15% to 24%, in accordance with the production sector, while the national average was 33%. High-tech sectors were the most favored. Exemptions were provided for foreign shareholders of international enterprises when they decided to reinvest their profits. A favorable tax regime was also established for employers, as well as for workers, who decided to relocate to these areas. Finally, companies with foreign investments exceeding 70% were allowed to pay a total tax of only 10% on their income. On this topic see Zeng (ed.), 2010 and Lu, Wang and Zhu, 2019, pg. 325-360.

[10] Since the passing of the *Equity Joint Venture Law* of 1979 which granted legal status to FDI on the national territory, China has gradually developped an istitutional framework to regulate and facilitate the sector. FDI inflows into China increased rapidly after 1979, particularly during the early 1990s. The total ammount of FDI, at current prices, rose form the initial US$ 0.057 bilion in 1980 to US$ 53.5 billion in 2003, at an annual growth of 34,64%. In 1991, China ranked thirteenth in the world and third among the developping countries in terms of FDI inflows. In 2002, China has become the largest FDI world recipient, in place of United State, for the first time. On this topic see Tuan and Ng., 2004, pg. 673-693.

any problems arising from the liberalization phase at the national level. More specifically, the original four zones were located in coastal areas of Guangdong and Fujian, two economically backward provinces but with a long history of contact with the outside world through out-migration and, at the same time, were near Hong Kong, Macao, and Taiwan. The choice of Shenzhen was especially strategic because it is located near Hong Kong, a key area from which China could to learn capitalist modes and modern methods of managing a metropolis. Compared to other existing SEZs, in Asia, the Chinese ones were distinguished by the vastness of their territorial scope. In line with the national strategy, each of these zones was assigned a specific function with distinct objectives to pursue[11].

When the economic opening began, urban land in China was state-owned while rural land was owned by agricultural communes. Starting in 1981, following the approval of the *Provisional Regulations of Land Control*, investors were able to obtain land-use concessions lasting between twenty-five and thirty years, with favorable rental terms. Rental payments allowed the original SEZs to initiate significant investments in infrastructure. From 1987 onwards, this rule was extended to foreign investors in all national-level SEZs[12]. The Chinese

[11] Until 2000, the main achievements in terms of economic growth, innovation and research were primarily realized by Shenzhen, whose autonomy was quickly expanded. Other areas, such as Zhuhai, saw less impressive results despite their proximity to Macao. Shantou and Xiamen alternated between periods of sustained growth and periods of stagnation due to scandals involving corruption, customs irregularities, and arbitrary tax rebates. Finally, the Hainan SEZ also experienced an irregular development path. After an initial surge in development following its establishment, Hainan's performance has been impeded by a real estate bubble as well as corruption. On this topic see Yeung, Lee and Kee, 2006, pg. 222-240.

[12] The first experiment in this area was carried out in the Shenzhen SEZ, where the municipality approved the *Provisional Regulations on Land Control* in 1981. This legislative measure included detailed provisions on land use and control and imposed a multi-year development plan for enterprises, with specific commitments to limit environmental impact. On December 1, 1987, the first public auction was held for the assignment of the first plot of land. The initiative was met with considerable success. Between 1980 and 1990, the central government was responsible for only 1.4% and the local government for 13.1% of total investment in Shenzhen's development. Other data sources, indicates that private capital contributed 56% of the total investment of RMB 1.03 billion in during the first three years of the 1980s while the funds from the central and local governments only accounted for 20.4%. On this topic see Zhu, 1996, pg. 187-194.
In 2001, the municipality of Shenzhen declared that it had allocated all available land intended for commercial and industrial use. In the following years, the practice spread nationwide until a national law in 2007 extended it to all industrial land. The case of Shenzhen and its experimental legislation on land property rights can be considered the origin of the large

diaspora served as the main driving force that propelled the initial phase[13]. The same considerations can be made for the subsequent choice of Hainan as the fifth SEZ and for the location of future development areas.

Chinese residents abroad, especially in Southeast Asia, in accordance with Confucian customs, had maintained contact with the motherland over the decades and, often, began new ventures in the countries where they had relocated. Following Deng Xiaoping's economic opening, they found themselves in a privileged position as they could rely on an international network of relations, were familiar with local customs and laws, spoke various languages and, in many cases, possessed capital and technological knowledge, as well as high-level professional skills. The success was quicker than expected. In 1981, 59.8% of total FDI in China were concentrated in this four areas, with Shenzhen accounting at 50.6% and the other three, roughly 3% each[14]. Despite this, policymakers were concerned that the share of industrial products from the SEZs destined for export was low and accompanied by a negative foreign currency balance[15].

During the first years, the SEZs hosted more than half of the total number of equity joint venture projects established in China, with the bulk of the investment originated in Hong Kong and Macao. Despite the emphasis

urban migration movement that has affected China in recent years. Kee, 2009, pg. 222–240.

[13] Shenzhen is adjacent to Hong Kong, Shantou is the preferred destination for the majority of the Chinese diaspora, Zhuhai is close to Macau while Xiamen have maintained strong ties with Taiwan. The opening-up of China's economy, at that time, provided the opportunity for the Hong Kong manufacturers to expand and develop their business in the Mainland. They started to move northwards to the SEZs, bringing in capitals and technologies, takomg advantage of abundant supply of cheap labour there. This trend, coupled with incentives such as tax concessions and cheap land available, has provided ample business opportunities for the Hong Kong manufacturers. Reciprocally, SEZs have made use of Hong Kong's capital and technology to develop their light industries and "processing and compensation trade". Lu, Wang, Zhu, 2019, pg. 325-360 and Tantri, 2012, pg. 231-250.

[14] Three years later, the four SEZs still accounted for 26 % of China's total FDI. By the end of 1985, realized FDI in the four zones concentrated US$ 1.17 billion or about 20 % of the national total. Wong, 1987 pg. 27–40. In 2018, the SEZs attracted just over 50% of foreign investments. Lu, Tao, Zhu, 2017, pg. 75-90.

[15] Only Shantou performed reasonably well on both fronts, with over 60% of its industrial output destined for the international market, along with a positive foreign currency balance. However, the more favorable performance must be contextualized by considering Shantou's smaller economic context compared to that of the other three SEZss, as confirmed by indicators related to FDI. Wong, 1987, pg. 27-40.

on FDI, domestic capital investment in the zones, especially that related to infrastructure construction, far exceeded the foreign investments[16].

SEZs	Province	Before SEZ	Inherent Advantages	Administrative Changes
Shenzen (1979)	Guandong	Small village. Fishing as the major industry	Located near Hong Kong. Access to nearby port	Indipendent from the previous province
Zhuhai (1979)	Guandong	Undervelopped in terms of infrastructure and industrial capacity.	Located near Macau and with a long tradition in terms of international relations	Controlled by the Guandong provincial governement
Shantou (1979)	Guandong	Presence of an industrial center	Inner migration pole	Indipendent from the previous province
Xiamen (1980)	Fujian	Trading center	Long history of ties with Taiwan	Indipendent from the previous province
Hainan (1988)	Hainan	Undervelopped in terms of infrastructure and industrial capacity	Presence of natural resources almost shipped to the mainland	Controlled by the Hainan provincial governement

Tab. n. 1. *Basic Profile of four initial SEZs.*

Source: Malini, Tantri, 2012, pg. 231-250.

[16] If China's GDP recorded an average annual growth of 10% between 1980 and 1984, the growth rate of Shenzhen during the same period approached 58%, Zhuhai's was 32%, Shantou's was 9%, and Xiamen's was 13%. The economy of Shenzhen grew six times, that of Zhuhai three times, that of Shantou 1.4 times, and that of Xiamen 1.6 times. Yeung, Lee, Kee, 2009, pg. 222-240.

In 1984, the role and significance of the first four SEZs in the national economy had become well established, and the government decided to extend the experience on a national level. Over the years, other zones were defined with the aim of implementing regional integration and international relations. The new SEZs had different characteristics and economic vocations, and they ended up profoundly changing the existing landscape and urban hierarchies. As mentioned, the urban centers affected by the original SEZs, which, in the early 1980s, were small to medium-sized cities, transformed within a few years into true metropolises with several million inhabitants[17]. These urban realities did not remain isolated cases. The subsequent SEZs were progressively integrated into a complex territorial network from which the current Chinese industrial strategy can be outlined[18].

[17] The most evident case was that of Shenzhen, which, in 1979, was a town with just over 30,000 inhabitants, encompassing no more than 3 km² and is now a metropolis with over 13 million inhabitants, becoming the fourth most populous city in China, also known as the *Chinese Silicon Valley*. Workers were attracted by new job opportunities that included wage incentives based on productivity, better pension conditions, and general benefits. As a result of this migration, additional incentives and reforms in labor law were introduced in terms of both safety and contractual flexibility. By 1990, Shenzhen was already hosting a million temporary workers. In 1985, 409 industrial projects operated in Shenzhen, more than 70% of which had domestic linkages. One decade later, the number of domestic projects alone had increased to 1.400 and the number of joint ventures to nearly 9,000, manufacturing more than RMB 1 billion worth of products. The economic and demographic growth of Shenzhen was driven not only by its proximity to a financial center like Hong Kong but also by the relocation of four major multinational companies operating primarily in the communications, electronic and IT sectors: Huawei, Tencent, ZTE Corporation, and DJI. Together with a vast array of other companies in the high-tech sector, these firms produced, in 2018, 40% of the metropolitan GDP. On this topic see Ge, 1999, pg. 1267-1285 and Silenko, 2020, pg. 238-257.

[18] The territories of each of the four original SEZs occupied only part of the respective cities upon their establishment in the 1980s. Subsequently, their administrative status was repeatedly modified until the legal status of the SEZs was extended to the entire region. Shenzhen, Zhuhai, Shantou, and Xiamen are currently included within the boundaries of some type of "special" area, either the SEZ or some other type of economic zone. In the case of Hainan, the entire province is included within the SEZ. On this topic see Yeung, Lee, Kee, 2009, pg. 222–240.

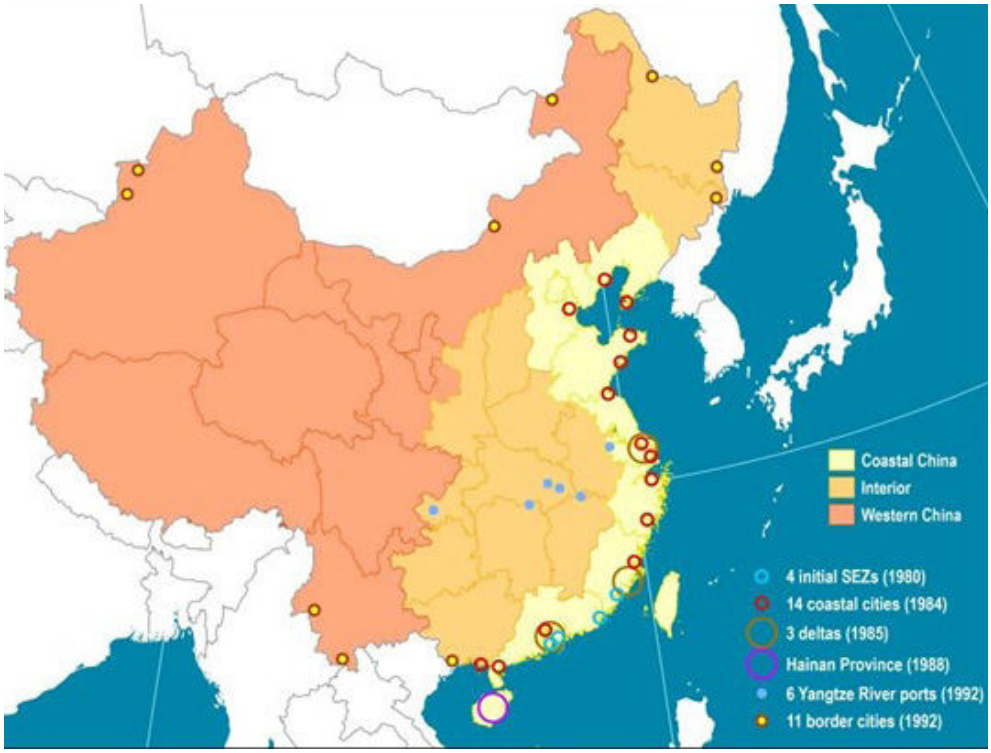

Fig. n. 2. *Location of SEZs in China (1980-1992).*

Source: *FDI China, 2020.*

3. Diffusion of the SEZs

Schematicly, the subsequent expansion and diffusion of the SEZs can be summarized in four main phases. The first phase spans from 1984 to 1991. During this period, the Chinese government planned the creation of an additional fourteen SEZs, primarily concentrated along coastal cities such as Guangzhou and Tianjin, with the aim of building modern infrastructure and transferring technologies deemed strategic. The second phase extends from 1992 to 2001 and is characterized by the creation of technology hubs in urban centers such as Suzhou and Wuxi, in Jiangsu, located near the Yangtze River Delta and close to Shanghai. Especially in the final part of this period, there is a significant inflow of foreign investments, the introduction of advanced

technologies, and management principles crucial for industrial modernization.

The third phase coincides with China's entry into the WTO and extends until 2012. During this decade, there is a noticeable overall reduction in investments in SEZs due to the international financial conditions of the time. This decade also marks China's achievement of technological autonomy in important sectors[19]. Finally, the fourth phase extends from 2013 to the present and sees the creation of realities such as the *Shanghai Free Trade Zone*, symbolizing a desirable transition towards sustainability and a reduction of the preferential policies of the past. These waves have involved not only the Chinese coast but have, progressively, spread to the interior regions. Particularly after 1994, in the wake of the expansion of the first SEZs, China began to introduce comprehensive reforms applied across the entire national territory, concerning fiscal policy, exchange rates, capital repatriation, foreign trade, the territorial jurisdiction of patents.

According to the *Catalogue of Review and Approval Announcements of China's SEZs* from 2018, these areas can be classified into two main categories, based on two administrative criteria: national and provincial. The document, subsequently approved by the government, prioritized regional development and relegated provincial SEZs to a secondary position. In 2021, there were 640 national-level SEZs and 2.016 provincial-level SEZs[20]. Unlike the four SEZs, all located in southern China, the selection of the following fourteen coastal cities reflected the central government's determination to expose a much greater area to change[21].

These centers had the characteristics of industrial parks and were named *Economic and Technological Development Zones* (ETDZs). After China's

[19] In 2000, China's GDP was about 6.3 times larger than it was in 1980, while GDP per capita increased fivefold over the same period. International trade also grew rapidly after the opening up of the country. By 2000, China had become one of the largest trading countries in the world, with total trade value increasing by 69 times from 1980. Within this total, the value of exports and imports grew by 76 times and 62 times, respectively. In 2003, a State Council notice emphasized enhancing development zones, focusing on business successcapital operations and competitiveness. The number of patents registered in China, as a whole, increased rapidly. In 2007, China authorized 351.782 patents, up 31.3% from the previous year. In 2008, the number grew further to 411.982. On this topic see SIPO, 2009.

[20] Yuan, Ning, Xu and Zheng, 2025, pg. 529-546.

[21] From North to South, they include: Dalian, Qinhuangdao, Tianjin, Yantai, Qingdao, Lianyungang, Nantong, Shanghai, Ningbo, Wenzhou, Fuzhou, Guangzhou, Zhanjiang and Beihai. On this topic see Yeung, Lee, Kee, 2009, pg. 222–240.

accession to the WTO, the ETDZs became more established, benefiting from the modernization of transport and the development of nearby SEZs, often being incorporated into them, especially those close to important ports and specialized in large scale production, as in the case of Shanghai port[22].

Initially, these realities emerged in decentralized areas and did not necessarily fall within a national development strategy; rather, they were conceived to address a series of local problems affecting the SEZs and to facilitate their original function. Subsequently, these realities were incorporated by the urban centers around which they revolved, particularly along the delta of the three main Chinese rivers: the Huang He, the Yangtze, and the Xi Jiang. The main objective, in addition to attracting foreign capital, included exploiting resources and developing cutting-edge local industrial technologies, especially in the fields of resource processing, agricultural production and processing, and tourism. In this way, a certain territorial continuity was created with the coastal SEZs and the more inland regions, promoting the industrial modernization of the country.

Given the positive results created by these synergies, in 1988, the province of Hainan was also included in the status of SEZs, followed by the *Shanghai-Pudong New Area* in 1990, the *Tianjin-Binhai New Area* in 2009, and more recently, the *Xiongan New Area* in 2017. By 1992, China had created 60 SEZs, which, in addition to the original 5 SEZs, included 15 coastal port cities, 8 river port cities, 19 inland cities, and 13 border cities. The rapid success of the ETDZs prompted many administrations, at various local levels, to promote their territories, initiating a vibrant phase of competition, supported by the central government, which led to a series of significant reforms in various areas that ultimately provided an integrated and, in some ways, unprecedented identity to the national industrial strategy.

In principle, the term SEZs refers to the five original zones we mentioned. SEZs are distinguished from ETDZs by their size, as they sometimes extend over entire provinces and by their concentration in the southern coastal areas, where a different economic legislation applies, compared to the rest of the country, which includes targeted government funding. Originally designed to promote exports, they differ from other types because they are administered by an *ad hoc* authority, namely the Government of the SEZs.

[22] Lu, Wang, Zhu, 2019, pg. 325-360.

In contrast, ETDZs are governed by the local government of the relevant geographic area. Since 2016, the Ministry of Commerce has conducted a biannual evaluation of the performance of the ETDZs. The five areas receiving the lowest ratings for two consecutive years are dismantled[23].

Following the success of the ETDZs, which tended to become increasingly specialized and competitive, *High-tech Development Zones* (HTDZs) began to develop in 1988 with the aim of promoting the innovative process and the development of local hi-tech enterprises, prominently featuring the *Zhongguancun National Demonstration Zone* in the municipality of Beijing[24]. These zones provide services and support for entrepreneurial initiatives in the field of sustainability. Although the administrative division with the ETDZs is not always clear, HTDZs typically assume the characteristics of subdivisions of the broader ETDZs. Initially, the choice of their locations was based on the presence and characteristics of the industrial fabric in major urban centers, and they later spread to the rest of the country.

Until 2017, 156 HTDZs had been built in China. Once again, these zones are regularly monitored by the authorities and those that are deemed below standards risk losing their status[25]. The presence of SEZs, ETDZs and HTDZs

[23] The evaluation criteria are based on five variables: industrial capacity, technological innovation, regional integration, environmental protection, and administrative efficiency, along with an additional 53 indicators, which include, among others, industrial output, turnover, productivity, spending on Research and Development (R&D), energy consumption, and emissions.Wu, Hong, Muhammad, 2020.

[24] On March 13, 2009, the State Council approved the construction of the *Zhongguancun National Demonstration Zone*, and made the plan to build Zhongguancun an innovation center with a global influence. On January 26, 2011, the *Development Plan Outline for Zhongguancun National Demonstration Zone* (2011-2020), was launched by the State Council, marking a new starting point for Zhongguancun's development. During the past two decades, Zhongguancun has gathered nearly 20.000 high and new-tech enterprises and has formed a high and new-tech industrial cluster featuring electronic information, biomedicine, energy and environmental protection, new materials, advanced manufacturing, aerospace, research and development and service. Zhongguancun can be considered the most intensive scientific pole in China. In 2010, the gross income of enterprises in Zhongguancun achieved 1.59 trillion yuan, an increase of 22.6 percent, contributing 23.5 percent to Beijing's economic growth. On this topic see Tian Miao, May 2017, pg. 1426-1445.

[25] The evaluation, in this case, is based on four categories and 40 indicators, including knowledge creation and technological innovation (employee education, incubators), industrial upgrading and structural optimization capacity (hi-tech enterprises, service companies, listed companies), internationalization and participation in global competitions (employees educated abroad, foreign employees, foreign branches), sustainable development capacity

has been supported by the creation of *Export Processing Zones* (EPZs), mostly located along the coastal strip, which have enabled local economies to develop true industrial districts focused on export, characterized by high labor intensity and low prices. In an effort to focus the attention of businesses operating in these areas on exports, significant disincentives have been introduced for selling their products in the domestic market. Finally, the *Border Economic Cooperation Zones* (BECZs) were inaugurated in 1992 and are located in the northwestern, northeastern, and southern border regions of the country, with the aim of stimulating economic and social development and cooperation with neighboring countries and regions.

These zones are becoming pilot areas for the international projection strategy of the People's Republic of China and an integral part of the *Belt and Road Initiative* (BRI)[26].

(new investments, energy consumption). In 2016, the Ministry of Science and Technology also introduced innovative capacity as a criterion for evaluation. Zhou, Lu, Du, Yao, 2018, pg. 62-79.

[26] As of today, there are 2,675 development zones recognized throughout China. The number is constantly expanding and they are now spread across almost the entire country: 199 in Jiangsu; 176 in Shandong; 154 in Hebei; 152 in Henan; 141 in Sichuan; and 140 in Guangdong Province. Some of these are recognized at the national level, while others are at the local or provincial level. According to official data, China currently has 219 national economic development zones in 31 provinces and municipalities: 107 in the eastern part, 63 in the central region, and 49 in the western region. Zhou, Lu, Du, Yao, 2018, pg. 62-79.

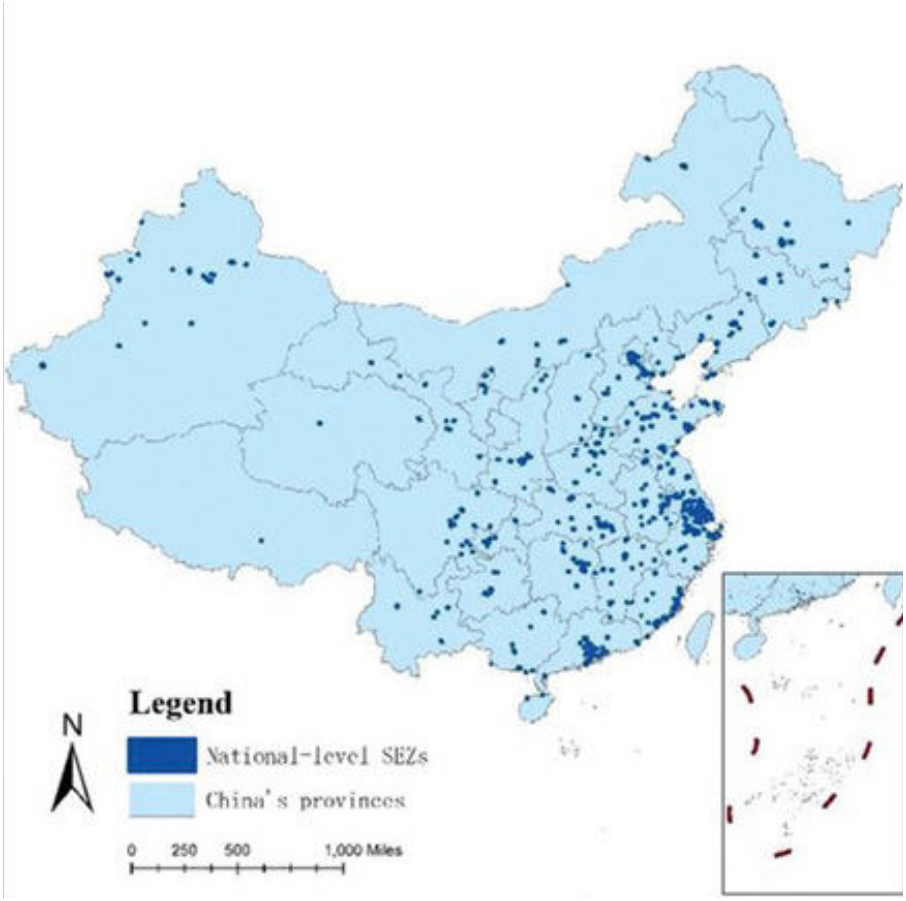

Fig. n.3. *The Geographical Network of National SEZs in China, 2019.*

Source: *Yuan, Yfan, Xu and Zheng, 2025.*

One of the future challenges for the Chinese government is the normalization of the SEZs regime, with the gradual reduction of the privileges that characterize them. The so-called middle-income and high-income traps encapsulate the issues pertaining to the future of these areas and could involve the entire national economy. The rapid growth of wages has caused a real estate and land bubble in many of these areas, making these centers less attractive, especially the coastal cities that are already experiencing a slowdown in their GDP

growth rates[27]. Considering that many companies, operating in China, are now evaluating the concrete possibility of moving to other Asian markets, deemed more attractive, there is a fear that potential relocation could be accompanied by a consequent brain drain, leading to stagnation or even a recession in the long term.

To favor the diffusion of small and medium-sized companies operating in the research and innovation sector, the municipality of Shenzhen, between 2012 and 2015, introduced an experimental plan. The initiative had a certain success and has been, prudently, extended to other entities[28]. The aim is to reduce the demand for land from large enterprises, stabilizing demand and, progressively, renewing the production system to some extent. Since the manufacturing production model is now well established, the replacement of large industrial groups must be carefully monitored in order not to reduce tax revenue and to avoid sudden social tensions. For now, the economic results have been encouraging, however, it should be noted that the impact on the demand for land and real estate has been only partially positive. Medium-sized enterprises have adapted better to the new direction, while smaller ones have appeared less dynamic, demonstrating that they still lack the skills to participate in the specialization network of labor. The success and future prospects of this initiative will depend, in any case, not only on internal dynamics but also on trade relations with Europe and the United States, the imposition of potential tariffs on sectors deemed strategic, the inflow of international capital, technology, domestic consumption, and access to foreign markets.

4. Conclusions

The Chinese economic model presents novel aspects and cannot be considered a mere imitation of existing institutions. Rather, cultural factors that are part of the ancient heritage of this civilization have influenced it. The role and

[27] Shenzhen's GDP growth rate, for example, has been below 10 per cent since 2014. It reached 6.7% in 2019, before contracting to 3.1% in 2020, as the global economy was ravaged by the coronavirus pandemic. Zhou, 2021.

[28] The plan provided for a fund of 4 million yuan to be allocated to 7.500 small and medium-sized enterprises. The operation resulted in an increase in the revenue of the beneficiary companies by 4.4 times and in patents by over 120% between 2012 and 2015. Zhou, 2021.

organization of the Chinese Communist Party have been decisive. By linking career opportunities to the economic successes achieved by local officials, a cohesive network has been created that, despite its contradictions, has proven to be fundamentally efficient. These figures have made significant efforts, displaying unexpected skills in attracting investments, streamlining administrative processes, providing legal consulting and assistance in international exchanges, ensuring the quality of infrastructure in their jurisdictions, selecting entrepreneurial talents, and in the planning phase more generally.

These initiatives have found concrete support from the governments that have led the country in recent decades, strengthening confidence in the Chinese Communist Party's method of selecting officials and legitimizing its role. The main measures implemented by the central government have included, in addition to loans and support for the rents of properties and land for businesses, tax exemptions and facilitation, access to subsidized prices for imported raw materials. Noteworthy are the requirements to reinvest part of the profits obtained back home and the implementation of procedures to attract highly qualified labor, primarily from the Chinese diaspora, by providing superior accommodation, subsidies for children's education, social security benefits, and exemptions concerning migration transfers still regulated by the *Hukou* system.

Moreover, it is important to acknowledge the trust and flexibility that the central government has shown towards local administrations and officials, granting, over time, wide exemptions and high degrees of autonomy. In this case, some local legislative measures, primarily concerning fiscal policy, security and legal procedures, have attained the status of national laws, quickly integrating with the regulations set by Beijing[29]. This dynamic and cosmopolitan environment has facilitated the spread of new models and large-scale experiments[30]. When China joined the WTO at the end of 2001, its GDP

[29] The matter is governed by the *Regulations of Special Economic Zones in China.* For example, the zones that achieved greater success were further incentivized to attract additional investments in high-tech and high value-added industries. On this topic see Xiaohuan, 2024, pg. 293-320.
[30] The case of Shenzhen is once again emblematic. In 2018, 83% of the population was made up of migrants, 21% of residents were under the age of 12 and 62% were in the age range between 17 and 44 years. Shenzhen serves as an example also for its advanced legislation regarding the protection of intellectual property rights, support for research and development projects, and for young entrepreneurs. Since 2010, these initiatives have become concrete

was less than that of France, even though its population was over twenty times larger. In the following two decades, the Chinese economy experienced an increase in GDP of nearly fifteen times. The SEZs alone do not explain China's economic growth over the past twenty-five years, but they have played an important role. During the 1980s and 1990s, China distinguished itself as a reservoir of low-cost labor and had few rivals in this area on a global scale.

Foreign workers, in terms of education, work skills and health conditions, were considered overall more competitive[31]. With China's entry into the WTO, these conditions have changed and, today, other Southeast Asian countries are able to offer labor with the same conditions and characteristics as the Chinese market twenty years ago. For these reasons, the Chinese government is seeking to normalize the reality of the SEZs by integrating them with the rest of the national territory, stimulating internal consumption, and focusing particularly on cutting-edge technology hubs. The success of the SEZs has also been amplified by the concurrent rise of the so-called Asian Tigers, which have driven the economy of Southeast Asia, attracted capital and technologies, and facilitated regional integration, consequently boosting Chinese exports.

Comparing, as a whole, the phenomenon of SEZs in emerging countries with the Chinese case, the most evident conclusion is that tax incentives alone are not sufficient. What is needed is the simultaneous presence of a series of internal and external factors that include political stability, adequate institutional and economic reforms, a competitive education system, efficient infrastructure, growing trade partners, and, above all, the definition of social, economic, and political priorities to pursue. The Chinese model has become exemplary because it represents a case of rapid transition from a backward, agrarian-based economy to a diversified one that is now at the

procedures, allocating 4% of GDP to research and development, with an average annual growth of the technology sector of 20%. Since the 1980s, the municipality of Shenzhen has adopted a strategy articulated in three phases. The first, from the mid-1980s to the mid-1990s, coincided with the attraction of small industries with a strong concentration of labor, aimed at increasing employment. The second phase, initiated from the late 1990s to the early 2010s, placed emphasis on attracting high-tech entrepreneurial activities, while the third, more recent phase, has sought to diversify economic activities by promoting the transfer of companies with advanced cutting-edge technologies. The three phases have been accompanied by the construction of adequate infrastructure, ad hoc legislative measures and tools to support the involved companies, creating a model that has been rapidly exported elsewhere. On this topic see Chen, Ning, Xu., Zheng, 2024, pg. 529-546

[31] Fangwen, Weizeng and Jianfeng, (2023), pg. 35-64.

forefront in several strategic sectors. Most likely, the cultural, historical, and geopolitical conditions that have enabled this substantial success are such that the full transposition of the Chinese SEZ model to other geographic contexts risks not achieving the same results. In fact, as we mentioned at the beginning of this article, the consequences could even be negative[32].

[32] On this topic see Zeng, 2015.

References

Arrighi, G., 2008, *Adam Smith a Pechino. Genealogie del ventunesimo secolo,* Feltrinelli G., Milano.

Chen, Y., Ning, Y., Xu, Y., Zheng, Y., 2024, "Special Economic Zones and Firms' Trade Regime", *Emerging Markets Finance and Trade*, 61, 2, 529-546 (www.tandfonline.com/doi/full/10.1080/1540496X.2024.2392768), *(accessed February 14, 2025)*.

Fangwen, L., Weizeng, S. and Jianfeng, Wu, 2023, "Special Economic Zones and Human Capital Investment: 30 Years of Evidence from China", *American Economic Journal: Economic Policy,* 15, 3, 35-64.

FDI China, 2020, "Free Trade Zones. Learn all About Special Economic Zones in China", October 26, (www.fdichina.com/blog/special-economic-zones-china/), *(accessed February 14, 2025)*.

Ge,W., 1999, "Special Economic Zones and the Opening of the Chinese Economy: Some Lessons for Economic Liberalization", *World Development*, 27, 7, 1267-1285.

I.L.O. (International Labour Organization) (Ed.), 2020, *Enhancing the Contribution of Export Processing Zones to SDG 8 on Decent Work and Inclusive Economic Growth: A review of 100 zones*, 24 March (www.ilo.org/publications/enhancing-contribution-export-processing-zones-sdg-8-decent-work-and), (*(accessed February 14, 2025)*.

Lu, Y., Tao, Z., Zhou, L., 2017, "Identifyng FDI spilovers" *Journal of International Economics*, 75-90.

Lu, Y., Wang, J., Zhu, L., 2019, "Place-based policies, creation, and displacement: evidence from China's economic zone program", *American Economic Journal: Economic Policy*, 11, 3, 325-360.

Silenko, M., 2020, "Special economic zone of China–Shenzhen: formation and prospects" *Moscow University Economics Bulletin,* 5, 238-257 (www.researchgate.net/publication/347921737_Special_economic_zone_of_China-Shenzhen_formation_and_prospects), *(accessed February 15, 2025)*.

SIPO (State Intellectual Property Office of the PRC), 2008, (www.sipo.gov.cn/sipo2008/), *(accessed January 14, 2025)*.

Stratfor (Ed.), 2010, *China: Power and Perils*, Stratfor Global Intelligence, Austin.

Tantri, M.,L., 2012, "China's Policy for Special Economic Zone: Some Critical Issues", *India Quarterly*, 68, 3, 231-250 (www.jstor.org/stable/45072555), *(accessed February 9, 2025)*.

Tian Miao, J., 2017, "Housing the knowledge economy in China: An examinationa of housing provision in support of Science Park", *Urban Studies*, 54, 6, 1426-1445 (www.jstor.org/stable/26151423), *(accessed January 11, 2025)*.

Tuan, C. and Ng L.F.Y., 2004, "Manifacturing Agglomeration as Incentives to Asian FDI in China after WTO", *Journal of Asian Economics*, 15, 4, 673-693 (ideas.repec.org/a/eee/asieco/v15y2004i4p673-693.html), *(accessed January 11, 2025)*.

Wong, K., 1987, "China's Special Economic Zone Experiment: An Appraisal" *Geografiska Annaler*, Series B, 69, 27–40.

World Bank Group, (Ed.), 2009, *World Development Report 2009: Reshaping Economic Geography* (openknowledge.worldbank.org/collections/3d9bbbf6-c007-5043-b655-04d8a1cfbfb2), *(accessed February 23, 2025)*.

World Bank Group (Ed.), 2017, *Special Eocnomic Zones. An Operational Review of Their Impacts,* Competitive Industries and Innovation Program, Washington (openknowledge.worldbank.org/server/api/core/bitstreams/0a495968-83b8-5ec3-b03e-3f1463a664f4/content), *(accessed February 9, 2025)*.

World Trade Report (Ed.), 2019, *The Future of Service Trade*, World Trade Organization, (efaidnbmnnnibpcajpcglclefindmkaj/https://www.wto.org/english/res_e/booksp_e/00_wtr19_e.pdf), *(accessed February, 9 2025)*.

Wu, M., Liu, C., Huang, J., 2021, "The special economic zones and innovation: Evidence from China", *China Economic Quarterly International,* 1, 4, 319-330 (www.sciencedirect.com/science/article/pii/S2666933121000502#sec1), *(accessed February 8, 2025)*.

Wu , W., Hong, C., Muhammad, A., 2020, "The Spillover effect of export processing zones", *China Economic Review*, 63, (www.sciencedirect.com/science/article/abs/pii/S1043951X20300754), *(accessed February 14, 2025)*.

Yeung, Y.M., Lee, J., Kee, G., 2009, "China's Special Economic Zones",

Eurasian Geography and Economics, 50, 2, 222–240 (www.researchgate.net/publication/250171932_China's_Special_Economic_Zones), *(accessed February 15, 2025)*.

Yuan, C., Yfan, N., Xu, Y. and Zheng, Y., 2025, "Special Zones and Firm' Trade Regime" , *Emerging Markets Finance and Trade*, 62, 2, 529-546.

Xiaohuan, L., 2024, "Government and Economic Development" in Xiaohuan, L. (Ed.), *How China Works. An Introduction to China's State-led Economic Development,* Palgrave McMillian, Singapore, 293-320.

Zeng, D.Z., 2010, "Building Engines for Growth and Competitiveness in China: Experience with Special Economic Zones and Industrial Clusters", *RePEc – Econpapers*, (econpapers.repec.org/bookchap/wbkwbpubs/2501.htm), *(accessed February 14, 2025)*.

Zeng, D.Z., 2015, *Global Experiences with Special Economic Zones Focus on China and Africa*, World Bank Group, Washington.

Zhou, C., 2021, "China's tech megacity Shenzhen at risk of being high-income trap as GDP soars", *MyNews*, 16 March (www.scmp.com/economy/china-economy/article/3125540/chinas-tech-megacity-shenzhen-risk-being-high-income-trap-gdp), *(accessed February 10, 2025)*.

Zhou, M., Lu, Y., Du, Y., Yao, X., 2018, "Special economic zones and region manufacturing upgrading", *China Industrial Economics*, 3, 62-79.

Zhu, J., 1996, "Denationalization of Urban Physical Development", *Cities,* 13, 3, 187–194.

4. Strategic Site Selection for Special Economic Zones and Industrial Parks: Insights from Russia

Sergey Sosnovskikh[1]

Abstract

This chapter examines the site selection process for Special Economic Zones (SEZs) and Industrial Parks (IPs) in Russia, focusing on the specific challenges and factors influencing investment decisions in the Russian business environment. While existing site selection models offer structured frameworks, they often overlook the political, institutional, and infrastructural complexities unique to large transitional economies. Drawing on interviews with SEZ and IP management companies and tenants, this study identifies four key stages in the decision-making process: region selection, political assessment, zone/park evaluation, and analysis of the business environment. Findings highlight the critical role of regional governments, the importance of infrastructure and utility access, and the need for strong local political networks to navigate bureaucratic barriers. An SEZ and IP selection model is proposed, informed by Glatte's site selection framework and incorporating additional components relevant to the Russian context. This research contributes to the literature by integrating industrial cluster theory and extending site selection models to account for state-driven economic initiatives.

Keywords

Industrial cluster, Industrial park, Site selection process, Special economic zone, Russia

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1. Introduction

The existing literature predominantly focuses on the determinants of foreign direct investment (FDI) - a topic widely examined in international business, management, and economics. A substantial body of research identifies numerous factors that influence investment decisions, including macroeconomic conditions (e.g. inflation rates, interest rates, employment levels, and GDP) (Barbopoulos *et al.,* 2014; Deseatnicov & Akiba, 2016), infrastructural development (Dixit, 2011; Lee *et al.,* 2013), and the institutional and political environment (Deng *et al.,* 2020; Yasuda & Kotabe, 2021). Historically, FDI location decisions have been guided by various theoretical models, such as the Ownership-Location-Internalisation framework (Dunning, 2000), which has recently added the political component (Panibratov *et al.,* 2024), as well as resource-based (Gaffney *et al.,* 2013) and institutional-based perspectives (Peng *et al.,* 2023). Rather than reiterating these well-established frameworks, this chapter focuses on a more granular aspect of investment decision-making - namely, the selection of specific sites or subnational areas within a target market. This issue is particularly relevant in large, geographically diverse countries, where institutional, economic, infrastructural, and political conditions can vary significantly across regions. These variations necessitate a more nuanced and location-specific approach when determining the most suitable site for establishing a manufacturing facility or other business operations. The chapter further examines the industrial dimension of investment, as it is a critical factor in the site selection process. The development of manufacturing facilities involves substantial financial commitments, making such decisions highly complex. Therefore, site selection must be guided by a rigorous, strategic evaluation to ensure optimal and sustainable investment outcomes.

While management literature frequently adopts generalised approaches to guide investors through site selection procedures, it often focuses on key aspects such as manufacturing, logistics, and real estate development within specific local markets (Glatte, 2023). Traditionally, site selection has been examined primarily from a national perspective, with relatively few comprehensive international studies until more recent years (Glatte, 2015, 2023). In the United States, Hoover (1948) was among the first scholars to propose foundational criteria for industrial site selection - principles that remain influential today. Building on this work, later researchers sought to integrate international trade theories with nationally focused site selection models, contributing to the

emergence of a more globalised understanding of location theory (Alcácer & Chung, 2014; Flyer & Shaver, 2003; Li & Bathelt, 2018; Owen & Daskin, 1998).

Some studies on site selection decision-making have primarily relied on case analyses of individual corporations, focusing on firm-specific experiences (Arshed *et al.,* 2016; Barbieri *et al.,* 2018; Dunning & Narula, 2005; Panibratov *et al.,* 2024). Other strands of literature adopt a cost-centric approach, concentrating on site relocations driven by cost structure optimisation, while often overlooking construction and real estate considerations (Drezner, 1982; Glatte, 2015; Lambert *et al.,* 2006). An early contribution to international site selection theory was Sabathil's (1969) work, which proposed a comprehensive framework and set of site selection factors. However, his model largely omitted legal, natural, and cultural dimensions, focusing instead on company-specific conditions and psychological aspects. Building on this, Tesch (1980) integrated theories of international trade and investment with site selection methodologies. He was the first to include country-specific institutional conditions, and to emphasise location-specific competitive advantages as key determinants of internationalisation. Tesch classified site selection criteria into three categories:

- factors relevant to all firms,
- the availability and cost of factors influencing manufacturing operations, and
- turnover-related factors.

Goette (1994) further developed international site selection theory by structuring and organising the decision-making process around a broader set of variables. His framework identified key economic conditions (e.g. sales potential, competitive environment, infrastructure, transportation costs, labour availability, and fiscal policy), political factors (e.g. tax legislation, environmental regulation, market entry barriers, business support measures, and political risk), cultural attributes (e.g. language, mentality, religion, and local attitudes toward foreign firms), and location-specific characteristics, such as climate and topography.

Recent literature suggests that the site selection process for investors has

become increasingly complex, shaped by a range of evolving factors. Rikalović *et al.* (2014) highlight a growing demand for development-ready industrial sites with adequate infrastructure, driven by the rise of megaprojects and the implementation of supportive federal policies. However, a shortage of suitable sites, combined with limited access to capital, has begun to affect project feasibility and timelines. Moreover, the definition of risk in site selection has expanded to encompass not only economic and regulatory uncertainties but also man-made hazards such as crime, terrorism, and armed conflict, along with extreme weather events and geopolitical instability (Crouch & Brent Ritchie, 1997; Draper *et al.,* 2011; Owen & Daskin, 1998). These risks present serious challenges to already strained infrastructure systems, particularly electric grids and supply chains, while also undermining efforts to attract and retain investors.

Over the past several decades, countries and regions have increasingly offered investors various incentives, such as areas with tax benefits, streamlined administrative procedures, and access to key infrastructure, including customs offices (Moberg, 2015). These areas are commonly referred to as Special Economic Zones (SEZs), Export Processing Zones, Free Trade Zones, Business Parks, and similar designations. The proliferation of such initiatives has been especially notable in China, India, and other emerging and developing economies (Tantri, 2016; Zeng, 2021). As a result, competition among regions to attract investors has intensified. Consequently, determining the most suitable location for establishing an enterprise has become a complex and challenging decision for investors.

This chapter focuses specifically on the site selection process for SEZs and Industrial Parks (IPs), a subject that remains insufficiently examined within the broader site selection literature. The increasing prominence of state-led initiatives such as SEZs and IPs in recent years highlights the timeliness and relevance of this investigation (Aggarwal, 2023; Arbolino *et al.,* 2022; Rodríguez-Pose *et al.,* 2022). Accordingly, this research offers a valuable contribution to the ongoing academic discourse on investment location strategies in the context of state-facilitated industrial development.

2. Special Economic Zones and Industrial Parks in Russia

2.1 Literature

SEZs are designated areas within a country where businesses benefit from tax incentives, simplified regulations, and enhanced infrastructure. These zones are typically established by governments to attract foreign and domestic investment, promote exports, and stimulate economic development. SEZs often include manufacturing hubs, technology parks, and logistics centres, and are particularly common in countries seeking to enhance their global trade integration and industrial competitiveness (Aggarwal, 2023; Frick *et al.,* 2019). IPs, by contrast, are planned zones for manufacturing and industrial activity, offering firms access to ready-made infrastructure such as roads, utilities, and warehousing facilities (Yang *et al.,* 2018; Zeng, 2019). Unlike SEZs, IPs do not necessarily offer fiscal incentives, but they support firms through cost-sharing, efficient logistics, and the agglomeration of industrial activity. IPs play a key role in industrial clustering, improving operational efficiency and fostering inter-firm collaboration (Sun *et al.,* 2009; Yuan *et al.,* 2010). Both SEZs and IPs function as important instruments of economic development policy, providing favourable operating environments that enable firms to establish, grow, and compete effectively in global markets. These benefits align with Porter's industrial cluster concept (Sosnovskikh & Cronin, 2021), which emphasises the competitive advantages that emerge when related industries are geographically concentrated. In the context of SEZs, the provision of tax incentives, reduced tariffs, and regulatory advantages attracts a critical mass of businesses. This, in turn, encourages the formation of industrial clusters, where firms within the same or complementary sectors benefit from proximity, enabling operational synergies, increased efficiency, enhanced innovation, and broader economic growth (Yuan *et al.,* 2010; Zeng, 2010).

SEZs provide access to high-quality infrastructure, including transport networks, utilities, and communication systems. These features support the development of well-functioning industrial clusters, where firms benefit from shared resources such as skilled labour, integrated supply chains, and efficient distribution channels, ultimately reducing operational costs and enhancing productivity (Aritenang & Chandramidi, 2019; Zheng *et al.,* 2021). Clusters within SEZs and IPs also promote knowledge exchange and technology

transfer among firms, research institutions, and suppliers. The competitive environment typical of industrial clusters stimulates innovation, encouraging firms to improve efficiency, develop new products, and adopt advanced technologies (Palit, 2009; Tantri, 2015). SEZs often attract specialised talent pools, as the concentration of industry-specific firms generates demand for relevant skills. This, in turn, supports human capital development through collaboration between businesses, universities, and training institutions, ensuring a consistent pipeline of qualified professionals (Aggarwal, 2011; Tantri, 2012). Furthermore, SEZs offer firms proximity to suppliers, distributors, and export markets, lowering transaction costs and improving supply chain responsiveness. In line with cluster theory, the close geographic concentration of interconnected firms enhances their ability to respond swiftly to market demands and external disruptions (Aggarwal, 2023; Zeng, 2010). Finally, well-designed SEZs foster sectoral specialisation, leading to the formation of competitive regional industries. Strongly clustered zones elevate a region's global competitiveness, as firms can leverage collective strengths to improve productivity, innovation, and market positioning (Hsu *et al.,* 2013; Yuan *et al.,* 2010; Zeng, 2019).

2.2. Research context

Russia has actively promoted the development of SEZs and IPs as part of its strategy to stimulate economic growth, attract foreign investment, and support industrial diversification. Launched in 2005, Russia's SEZ programme introduced designated zones offering tax incentives, simplified customs procedures, and enhanced infrastructure to appeal to both domestic and international investors (Beliakov & Kapustkina, 2016; Turgel *et al.,* 2019). As of 2022, Russia had established 45 SEZs across various regions, each specialising in particular sectors such as manufacturing, technology, tourism, and logistics (Dubinina, 2022). Notable examples include the Alabuga SEZ in Tatarstan - one of the largest industrial zones in Europe - and the Innopolis SEZ, which focuses on information technology and innovation (Yankov *et al.,* 2016). In parallel with SEZs, Russia has experienced significant expansion in the number of industrial parks (Sheina & Khamavova, 2016; Sosnovskikh, 2017a). By 2024, the number of IPs had grown tenfold, reaching approximately 400 parks, with representation in nearly every region. This rapid expansion underscores the government's commitment to providing pre-developed infrastructure and institutional support to facilitate industrial

development and strengthen the investment climate (Sosnovskikh, 2017c).

It is important to note that many IPs in Russia function as smaller-scale counterparts to SEZs. However, IPs typically feature a more limited geographic scope, offer fewer financial incentives, and are equipped with infrastructure primarily tailored to attract small and medium-sized enterprises (Sandler & Kuznetsov, 2015). The development of both SEZs and IPs is supported by a comprehensive legal and regulatory framework, aimed at creating favourable investment conditions. SEZs are governed by the Federal Law "On Special Economic Zones in the Russian Federation" (Sosnovskikh, 2017b; Yankov et al., 2016), while the concept of the industrial park was formally introduced in the Federal Law "On Industrial Policy" in 2014. This legislation outlines the criteria and standards required for IPs to receive federal support (Sandler & Kuznetsov, 2015; Sosnovskikh, 2017a). These policy measures have successfully attracted investment from numerous multinational corporations, contributing to regional economic development and technological modernisation (Dubinina, 2022). The Russian government continues to view SEZs and IPs as key tools of industrial and economic policy, with ongoing efforts to improve their operational efficiency and global competitiveness.

The Russian state operates under a highly centralised system, playing a dominant role in economic affairs. While this can provide a degree of stability and enable investment incentives (Sakwa, 2020), it also introduces considerable risk. Government policies are subject to abrupt changes, affecting taxation, regulations, and property rights. The rule of law remains inconsistent, with challenges including corruption, opaque regulations, and limited legal protections for businesses. Judicial decisions are often politically influenced, and contract enforcement is unreliable (Kennedy, 2021). Investors frequently encounter uncertainty surrounding property rights, volatile tax regimes, and ambiguous administrative procedures (Rochlitz *et al.,* 2020). Moreover, the state occasionally intervenes in private enterprise, heightening risks of nationalisation, arbitrary fines, or politically motivated legal action (Sakwa, 2020). Russia's economy is also shaped by external pressures, including international sanctions, fluctuations in global oil prices, and geopolitical tensions, all of which contribute to financial instability. Foreign investors may face trade restrictions, capital transfer limitations, and even expropriation risks, where the government assumes control over private assets (Davydov *et al.,* 2022; Evenett & Pisani, 2023; Gould-Davies, 2020; Hartwell & Zadorozhna, 2024). Finally, Russia's vast geographical scale and regional diversity result in significant

variation in investment conditions. While some regions benefit from proactive and supportive local administrations, others are hindered by bureaucratic inefficiencies, corruption, and institutional weakness (Lyapina *et al.,* 2019).

3. Existing site selection models

Given the absence of models specifically tailored to SEZ and IP site selection, this chapter draws on established, traditional frameworks to examine the broader site selection process. This process is typically organised into a series of key phases, including project initiation, site search and screening, site evaluation, decision-making, and final selection (Draper *et al.,* 2011; Glatte, 2023; Rikalović *et al.,* 2014). Each phase entails specific tasks, such as defining project objectives, establishing evaluation criteria, conducting due diligence, and assessing factors including location, accessibility, infrastructure quality, zoning regulations, environmental constraints, and proximity to suppliers or customers. The foundation for this study is Glatte's (2014) site analysis process model (see Table 1), which conceptualises site evaluation as a core element of a corporation's market entry strategy. The model comprises ten sequential stages, designed to facilitate a structured assessment and elimination process aimed at narrowing down site options in a professional and systematic manner. Glatte's framework builds on earlier site selection models, including those developed by Godau (2006), Goette (1994), and Sabathil (1969). It also reflects Glatte's own practical experience, illustrated through case studies presented in his later work (Glatte, 2014). A comparative analysis of Glatte's model with other established frameworks is provided in Table 1, offering insights into its methodological coherence and relevance to contemporary site selection practices.

<table>
<tr><th>Sabathil</th><th>Goette</th><th>Godau</th><th>Glatte</th></tr>
<tr><td colspan="3"></td><td>(1) Establishment of project organisation</td></tr>
<tr><td rowspan="3">Preselection</td><td rowspan="2">Concept phase</td><td>Impulse</td><td rowspan="2">(2) Definition of fundamentals</td></tr>
<tr><td>Concept phase</td></tr>
<tr><td>Preselection of countries</td><td>Preselection of countries</td><td>(3) Definition of regional scope</td></tr>
<tr><td rowspan="4">Final decision</td><td rowspan="2">Macro-analysis</td><td rowspan="2">Rough analysis</td><td>(4) Regional screening</td></tr>
<tr><td>(5) Long-listing</td></tr>
<tr><td rowspan="3">Micro-analysis</td><td rowspan="3">Detailed analysis</td><td>(6) Short-listing</td></tr>
<tr><td>(7) Site visits</td></tr>
<tr><td>(8) Selection of preferred options</td></tr>
<tr><td></td><td>(9) Definition of preferred options</td></tr>
<tr><td></td><td>Decision</td><td>Decision</td><td>(10) Decision</td></tr>
</table>

Table 1. Comparison of site analysis approaches
Source: *(Glatte, 2014: 295)*

The first stage of Glatte's model involves the formation of a project team, which is tasked with determining both the number and specialisations of experts required for the site evaluation process. Five key areas of expertise are typically involved at this stage: size, process, technology, and production complexity; organisational structure; real estate and construction engineering; logistics; and personnel, labour law, finance, taxation, and insurance. The second stage comprises several critical activities, including the assessment of demand, analysis of existing production facility stock, the definition of the site's strategic orientation, and the formulation of a preliminary project description. The third stage focuses on the evaluation of regional opportunities and constraints, with an emphasis on identifying feasible and realistic spatial boundaries early in the project's development. At this point, regional and spatial limitations are assessed through a broad macro-level analysis, establishing a pragmatic foundation for the next stages.

The fourth stage involves a detailed analysis of specific regions within the host country. This includes identifying, inspecting, and compiling potential site options, followed by the creation of a comprehensive overview of all locations that align with the company's strategic site profile. The purpose is

to gain a broad understanding of the investment potential of each selected region. Once the data is collected, it is structured, analysed, and narrowed down through a preselection process based on minimum site requirements. A comparison matrix is then developed to facilitate objective site evaluation, and the results are compiled into a site catalogue (long list). The shortlisting phase involves creating a refined set of site requirements and conducting a macro-analysis of each location. This includes assessing macro-environmental factors from both strategic and operational perspectives, with particular attention to how these factors may influence future production activities.

The subsequent stage involves a comprehensive on-site inspection, during which teams visit the premises, interview local industry stakeholders and authorities, and assess the local political environment. Key considerations at this point include the availability and openness of investment opportunities and the ease of acquiring necessary permits and approvals. This stage typically entails two site visits: the first provides a general overview of the location, while the second - focused on decision-making - enables a more detailed evaluation of shortlisted options. Following the initial assessments, a selection of preferred sites is made. This process may involve additional visits to gather more nuanced information and apply refined selection criteria to further narrow the pool of options. Where needed, further interviews with public officials, business representatives, and other relevant stakeholders are conducted to clarify outstanding concerns. At this point, each shortlisted site undergoes detailed analysis, culminating in the identification of two to four final candidates. In the ninth stage, the most promising sites are subjected to intensive investigation and evaluation, forming the basis for the final selection decision. Moreover, one or two alternative sites should be identified as contingencies, to mitigate the risk of unforeseen complications affecting the preferred option.

The final stage of the site selection process entails the identification of the optimal site, signifying the transition from evaluation to the development and implementation phase of the project. At this juncture, final preparations are undertaken to commence investment and construction activities, ensuring a seamless shift toward full project execution. This research seeks to examine the key factors influencing the successful development of SEZs and IPs in Russia, with a particular emphasis on the criteria relevant to potential investors and tenants. While Glatte's site selection model offers a comprehensive and structured framework for general site evaluation, it does not specifically account for the distinct characteristics and complexities

associated with the selection of SEZs and IPs. Given the methodological parallels between traditional site selection and SEZ and IP selection, an adapted model is proposed, based on Glatte's framework and expanded with additional stages and considerations specific to the institutional, political, and economic conditions of the Russian business environment.

4. Methodology

This research formed part of a broader project conducted between 2015 and 2017 that employed a multi-method approach, combining desk research, questionnaires, and semi-structured interviews. Desk research was used to identify a sample of SEZ and IP management companies and their respective tenants, and to collect quantitative data on each organisation. The sample was derived from the 2015 official list of six Russian industrial SEZs[2] and 120 IPs, as published on the website of the state-owned JSC Special Economic Zones managing company, in conjunction with the 2015 annual report of the Association of Industrial Parks. However, the site selection process for potential investors in SEZs and IPs in Russia was explored primarily through interviews. Directors, deputy directors, and heads of investor relations from each SEZ management company were specifically targeted for interviews to provide in-depth insights into the investment decision-making process and site selection criteria. The interviews were conducted primarily via Skype and averaged approximately one hour in duration. In total, 37 interviews were conducted, distributed as follows:

- 6 interviews with SEZ managing companies (one per company)
- 10 interviews with IP managing companies

[2] Although SEZs in Russia span various sectors - including tourism, logistics, and technology - this research focused exclusively on industrial Special Economic Zones registered in 2015. The study examined six key industrial SEZs: Alabuga SEZ in the Republic of Tatarstan, Lipetsk SEZ in the Lipetsk region, Togliatti SEZ in the Samara region, Kaluga SEZ in the Kaluga region, Moglino SEZ in the Pskov region, and Titanium Valley SEZ in the Sverdlovsk region.

- 9 interviews with SEZ tenants
- 11 interviews with IP tenants
- 1 interview with the Association of Industrial Parks.

The interview questions were organised around eight key themes derived from the existing literature. The first two sections gathered background information on the organisations and explored the processes involved in the establishment of SEZs and IPs. Section three focused on domestic and export markets, as well as cooperative linkages within industrial clusters. These dimensions are particularly significant, as the industrial cluster concept underscores the importance of trade and cooperative relationships within geographically proximate firms (Hsu *et al.,* 2013; Li & Bathelt, 2018; Zeng, 2010). Furthermore, export-oriented activities in SEZs are widely recognised as critical drivers of sustainable economic development (Kumar & Phougat, 2021; Palit, 2009; Quaicoe *et al.,* 2017). Sections four to six addressed the dynamics of competition, collaboration, and innovation - core elements of cluster theory (Delgado *et al.,* 2016; Ketels, 2013). Section seven examined the role of government in the development of SEZs and IPs, a topic that features prominently in both the SEZ literature (Aggarwal, 2011; Chen, 1995; Moberg, 2015) and studies on the Russian business environment (Kennedy, 2021; Vasileva, 2018). Finally, section eight explored the factors that facilitate or hinder cluster development, offering broader insight into the contextual conditions shaping the success of SEZs and IPs.

Interview responses were analysed thematically, employing a primarily deductive approach based on eight predefined topics derived from the literature review. Following an initial familiarisation with the transcripts, systematic coding was conducted according to these thematic categories, with additional emergent themes incorporated as appropriate. The coding process included the identification of word repetitions, key-indigenous terms, and keywords-in-context, in line with established qualitative research methodologies (Corbin & Strauss, 2015). After the initial round of coding, transcripts were re-examined to refine and consolidate the themes. Overlapping or infrequently occurring codes were reviewed and, where necessary, merged to enhance analytical coherence.

5. A selection model for potential investors (tenants) in Russian SEZs and IPs

The study identified four principal stages in the decision-making process for establishing a business within a SEZ or IP, each associated with a range of risk factors. These stages were derived from interviews and survey responses collected from both successful and less successful tenants. Notably, successful tenants tended to consider all four stages comprehensively, while less successful tenants focused on only a limited subset of these factors. All twenty respondents framed their decision-making within a cost–benefit analytical approach, indicating that success was closely linked to a thorough evaluation of SEZ or IP conditions, the broader business environment, and the regional investment climate. Respondents defined success using several criteria, including:

- Active development of the SEZ or IP, as evidenced by the attraction of new tenants;
- Full operational status of existing businesses;
- Continued construction and development of manufacturing facilities;
- Effective performance by the managing company, specifically in:
    - Attracting and promoting new tenants;
    - Representing the SEZ or IP at international events;
    - Ensuring the functionality of infrastructure and utility systems;
    - Maintaining consistent communication with tenants regarding emerging issues;
- Stable and sustained business growth within the SEZ/IP.

Table 2 presents a model that synthesises the key decision-making factors and stages, arranged according to the sequence reported by respondents.

The first stage in the evaluation process for establishing operations within a SEZ or IP involves the *selection of a region.* This requires a comprehensive analysis of all available SEZs and IPs across various Russian regions, followed by the shortlisting of those regions that meet initial suitability criteria for more detailed comparative assessment. Regional options are evaluated, described, and ranked based on a defined set of key criteria. Interview findings identified five critical factors that were considered essential to increasing the likelihood of successful investment outcomes at this stage: *proximity to sales markets* (cited by 18 respondents), *favourable investment climate* (cited by all respondents), *high level of industrial development* (12 respondents), *local legislative environment* (all respondents), and *quality of transport infrastructure* (13 respondents). The relevance of these factors is well established in existing literature (Aggarwal, 2011; Bräutigam & Tang, 2014; Cheesman, 2012; Quaicoe *et al.,* 2017).

Investors seek locations near their primary sales markets to reduce distribution costs, ensure timely delivery, and improve responsiveness to customer demands. Proximity enables better logistical efficiency, shorter supply chains, and faster turnaround times. It also supports market intelligence gathering and allows firms to adapt quickly to changes in consumer preferences or market trends. In Russia, where regional disparities are significant, being near key consumer or industrial centres (e.g., Moscow, St. Petersburg, Tatarstan) provides a strategic commercial advantage. A positive investment climate includes macroeconomic stability, predictable policies, low corruption, and efficient bureaucratic procedures. It signals reduced risk and greater potential for long-term returns. Investors are more likely to commit capital when they perceive the host region as secure, transparent, and business-friendly. Also, regions with strong industrial ecosystems offer access to specialised suppliers, skilled labour, and business services. These areas tend to have mature value chains and existing clusters that investors can plug into, reducing the need to build everything from scratch. An advanced industrial base also reflects the availability of supportive infrastructure and institutions. The local legal framework affects land acquisition, construction permits, tax obligations, and environmental regulations. Investors prioritise regions where local laws are clearly defined, stable, and enforced transparently. This minimises legal risk, delays, and unexpected costs. Also, Fujita *et al.* (2001) highlight the importance of accounting for regional legislative variations, particularly

in relation to construction standards and other regulatory constraints that may affect business operations. In a country like Russia, where laws and their enforcement may vary substantially across regions (Sakwa, 2020), understanding and navigating local legislation becomes a key determinant of project feasibility. Finally, Efficient transport systems (including roads, railways, airports, and ports) are vital for moving goods, accessing inputs, and connecting with markets. Poor infrastructure increases costs, delays, and operational risks. High-quality transport links improve supply chain reliability, reduce time-to-market, and support export and import activities. In Russia's vast and often logistically challenging geography, access to robust transport corridors is a crucial factor in investment site selection.

Stage	Steps
(1) Selection of a region	Proximity to sales markets Favourable investment climate High level of industrial development Local legislative environment Quality of transport infrastructure
(2) Assessment of political factors	Political stability Close relations with local state authorities Approvals and permits Established relationships between managing companies and regional government Proactive regional administration Regional strategic development programmes Financial support: subsidies, fiscal incentives, preferential bank interest rates
(3) Evaluation of SEZs and IPs in the region	Established utilities and transport infrastructure Greenfield or brownfield Ownership type of the SEZ or IP Specific construction costs Legal aspects of land acquisition or leasing Potential for facility extensions Management fees Fiscal incentives (offered tax benefits) Proximity to customs
(4) Evaluation of business environment	Proximity to suppliers Presence of anchor investors Competitive environment Cooperation with universities or R&D centres Labour availability Developed social infrastructure Restrictions: environmental and legal
(5) Decision	

Table 2. SEZ and IP selection process for potential investors (tenants) in Russia
Source: *devised by the author*

The second stage of the SEZ and IP evaluation process entails the *assessment of political factors*, given the pivotal role regional governments play in the establishment and development of SEZs and IPs in Russia. Interview findings identified seven key political considerations that influence investment decisions at this stage. Foremost among these is *political stability*. Fourteen respondents emphasised that a long-serving regional governor or a consistent team of state officials significantly increases the likelihood of securing federal approval for investment initiatives and ensures steady financial support for zone and park development. The significance of political backing was particularly evident in the case of the Sverdlovsk region, where administrative inattention and inadequate funding allocation delayed the implementation of SEZs by nearly seven years. This, in turn, undermined efforts to attract investors and constrained broader regional economic development.

Another important factor in the site selection process, identified by 11 respondents, is the early establishment of *close relations with local state authorities*, real estate brokers, private landowners, and other key stakeholders within the SEZ or IP. This consideration applies to both Russian and foreign investors and is viewed as instrumental in facilitating smoother investment procedures. The importance of developing such networks (particularly with regional state officials) is well-documented in the literature (Horak *et al.,* 2021; Ledeneva, 2013; Minbaeva *et al.,* 2022). Effective network-building typically entails:

- Visiting and inspecting SEZ and IP sites;
- Negotiating with landowners and property intermediaries;
- Conducting discussions with regional authorities to clarify conditions of land acquisition or lease;
- Evaluating potential additional costs associated with site development; and
- Determining the availability and terms of tax incentives and state-provided benefits.

The same 11 respondents reported that established local networks often proved

critical in overcoming bureaucratic challenges, especially in securing *approvals and permits* necessary for launching operations. This finding underscores the strategic value of early and proactive engagement with regional stakeholders in the overall investment process. Another critical factor emerging from the findings is the *established relationship between the managing company and the regional government,* as highlighted by 12 respondents. A strong relationship between the managing company and the regional government ensures strategic alignment, facilitates access to funding and permits, helps overcome bureaucratic hurdles, and builds investor confidence, which is particularly vital in Russia's centralised and uncertain business environment where regional support can significantly influence the success of SEZs and IPs. Furthermore, 16 respondents emphasised the importance of evaluating whether regional government officials exhibit a personal commitment to the development of SEZs and IPs. This consideration appears to be among the most decisive in the site selection process. The data indicate that a *proactive regional administration* significantly enhances the attractiveness and functionality of SEZs and IPs by actively promoting them and facilitating investor engagement. Such administrations typically incorporate SEZs and IPs into broader regional *strategic development programmes* and offer various forms of *financial support*. These include direct subsidies, fiscal incentives, and preferential bank interest rates, a point noted by 13 respondents.

The significance of municipal government involvement in the development of SEZs and IPs is well documented in the literature (Aggarwal, 2011; Aritenang & Chandramidi, 2019; Montealegre, 2012; Zeng, 2010). These studies generally contend that while proactive administrations should play a supportive role by providing financial assistance, infrastructure, and a sound regulatory environment, they should refrain from direct involvement in investor recruitment or the cultivation of personal business relationships. In contrast, the Russian context presents a notable departure from these global norms. Regional governments in Russia frequently adopt a more interventionist approach, actively shaping the success of SEZs and IPs through hands-on political and administrative engagement. This divergence underscores the distinctive nature of SEZ and IP development in Russia, where the degree of state involvement and the personal interest of local authorities can exert a significant influence on investment outcomes.

In several Russian regions, SEZs and IPs operate concurrently, making it essential for prospective investors to conduct a comprehensive *evaluation of the available*

zones and parks before finalising their site selection. This stage entails a detailed analysis of infrastructural, legal, and financial characteristics associated with each site. All respondents agreed that a preliminary assessment of infrastructure is vital in determining the most appropriate location for establishing manufacturing facilities, as infrastructure quality and location directly influence operational efficiency and cost structures. Key considerations at this stage include:

- *Utility Infrastructure*: The availability and reliability of essential utilities (such as electricity, gas, heating, water supply, sewerage, and telecommunications) must be assessed to ensure operational viability and potentially associated construction costs (Aggarwal, 2011; Zeng, 2015).

- *Greenfield vs. Brownfield Projects*: Investors must evaluate whether the proposed site is undeveloped land (greenfield) or a repurposed industrial area (brownfield), as this distinction significantly impacts construction costs and development timelines (Bartke & Schwarze, 2015; Hayali, 2014).

- *Transport Accessibility*: An evaluation of the existing transport infrastructure, including road and rail connectivity and proximity to airports, is crucial for optimising supply chain logistics and distribution efficiency (Quaicoe *et al.,* 2017; Warr, 1989).

- *Ownership Structure of Zones and Parks*: Particularly for IPs, the nature of ownership (state-owned, privately owned, or a public-private partnership) can significantly influence governance, investor support mechanisms, and regulatory frameworks (Kumar & Phougat, 2021; Tantri, 2016).

In addition to evaluating technical, legal, and tax conditions, companies must identify the specific regulatory and infrastructural requirements necessary for establishing operations within an SEZ or IP in Russia. Forming joint ventures with established or complementary businesses may also serve as a strategic approach to mitigate risks, leverage local expertise, and optimise resource utilisation during market entry. Respondents emphasised the importance of conducting a comprehensive assessment of all costs associated with establishing and expanding operations within specific SEZs and IPs. This observation is consistent with the broader literature, where scholars such as Fujita *et al.* (2001), Godlewska-Majkowska *et al.* (2016), Gupta (2008), and

Tantri (2016) stress the centrality of cost analysis in site selection processes. All respondents highlighted the significance of evaluating *construction costs*, including expenses related to the development of manufacturing facilities in a particular region, zone or a park; *the legal aspects of land acquisition or leasing*, particularly regarding ownership rights, contractual terms, and legal fees; and utility-related expenditures, such as charges for electricity, gas, water, sewage, and telecommunications services. Besides, ten respondents expressed concerns regarding future business expansion, prompting them to seek clarification from managing companies about the *potential for facility extensions*.

However, four tenants (located in the Sverdlovsk, Orel, and Vladimir regions) reported significant challenges related to rental conditions. These challenges primarily stemmed from a lack of transparency concerning the purchase of land, buildings, or facilities within SEZs and IPs. At the time of the interviews, these tenants remained in protracted negotiations, impeded by ambiguous regulatory frameworks and unclear land ownership policies. Moreover, the same four respondents noted that, during their tenancy, *management fees* were frequently increased without clear justification. However, this issue appeared to be region-specific, reported only in the Sverdlovsk, Orel, and Vladimir regions during the data collection period. The next component of the site evaluation stage involves assessing the availability and conditions of *fiscal incentives* provided by SEZs and IPs. This factor was deemed critical by 12 respondents, as tax relief and financial incentives can substantially influence the overall cost-efficiency of an investment. Additionally, for businesses engaged in international trade, evaluating the accessibility and *proximity of customs facilities* was considered essential to ensure efficient logistics and supply chain operations. The strategic importance of customs infrastructure in SEZ and IP site selection is similarly emphasised in the literature (Gupta, 2008; Hartwell, 2018; Tantri, 2016).

The final stage of SEZ and IP assessment centres on the *evaluation of business environment*, particularly the competitive landscape and potential for collaboration within and around the zones or parks. This approach is consistent with the industrial cluster concept outlined in the literature (Hsu & Lin, 2011; M.-S. Hsu *et al.,* 2013; Li & Bathelt, 2018; Yeup Kim & Zhang, 2008; Zeng, 2019). Sixteen respondents emphasised the importance of *proximity to suppliers* of key resources, such as raw materials and components, while ten highlighted the relevance of *anchor investors* and local corporations

as potential partners for supply chain integration and future cooperation. Several tenants were embedded in established regional clusters - for instance, automotive manufacturing (AvtoVAZ) and the titanium industry (VSMPO-AVISMA) - underscoring the role of clustering in promoting cost efficiencies, innovation, and competitiveness. One IP tenant participated in the emerging pharmaceutical cluster in Belgorod, while another operated within the textile cluster in Ivanovo, producing uniforms and industrial apparel. In Leningrad, an IP tenant involved in gas turbine production strategically aligned with local heavy industry firms. However, not all cases reflected successful clustering. In Orel, the regional government showed limited engagement with business developments, such as the acquisition of a local metalware manufacturer by JSC Severstal Metiz. This led to reduced *competition* and disrupted existing networks within the metallurgy cluster, illustrating how passive regional governance can undermine the collaborative dynamics crucial for SEZ and IP success.

Only seven respondents emphasised the importance of cooperation with *universities or R&D centres*, which can enhance innovation and support the development of a skilled workforce - a perspective also supported by the literature (Abramo *et al.,* 2011; Capó-Vicedo *et al.,* 2013; Tantri, 2016). In contrast, 13 respondents identified *labour availability* as a critical factor, echoing widely recognised findings in academic research as skilled workforce essential for operational efficiency (Chen, 1995; Tsui, 2009; Warr, 1989). Also, these respondents underlined the importance of *developed social infrastructure*, such as housing, schools, and public amenities, particularly in SEZs and IPs with long-term development objectives. This enhances quality of life for employees, making the region more attractive for long-term investment and talent retention (Aggarwal, 2023; Rodríguez-Pose *et al.,* 2022; Zeng, 2021; Zheng *et al.,* 2021).

Finally, all respondents agreed that a thorough assessment of *restrictions* is essential in the final stage of the site selection process. These restrictions may include *environmental considerations* - such as sanitary classification of production facilities, designated protection zones, and technical limitations of park infrastructure (Danja & Wang, 2024; Quaicoe *et al.,* 2017; Zeng, 2021) - as well as *legal constraints* related to firm size, industry sector, or ownership structure (foreign or domestic) (Tantri, 2016; Yankov *et al.,* 2016). Collectively, these factors play a significant role in determining the long-term feasibility and strategic alignment of an SEZ or IP for prospective investors.

6. Conclusion

The objective of this chapter was to analyse the SEZ and IP selection process, with particular attention to the distinctive characteristics of doing business in Russia. Glatte's (2014) standard site selection model offers a structured, ten-stage framework to guide corporations in evaluating potential locations before commencing operations. This model facilitates a systematic assessment of site options through professional evaluation and progressive elimination, ultimately helping firms identify the most suitable investment site. This study introduces an adapted model that aligns the specific stages of SEZ and IP selection in Russia with Glatte's original site selection framework. The model incorporates insights from empirical research and demonstrates that Glatte's stages correspond closely with the Russian context and can be effectively applied to SEZ and IP location decisions. The findings indicate that many of the critical success factors cited by respondents - such as a favourable investment climate, proximity to key markets, availability of skilled labour, and currency stability - are also well supported in the academic literature (Aggarwal, 2023; Chen, 1995; Moberg, 2015; Zeng, 2021).

The evaluation of the business environment within the Russian model closely aligns with the principles of cluster theory and SEZ development. It incorporates key elements such as cooperation opportunities, competitive dynamics, and proximity to universities and R&D centres. This dimension serves as a vital enhancement to Glatte's existing site selection model, contributing a more comprehensive framework suited to SEZ and IP evaluation. Notably, the first four stages of Glatte's model correspond directly with the regional selection phase identified in this research. However, a distinctive feature of the Russian context is the pronounced influence of political factors in the site selection process. In Russia, proactive regional administrations are instrumental to the success of SEZs and IPs, often providing financial support, political assurances to reduce uncertainty, and assistance in navigating complex bureaucratic procedures (Sosnovskikh & Cronin, 2021). Importantly, the aim of this research is not to critique Glatte's model for its limitations but to extend its applicability by incorporating context-specific components. By incorporating these elements, the adapted model provides a more precise and context-sensitive framework for SEZ and IP site selection in Russia, increasing its practical value for both scholars and practitioners involved in location decision-making.

The site selection procedures outlined in this study involve a comprehensive assessment of all relevant stages and factors associated with SEZ and IP evaluation. This structured approach requires investors to systematically compare the advantages and disadvantages of each option, assess associated risks and costs, and prepare a preliminary budget to support informed decision-making. As part of this process, investors are expected to:

- Conduct risk assessments concerning facility and land ownership.

- Identify preventative measures should they proceed with facility acquisition based on evaluation outcomes.

- Estimate initial costs, including utility connection expenses and, for brownfield sites, costs related to the dismantling and modernisation of existing structures.

The model specifically advises that investors consider a broad spectrum of risk factors when selecting both a region and a specific SEZ or IP. The findings reveal that the successful development of these zones and parks is often constrained by significant uncertainty within the business environment, as well as by a vertically integrated power structure in both political and economic spheres. These systemic challenges are well-documented in the literature (Girlando & Eduljee, 2010; Hartwell & Zadorozhna, 2024; Kennedy, 2021). Such conditions contribute to limited collaboration, a reluctance to engage in open competition, and the necessity of cultivating relationships with state authorities. This is due to the distinct and influential role that the government plays in the Russian business landscape (Viktorov & Abramov, 2022), particularly in shaping the development and functionality of SEZs and IPs (Sosnovskikh, 2017c; Sosnovskikh & Cronin, 2021).

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References

Abramo, G., D'Angelo, C. A., & Costa, F. D., 2011, "University-industry research collaboration: A model to assess university capability", *Higher Education*, 62, 2, 163–181. https://doi.org/10.1007/s10734-010-9372-0.

Aggarwal, A., 2011, "Strategising of SEZs: China vis-à-vis India", *Asia K*enkyu, 57, 4, 345–370.

Aggarwal, A., 2023, "How special are special economic zones: Evidence from South Asia", *The World Economy*, 46, 2361–2382. https://doi.org/10.1111/twec.13383.

Alcácer, J., & Chung, W., 2014, "Location strategies for agglomeration economies", *Strategic Management Journal*, 35, 12, 1749–1761. https://doi.org/10.1002/smj.2186.

Arbolino, R., Lantz, T. L., & Napolitano, O., 2022, "Assessing the impact of special economic zones on regional growth through a comparison among EU countries", *Regional Studies*, 57, 6, 1069–1083. https://doi.org/10.1080/00343404.2022.2069745.

Aritenang, A. F., & Chandramidi, A. N., 2019, "The Impact of Special Economic Zones and Government Intervention on Firm Productivity: The Case of Batam, Indonesia", *Bulletin of Indonesian Economic Studies*, 56, 2, 225–249. https://doi.org/10.1080/00074918.2019.1643005.

Arshed, N., McFarlane, J., & MacIntosh, R., 2016, *Enterprise and its Business Environment,* Goodfellow Publishers Ltd., Oxford.

Barbieri, P., Ciabuschi, F., Fratocchi, L., & Vignoli, M., 2018, "What do we know about manufacturing reshoring?", *Journal of Global Operations and Strategic Sourcing*, 11, 1, 79–122. https://doi.org/10.1108/JGOSS-02-2017-0004.

Barbopoulos, L., Marshall, A., MacInnes, C., & McColgan, P., 2014, "Foreign direct investment in emerging markets and acquirers' value gains", *International Business Review*, 23, 3, 604–619. https://doi.org/10.1016/j.ibusrev.2013.10.003.

Bartke, S., & Schwarze, R., 2015, No perfect tools: Trade-offs of sustainability principles and user requirements in designing support tools for land-use decisions between greenfields and brownfields. *Journal of Environmental*

Management, 153, 11–24. https://doi.org/10.1016/j.jenvman.2015.01.040.

Beliakov, S., & Kapustkina, A., 2016, "Analysis of Performance Indicators of Functioning of Territories with Special Economic Status in the Russian Federation", *15th International Scientific Conference "Underground Urbanisation as a Prerequisite for Sustainable Development"*, 12-15 September 2016, St. Petersburg, Russia, 165, 1424–1429.

Bräutigam, D., & Tang, X., 2014, "Going Global in Groups": Structural Transformation and China's Special Economic Zones Overseas", *World Development*, 63, 78–91. https://doi.org/10.1016/j.worlddev.2013.10.010.

Capó-Vicedo, J., Molina-Morales, F. X., & Capó, J., 2013, "The role of universities in making industrial districts more dynamic. A case study in Spain", *Higher Education*, 65, 4, 417–435. https://doi.org/10.1007/s10734-012-9553-0.

Cheesman, A., 2012, *Special Economic Zones & Development: Geography and Linkages in the Indian EOU Scheme*. Development Planning Unit Working Paper No. 145, 42.

Chen, X., 1995, "The Evolution of Free Economic Zones and the Recent Development of Cross-National Growth Zones", *International Journal of Urban and Regional Research*, 19. 4, 593–621. https://doi.org/10.1111/j.1468-2427.1995.tb00530.x.

Corbin, J., & Strauss, A., 2015, *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*, 4th Edition, Sage Publishing, Thousand Oaks.

Crouch, G. I., & Brent Ritchie, J. R., 1997, "Convention Site Selection Research", *Journal of Convention & Exhibition Management*, 1, 1, 49–69. https://doi.org/10.1300/J143v01n01_05.

Danja, I. I., & Wang, X., 2024, "Matching comparative advantages to special economic zones for sustainable industrialization", *Heliyon*, 10, 14, e34411. https://doi.org/10.1016/j.heliyon.2024.e34411.

Davydov, D., Sihvonen, J., & Solanko, L., 2022, "Who cares about sanctions? Observations from annual reports of European firms", *Post-Soviet Affairs*, 38, 3, 1–28. https://doi.org/10.1080/1060586X.2022.2049563.

Delgado, M., Porter, M. E., & Stern, S., 2016, "Defining clusters of related industries", *Journal of Economic Geography*, 16, 1, 1–38.

Deng, P., Delios, A., & Peng, M. W., 2020, "A geographic relational perspective on the internationalization of emerging market firms", *Journal of International Business Studies*, 51, 1, 50–71. https://doi.org/10.1057/s41267-019-00276-y.

Deseatnicov, I., & Akiba, H., 2016, "Exchange rate, political environment and FDI decision", *International Economics*, 148, 16–30. https://doi.org/10.1016/j.inteco.2016.05.002.

Dixit, A., 2011, "International Trade, Foreign Direct Investment, and Security", *Annual Review of Economics,* 3, 1, 191–213. https://doi.org/10.1146/annurev-economics-111809-125110.

Draper, J., Dawson, M., & Casey, E., 2011, "An Exploratory Study of the Importance of Sustainable Practices in the Meeting and Convention Site Selection Process", *Journal of Convention & Event Tourism*, 12, 3, 153–178. https://doi.org/10.1080/15470148.2011.598353.

Drezner, Z., 1982, "Competitive location strategies for two facilities", *Regional Science and Urban Economics*, 12, 4, 485–493. https://doi.org/10.1016/0166-0462(82)90003-5.

Dubinina, E., 2022, "Impact of Special Economic Zones on domestic market: Evidence from Russia", *Post-Communist Economies*, 35, 1, 82–99. https://doi.org/10.1080/14631377.2022.2138154.

Dunning, J. H., 2000, "The eclectic paradigm as an envelope for economic and business theories of MNE activity", *International Business Review*, 9, 2, 163–190. https://doi.org/10.1016/S0969-5931(99)00035-9.

Dunning, J. H., & Narula, R., 2005, *Multinationals and Industrial Competitiveness: A New Agenda.* Edward Elgar Publishing, Cheltenham.

Evenett, S. J., & Pisani, N., 2023, "Geopolitics, conflict, and decoupling: Evidence of Western divestment from Russia during 2022", *Journal of International Business Policy*, 6, 4, 511–540. https://doi.org/10.1057/s42214-023-00167-y.

Flyer, F., & Shaver, J. M., 2003, "Location Choices Under Agglomeration Externalities and Strategic Interaction", *Advances in Strategic Management*, 21, 193–213.

Frick, S. A., Rodríguez-Pose, A., & Wong, M. D., 2019, "Toward Economically Dynamic Special Economic Zones in Emerging Countries", *Economic*

Geography, 95, 1, 30–64. https://doi.org/10.1080/00130095.2018.1467732.

Fujita, M., Krugman, P. R., & Venables, A. J., 2001, *The Spatial Economy: Cities, Regions, and International Trade,* MIT Press, Cambridge.

Gaffney, N., Kedia, B., & Clampit, J., 2013, "A resource dependence perspective of EMNE FDI strategy", *International Business Review*, 22, 6, 1092–1100. https://doi.org/10.1016/j.ibusrev.2013.02.010.

Girlando, A. P., & Eduljee, N. B., 2010, "An Empirical Investigation of the Malleability of Hofstede's Cultural Dimensions: The Case of the United States and Russia", *Journal of Transnational Management*, 15, 3, 265–289. https://doi.org/10.1080/15475778.2010.514201.

Glatte, T., 2014, "International manufacturing site selection (Part I): A comprehensive site analysis model", *Corporate Real Estate Journal*, 3, 4, 293–306.

Glatte, T., 2015, "Location strategies: Methods and their methodological limitations", *Journal of Engineering, Design and Technology*, 13, 3, 435–462. https://doi.org/10.1108/JEDT-01-2013-0004.

Glatte, T., 2023, *Location Strategies: International Site and Facility Planning as Part of Corporate Strategies*, Springer, Wiesbaden.

Godau, M., 2006*, Die Bedeutung weicher Standortfaktoren bei Auslandsinvestitionen mit besonderer Berücksichtigung des Fallbeispiels Thailand*, Doctoral Dissertation. Diplomica Verlag GmbH, Norderstedt Germany.

Godlewska-Majkowska, H., Komor, A., & Typa, M., 2016, "Special economic zones as growth and anti-growth poles as exemplified by Polish regions", *Entrepreneurial Business and Economics Review,* 4, 4, 189-212.

Goette, T., 1994, *Site Policy of International Corporations*, Doctoral Dissertation. Deutscher Universitäts-Verlag, Germany.

Gould-Davies, N., 2020, "Russia, the West and Sanctions", *Survival*, 62, 1, 7–28. https://doi.org/10.1080/00396338.2020.1715060.

Gupta, K. R., 2008, *Special economic zones: Issues, laws and procedures*, Atlantic Publishers & Dist., New Dehli.

Hartwell, C. A., 2018, "Bringing the benefits of David to Goliath: Special

economic zones and institutional improvement", *Regional Studies*, 52, 10, 1309–1321. https://doi.org/10.1080/00343404.2017.1346371.

Hartwell, C. A., & Zadorozhna, O., 2024, "The connections that bind: Political connectivity in the face of geopolitical disruption", *Journal of International Management*, 30, 3, 101141. https://doi.org/10.1016/j.intman.2024.101141.

Hayali, A. S., 2014, "Is FDI beneficial for development in any case: An empirical comparison between greenfield and brownfield investments", *Doğuş Üniversitesi Dergisi*, 15, 1, 15–30.

Hoover, E., 1948, *The Location of Economic Activity,* McGraw-Hill Book Company, New York.

Horak, S., Klein, A., & Svirina, A., 2021, "Trust, reciprocity and reputation in informal networks in post-Soviet Russia", *European Journal of International Management*, 15, 4, 657–685. https://doi.org/10.1504/EJIM.2021.114623.

Hsu, J.-Y., & Lin, L.-X., 2011, "The Leader Firms and the Evolution of an Industrial District: A Case Study of Hosiery District in Taiwan", *European Planning Studies*, 19, 6, 1021–1041. https://doi.org/10.1080/09654313.2011.568817.

Hsu, M.-S., Lai, Y.-L., & Lin, F.-J., 2013, "Effects of Industry Clusters on Company Competitiveness: Special Economic Zones in Taiwan", *Review of Pacific Basin Financial Markets and Policies*, 16, 3, 1350017. https://doi.org/10.1142/S0219091513500173.

Kennedy, J., 2021, *Business Culture in Putin's Russia.* Routledge, London. https://doi.org/10.4324/9780429469176.

Ketels, C., 2013, "Recent research on competitiveness and clusters: What are the implications for regional policy?", *Cambridge Journal of Regions, Economy and Society*, 6, 2, 269–284.

Kumar, D., & Phougat, S., 2021, "Performance of Exports, Investment and Employment under Special Economic Zones in India", A*sian Journal of Economics, Finance and Management*, 3, 1, 340–345.

Lambert, D. M., McNamara, K. T., & Garrett, M. I., 2006, "An Application of Spatial Poisson Models to Manufacturing Investment Location Analysis", *Journal of Agricultural and Applied Economics,* 38, 1, 105–121. https://doi.org/10.1017/S1074070800022100.

Ledeneva, A., 2013, *Can Russia Modernise? Sistema, Power Networks and Informal Governance,* Cambridge University Press, New York.

Lee, S.-H., Peng, M. W., & Song, S., 2013, "Governments, entrepreneurs, and positive externalities: A real options perspective", *European Management Journal*, 31, 4, 333–347. https://doi.org/10.1016/j.emj.2013.01.006.

Li, P., & Bathelt, H., 2018, "Location strategy in cluster networks", *Journal of International Business Studies,* 49, 8, 967–989. https://doi.org/10.1057/s41267-017-0088-6.

Lyapina, I., Mashegov, P., Petrukhina, E., Stroeva, O., & Maltsev, A., 2019, "Institutional effects in development of regional innovational infrastructure", *International Journal of Trade and Global Markets,* 12, 1, 26–42. https://doi.org/10.1504/IJTGM.2019.097940.

Minbaeva, D. B., Ledeneva, A., Muratbekova-Touron, M., & Horak, S., 2022, "Explaining the Persistence of Informal Institutions: The Role of Informal Networks", *Academy of Management Review,* 48, 3, 556–574. https://doi.org/10.5465/amr.2020.0224.

Moberg, L., 2015, "The political economy of special economic zones", *Journal of Institutional Economics,* 11, 1, 167–190. https://doi.org/10.1017/S1744137414000241.

Montealegre, R., 2012, "A Process Model of Government Intervention and Capability Development: Lessons from the Technology Cluster Formation in Hyderabad, India", *Journal of Global Information Technology Management*, 15, 1, 25–52. https://doi.org/10.1080/1097198X.2012.10845611.

Owen, S. H., & Daskin, M. S., 1998, "Strategic facility location: A review", *European Journal of Operational Research,* 111, 3, 423–447. https://doi.org/10.1016/S0377-2217(98)00186-6.

Palit, A., 2009, "Growth of Special Economic Zones (SEZs) in India", *Journal of Infrastructure Development,* 1, 2, 133–152. https://doi.org/10.1177/097493060900100203.

Panibratov, A., Garanina, O., Ameyaw, A.-K., & Anand, A., 2024, "POLI advantages of state-owned multinationals", *International Journal of Emerging Markets*, 19, 5, 1385–1406. https://doi.org/10.1108/IJOEM-12-2021-1872.

Peng, M. W., Wang, J. C., Kathuria, N., Shen, J., & Welbourne Eleazar, M.

J., 2023, “Toward an institution-based paradigm”, *Asia Pacific Journal of Management*, 40, 2, 353–382. https://doi.org/10.1007/s10490-022-09861-6.

Quaicoe, A., Aboagye, A., & Bokpin, G., 2017, “Assessing the impact of export processing zones on economic growth in Ghana”, *Research in International Business and Finance*, 42, 1150–1163. https://doi.org/10.1016/j.ribaf.2017.07.052.

Rikalovic, A., Cosic, I., & Lazarevic, D., 2014, “GIS Based Multi-criteria Analysis for Industrial Site Selection”, *24th DAAAM International Symposium on Intelligent Manufacturing and Automation*, 69, 1054–1063. https://doi.org/10.1016/j.proeng.2014.03.090.

Rochlitz, M., Kazun, A., & Yakovlev, A., 2020, “Property rights in Russia after 2009: From business capture to centralized corruption?”, *Post-Soviet Affairs*, 36, 5–6, 434–450. https://doi.org/10.1080/1060586X.2020.1786777.

Rodríguez-Pose, A., Bartalucci, F., Frick, S. A., Santos-Paulino, A. U., & Bolwijn, R., 2022, “The challenge of developing special economic zones in Africa: Evidence and lessons learnt”, *Regional Science Policy & Practice*, 14, 2, 456–481. https://doi.org/10.1111/rsp3.12535.

Sabathil, T., 1969, *Location problems of international industrial enterprises*, Doctoral Dissertation. University Nürnberg-Erlangen, Erlangen.

Sakwa, R., 2020, *The Putin Paradox,* Bloomsbury Publishing, London.

Sandler, D. G., & Kuznetsov, P. D., 2015, “Industrial parks in Russia: Conceptual development of the project”, *R-Economy,* 1, 1, 68-78.

Sheina, S. G., & Khamavova, A. A., 2016, “Technique for the Russian Federation Regional Territories Assessment Used to Create Industrial Parks Network”, *2nd International Conference on Industrial Engineering (ICIE-2016),* 150, 1960–1965. https://doi.org/10.1016/j.proeng.2016.07.198.

Sosnovskikh, S., 2017a, “Industrial clusters in Russia: The development of special economic zones and industrial parks”, *Russian Journal of Economics*, 3, 2, 174–199. https://doi.org/10.1016/j.ruje.2017.06.004.

Sosnovskikh, S., 2017b, “Peculiarities in the development of special economic zones and industrial parks in Russia”, *European Journal of Geography*, 8, 4, 82–102.

Sosnovskikh, S., 2017c, “Role of the Government in the Development of Special

Economic Zones and Industrial Parks in Russia", *The 11th International Days of Statistics and Economics,* 14-16 September 2017, 1470–1480. Available from: https://msed.vse.cz/msed_2017/article/46-Sosnovskikh-Sergey-paper.pdf (accessed 3 June 2025)

Sosnovskikh, S., & Cronin, B., 2021, "The effects of culture, attitudes and perceptions on industrial cluster policy: The case of Russia", *Competition & Change*, 25, 3–4, 350–381. https://doi.org/10.1177/1024529420949491.

Sun, C.-C., Lin, G. T. R., & Tzeng, G.-H., 2009, "The evaluation of cluster policy by fuzzy MCDM: Empirical evidence from HsinChu Science Park", *Expert Systems with Applications*, 36, 9, 11895–11906. https://doi.org/10.1016/j.eswa.2009.04.019.

Tantri, M. L., 2012, "China's Policy for Special Economic Zone", *India Quarterly*, 68, 3, 231–250. https://doi.org/10.1177/0974928412454602.

Tantri, M. L., 2015, "Fiscal Implications of Special Economic Zones (SEZs) Expansion in India: A Resource Cost Approach", *Journal of International Commerce, Economics and Policy*, 06, 01, 1550006. https://doi.org/10.1142/S1793993315500064.

Tantri, M. L., 2016, *Special Economic Zones in India: Policy, Performance and Prospects*. Cambridge University Press, Cambridge. https://doi.org/10.1017/9781316271735.

Tesch, P., 1980, *The determining causes of international trade and direct investment*, Doctoral dissertation. Freie Universität, Berlin.

Tsui, A. P. Y., 2009, "Labor Dispute Resolution in the Shenzhen Special Economic Zone", *China Information*, 23, 2, 257–284. https://doi.org/10.1177/0920203X09105127.

Turgel, I., Bozhko, L., & Zinovieva, E., 2019, "Cluster approach to organization of special economic zones in Russia and Kazakhstan", *Economy of Region*, 5, 2, 71–78.

Vasileva, A., 2018, "Trapped in Informality: The Big Role of Small Firms in Russia's Statist-patrimonial Capitalism", *New Political Economy*, 23, 3, 314–330. https://doi.org/10.1080/13563467.2017.1349090.

Viktorov, I., & Abramov, A., 2022, "The rise of collateral-based finance under state capitalism in Russia", *Post-Communist Economies*, 34, 1, 15–51. https://

doi.org/10.1080/14631377.2020.1867426.

Warr, P. G., 1989, "Export Processing Zones: The Economics of Enclave Manufacturing", *The World Bank Research Observer*, 4, 1, 65–88. https://doi.org/10.1093/wbro/4.1.65.

Yang, Z., Hao, G., & Cheng, Z., 2018, "Investigating operations of industrial parks in Beijing: Efficiency at different stages", *Economic Research-Ekonomska Istraživanja*, 31, 1, 755–777. https://doi.org/10.1080/1331677X.2018.1442235.

Yankov, K. V., Moiseev, A. K., & Efgrafov, D. A., 2016, "Problems and prospects of special economic zones in Russia", *Studies on Russian Economic Development*, 27, 3, 311–317. https://doi.org/10.1134/S1075700716030151.

Yasuda, N., & Kotabe, M., 2021, "Political risks and foreign direct investments by multinational corporations: A reference point approach", *Global Strategy Journal*, 11, 2, 156–184. https://doi.org/10.1002/gsj.1380.

Yeup Kim, J., & Zhang, L.-Y., 2008, "Formation of Foreign Direct Investment Clustering–A New Path to Local Economic Development? The Case of Qingdao", *Regional Studies*, 42, 2, 265–280. https://doi.org/10.1080/00343400601145186.

Yuan, Z., Zhang, L., Zhang, B., Huang, L., Bi, J., & Liu, B., 2010, "Improving Competitive Advantage with Environmental Infrastructure Sharing: A Case Study of China-Singapore Suzhou Industrial Park", *International Journal of Environmental Research*, 4, 4, 751–758. https://doi.org/10.22059/ijer.2010.261.

Zeng, D. Z., 2010, *Building Engines for Growth and Competitiveness in China: Experience with Special Economic Zones and Industrial Clusters*, The World Bank, Washington. DOI: 10.1596/978-0-8213-8432-9

Zeng, D. Z., 2015, *Global Experiences with Special Economic Zones: Focus on China and Africa*. Policy Research Working Paper 7240, The World Bank, Washington.

Zeng, D. Z., 2019, "Building a Competitive City through Integrating into Global Value Chains: The Case of the Sino–Singapore Suzhou Industrial Park", *China: An International Journal*, 17, 2, 164–180.

Zeng, D. Z., 2021, "The Past, Present, and Future of Special Economic Zones and Their Impact", *Journal of International Economic Law*, 24, 2, 259–275.

https://doi.org/10.1093/jiel/jgab014.

Zheng, Z., Liu, W., & Song, T., 2021, “Strategic coupling in global production networks through international cooperation zones: The Thai–Chinese Rayong Industrial Zone”, *Regional Studies*, 56, 5, 782–793. https://doi.org/10.1080/00343404.2021.1934434.

5. The “touch” of Tangier. Free zones as globalised islands in a saturated region

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Abstract

Since the creation of an International Zone in 1923, the Moroccan city of Tangier has been a centripetal pole for people and for businesses. This was facilitated by the city’s strategic location right at the intersection between the Atlantic Ocean and the Mediterranean Sea, but also by other factors such as the favorable customs regime. Today, after the closing of the International Zone in 1960 and some decades of economic stagnation, Tangier embodies the fast-growing economy of the country and a sea of opportunities in terms of jobs and investments. This research individuates a factor of success and attractiveness for the area in the creation of free zones, given their contribution in attracting foreign direct investment, diversifying the economy and stimulating investments in infrastructure. However, it has been pointed out that establishing free zones is linked to a deep transformation of the region and to a variety of negative impacts. Social, urban and environmental aspects are taken into account by using a territorial-relational approach. Being connected with the world but fundamentally disconnected with the area and with local people, the free zones in Tangier have been defined as globalized islands within national territory and their conveniency has been critically discussed.

Keywords

Tangier; Morocco; Free zone; Globalization; Territorial-relational approach;

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1. Introduction

The idea for this article came to me while writing about Mediterranean ports and container shipping. I was astonished by the fast growth of Tangier Med, which recently took the lead of all Mediterranean ports in terms of container shipping. I remembered getting from Spain to Tangier by ferry, back in 2016, and not having the impression of such a big harbour. But that was likely due to the fact that I came from the passengers port and I didn't get to see the commercial port, Tangier Med.

I came to think again about Tangier and Morocco when I heard that the whole production of certain vehicle models from the historic Italian brand Fiat (nowadays part of Stellantis group), such as the electric *Topolino*, takes place not in Italy but in Morocco. Due to the fact that the Italian flag was initially present in the design of the cars, a large stock of Topolinos produced in Morocco for the Italian market was blocked at the harbour of Livorno and sent back to remove the flags.

While many Italian workers from Stellantis often had to stay at home in 2024 and 2025, on temporary layoff or with reduction of the working hours, the Moroccan flank of Stellantis and the Moroccan car industry in general were rolling. With a production of 1 million cars per year, expected to become 2 millions by 2030, Morocco has now the largest car industry in Africa (ANSA 2025). This is export-oriented, with approximately 80 % of the vehicles exported, for the vast majority to European countries (Vorotnikov 2024).

I realized Morocco has managed to include itself within certain major routes of globalization. I like to think about globalization in such terms: minor routes, major routes, fluxes. As globalization began to take shape in the XVI century, the Mediterranean was cut out from the major routes and entered a phase of decline and marginality. The inauguration of the Suez Canal in 1869 changed its destiny. Today the Asian-European maritime route, the second largest route of global goods, crosses the Mediterranean and meets with the third largest route, the Atlantic one. Tangier lies exactly where the two routes touch each other, and I do not think it is a coincidence that it has specialized in transshipment services (moving cargo from one mode of transportation to another, or from one vessel to another).

Tangier lies in close proximity to Europe, making Morocco a strategic gateway to the European Union (EU). This is not only for the short distance from Spain, as well as the favourable free trade conditions applicable to the majority of sectors.. In the stormy period of tariff wars ahead of us, Morocco plays an interesting game for non-European actors. Xi Jingping chose Morocco as a layover during his G20 trip to Brazil in November 2024, but also as a country where to invest heavily in virtually all sectors. On the other hand, the EU has imposed tariffs to imports from China due to perceived unfair competition created by the Chinese state interference with the economy. The tariffs imposed by Donald Trump on "Liberation Day" (April 2nd 2025) to Morocco are among the lowest: "only" 10 % compared to several tariffs in the order of 20, 30 and 40 %.

Moroccan GDP has been growing in the past few years if we exclude 2020 (+ 3,3 % in 2023 and + 4,6 % in 2024), pulled by services (over half of the total GDP) and by the industry sector (a quarter of the total GDP). This involves car manufacturing, but other slices of secondary and tertiary as well. In Morocco, a country particularly hard hit by the impacts of climate change and drought, primary sector employment has been declining from more than 50 % to about 30 % since the turn of the century (Manna 2024). Morocco's economy is not relying anymore only on primary exotic and mediterranean productions and on more established secondary productions, such as textile industry (Belkheiri 2020, 11).

The "New Morocco", dreamed and crafted by King Mohammed VI since the end of the '90s, relies on more lucrative and more innovative businesses. One is tourism: in 2024, Morocco welcomed 17.4 million tourists, surpassing Egypt in visitor numbers and becoming the most visited country in Africa (Panbianconews 2025). Reputation and visibility appears to play a big part in the New Morocco. The country will host part of the 2030 edition of the FIFA World Cup. The appointment will be a test bench for the country and an opportunity to further modernize Moroccan infrastructure, such as airports. Also, a long-talked tunnel project, connecting Spain to Morocco, seems to be at a new decisive stage in the development process.

1.1 Study Area and Historical Background

Right at the bottle neck of the Mediterranean, on its southern shore, lies a city with an old history and a beautiful name: Tangier. From the latin *tango*, its name suggests a physical relationship and a proximity to something. What

Tangier is touching might be the sea or, even more likely, Europe. *Almost* touching, we should say, if we welcome the second hypothesis. Fourteen kilometres of sea divide it from European land. Owing to the geographic closeness, Tangier has been considered a transition area: neither African nor European, *a strange and wonderful 'elsewhere'* where the technical and technological progress of Europe can already be felt (Haller 2021, 28).

For nearly a century after the end of English rule in 1684, Tangier was primarily a military town, the main fortified outpost on the Moroccan Sultanate's side of the Strait of Gibraltar. Since 1777, the city was designated as the main point of contact between the Moroccan monarchy and European commercial interests, resulting in the gradual relocation of several consulates to the city by the principal European countries. The foreign powers in Tangier soon started to develop joint projects in accordance with the Moroccan Sultanate, opening the scene for the establishment of important institutions based in Tangier such as Tangier's Hygiene Commission, a *de facto* municipal council, the French-led Moroccan Debt Administration and the State Bank of Morocco.

In 1923, the Tangier Interzone was created as a unique experiment in international management of a territory. The goal was to create a politically and military neutral territory, under the control of an International Administration composed by UK, France, Spain and other international powers, that would guarantee the city's freedom of trade and security. The special status of Tangier Interzone envisaged no tariffs on imported or exported goods or gold, no exchange controls, no income or revenue taxes, and unlimited freedom of establishment. After a brief parenthesis under Spanish protectorate during World War II, with the Anglo-French Agreement the territory's government was handed back to the revived international institutions.

The particularly favorable customs regime attracted traders and entrepreneurs from all over the world. The activity of Tangier as an offshore financial centre and tax haven took off in the second postwar period. Its practice of banking secrecy was extreme, with effectively no bank licensing, no prudential supervision, no accounting obligations, and no transparency about a bank's ownership. Not only companies, but also poets and Beat Generation intellectuals, such as William S. Burroughs and Paul Bowles, found home in the free and international city of Tangier.

The Tangier Interzone survived until 1956, when Morocco gained independence

from France and Tangier returned to full Moroccan sovereignty with immediate effect. Mohammed V granted a charter to smooth the transition and extend the Zone's tax and other privileges until April 1960, the final end of Tangier's special status. In the following two decades, thanks to the accessibility of drugs and to the proximity from Europe, Tangier became part of the hippie trail. However, its name was becoming less popular and tourist attractions became run-down, as cheap flights made central Moroccan cities like Marrakesh more accessible to European tourists and a criminal reputation made its way in the head of tourists, driving them away from the city (Davis 2009, 119).

After almost half a century in the shadow of cities such as Marrakesh and Casablanca, Tangier became to emerge again with the new millennium. An article from the Guardian titled *Tangier – restored to its former glory* reads that the vault key of Tangier's renaissance was the change of monarch (Alexander 2015). King Mohammed VI saw the economic potential of the city and invested in important infrastructure (such as the port and the high speed rail connection with Casablanca) and renovation projects. According to Simone, *in the past two decades Tangier has gone from being a kind of backwater city, peripheral even within Morocco, living on the exotic orientalism of its past - a city of intrigue, massive gold reserves, and narcotic haze - to a massive construction site and the ascendant centre of Morocco's growing economy* (Simone 2023, 346).

2. Theoretical framework and research questions

As I anticipated in the introduction, the initial impetus for my inquiry was to understand the factors behind the rapid growth of Tangier Med. It quickly became evident that free zones (also referred to as free economic zones) played a pivotal role, and that logistics represented only one component of a broader, more complex framework. As it will be explained in the results, free zones involve most strategic sectors in the economy of the New Morocco. Hence, my scope expanded from logistics to the economy of the region as a whole and to the system of free zones that was put in place around Tangier.

While investigating, I understood that such economic transformation was connected with profound and multifaceted impacts on the region, going beyond the merely economic dimension. Hence, the second part of the results

collects findings from available literature concerning urban, environmental and social impacts that are connected with the economic transformation of Tangier region.

The approach is, on the one hand, territorial, as it focuses on a bounded space and observes how this is managed and how it developed over time. On the other hand, the approach is relational. The study tries to individuate networks, flows, and interconnections that go beyond territorial borders — such as economic linkages, migration flows, policy exchanges, and knowledge diffusion. The deterritorialized space of fluxes, created by globalization, necessitates a different unit of analysis than the single enterprise or the enclosed geographical area (Thrift and Olds 1996, 333). The multitude of connections between the area of Tangier and the rest of the world are taken into account in order to understand what is happening within the territorial borders of the area.

By merging the two approaches, we obtain a similar theoretical framework to the territorial-relational approach adopted by the economic geographer Filippo Celata (Celata and Rossi 2015). Rather than seeing territory and relations as opposites, this approach views them as intertwined: territories are shaped by relational processes, and relational networks are grounded in territorial contexts. This view builds on previous studies from another geographer, Giuseppe Dematteis, according to whom local territorial systems are to be thought as "nodes of nets" that allow to overcome the internal / external dualism (Dematteis 1992).

3. Results

3.1 Tangier Med Free Zone (TMFZ)

Tangier benefits from a strategic geographical position that ensures strong connectivity with the rest of the world via maritime routes. Logistics and import-export activities constitute a key pillar of the New Morocco's economic strategy.. In the last 25 years, a network of a dozen free zones and free trade zones has been created across the country. Free zones are broader in scope (mostly to attract foreign investment and businesses) and admitted activities, while free trade zones are generally small in size (less than 50 hectares) and

located within the territorial boundaries of a state and often within ports (Farole and Akinci 2011). They are typically devoted to trade and entrepôt / transshipment activities, serving the domestic and re-export markets. However, when referring to the case of Tangier, we actually talk about a globally interconnected network of both types of zones, known as Tangier Med Free Zone (TMFZ).

TMFZ is a network of different free zones geographically close to each other. It offers all supply chain services (import, processing and re-export) and accommodate industries from all sectors (Lavissière and Rodrigue 2017, 13). As the official website recites, Tangier Med has developed a total area of 2500 hectares where 1200 companies operate in very different sectors: automotive, aeronautics, textiles, paramedical, renewable energy, agri-business, electronics, services, packaging, and logistics. Many of these firms are foreign-owned, comprising numerous large multinational corporations. A reason for the geographic spread of the free zones, which are not limited to the Tangier region but are found also further south (as in the case of the Atlantic Free Zone, created in Kénitra in 2012 with a specialization in cabling), is to counteract the expected industrial saturation of Tangier and to avoid wage inflation in the area by getting closer to more labor-intensive employment pools (Belkheiri 2020, 10).

The Tangier Free Zone (TFZ) was the first one to be created in 1999, in a 440 hectares surface south – west from Tangier, quite close to Tangier - Ibn Battuta Airport. The initial agreement with businesses was to settle in the area and to use local raw materials for the majority (60 to 80 %) of their production needs in exchange for major infrastructure investments, simplified administrative processes and advantageous benefits on tax and customs (total tax and customs exemption for the first 5 years, followed by an income tax of only 8,75 %) (Schüle 2023, 69–70). Today the TFZ hosts an ecosystem of 400 industries and is less specialized than the other free zones.

A second core of the project is Tangier Méditerranée, a complex of two newly built commercial ports - *Tangier Med I and II* – approximately 45 kilometres east from Tangier, in the direction of Ceuta. Tangier Med I was inaugurated in 2007, alongside MedHub — a logistics zone and a unique customs area located in close proximity to the port, specifically designed to support value-added logistics operations. The main reason for building a whole new commercial port is related to water depth and to compliance

with modern navigation standards. The new commercial port was expanded with a second part, named Tangier Med II and operative since 2019. With its second component, the port complex increased from a container capacity of 3 million TEU (Twenty Foot Equivalent) to a total of 7,1 million TEU. Today, Tangier Med is the first in terms of container transport and the fastest growing port in the Mediterranean and also among all African ports. Transshipment services account for 90 % of the cargo passing from the Moroccan harbour.

Another pulling factor for the area is definitely the automotive industry. Since the opening of Renault Tanger Méditerranée in 2012 (now Renault Nissan), a dedicated free zone of 300 hectares created near the town of Malloussa, halfway between Tangier and Tangier Méditerranée, other big international car manufacturers, including Stellantis and Ford, followed the example. Tangier Automotive City was established in 2017 in close proximity to the existing zone, with the purpose of accommodating additional automobile manufacturers across an area of 800 hectares.

Other zones, such as Tetouan Shore (dedicated to offshoring activities), Tetouan Park, (catalyser for national industrial capacities), Cabo Shopping Valley (retail park) and Fnideq Economic Activity (logistics) complete the actual offer of TMFZ. Furthermore, Tangier Tech City, a large-scale industrial and technology hub is under construction since 2017 in the periphery of Tangier. One objective of the project is to attract international investment from automotive, aerospace, electronics, machinery, renewable energy and food processing companies. More than 30 companies are involved and the China Communications Construction Company with its subsidiaries, including China Road and Bridge Corporation, are key partners with 35 % share of the capital.

3.2 Local consequences of establishing "free zones"

The New Morocco is embodied in Tangier, as the image of a rich city with opportunities in terms of jobs and investments. Attractiveness determines demographic growth, driven by internal and labor migration. Vigorous demographic growth had already started in the 1970s, in the midst of regional economic stagnation, when rural populations from the surrounding regions settled on the urban periphery tripling Tangier's population (Kanai and Kutz 2011, 351). In the period between 1994 and 2014, Tangier region recorded the highest annual average population growth rate in the country and Tangier

city has largely surpassed the big cities of the kingdom (Belkheiri 2020, 9).

As a consequence to the demographic boom and to the initial unpreparedness of public authorities, an uncontrolled urban expansion occurred in the last decades of XX century. The city not only expanded outward but it also densified, reaching 861 habitants / km2 in 2004 and making Tangier one of Morocco's densest urban areas (Kanai and Kutz 2011, 351). In more recent years, we have assisted to another urban explosion of Tangier, as tens of thousands of new "affordable" apartments have been built in the valleys between the hills and toward the coast, with unprecedented state involvement (Simone 2023, 346). According to Simone, this was not only a solution to accommodate the growing population, but also to disentangle the "favelas" of the city and to break the intricate webs of collective life and auto construction that had dominated the city in the past (ibid, 346 – 347).

Considering the population growth and the speed of industrialization in the area, it is legitimate to wonder about the risk of geographical and territorial saturation. An article studying the landuse changes in Tangier region estimates that artificial territories (including urban, commercial, infrastructure areas), increased from 69,23 km2 to 155,46 km2 in the period between 2000 and 2023, indicating the highest increase among landuse categories (+ 124,55 %) (Hadek et al. 2024, 68). On the other hand, vegetation areas (including crops and urban parks) were subject to the highest reduction (- 30,61 %), followed by bareland areas (- 24,81 %) and dune areas (- 16,24 %) in the same period (ibid). Another study on landuse in the period 2000 and 2020 confirms the vertiginous territorial transformation of the region, highlighting that the urban expansion is concentrated on the coast and in areas far away from the peri-urban parts of Tangier and Tetouan (Navarro et al. 2022, 5).

In a context of intense population growth, within the entire region and especially in the city of Tangier, the urban fabric is saturated and insufficient to offer adequate low-cost housing (Rochette 2013). Hence, not urbanized areas of the region become contested territories and come into tension because of the forces that hover over it (ibid). In 2013, the sole Tangier-Asilah area (where TFZ is located) accounted for 41 % of industrial companies in the region and 71 % of industrial employment (Belkheiri 2020, 11). As it will be observed later, the coastal landscape of Tangier region has been severely affected by landuse transformations, influenced by the needs of logistics and luxurious tourism (two notable examples are Ghandouri

project and the Al Houara Resort in Tangier) (Hadek et al. 2024, 12).

By continuing to prioritise external economic imperatives over historic, local needs, entrepreneurial mega-projects aggravate inequalities and create new forms of social polarisation and territorial splintering (Kanai and Kutz 2011, 354). Mega-projects have become the preferred vehicles for development and the Moroccan state negotiates directly with big national and international economic players about new industrial, infrastructural, tourism or housing projects, while local authorities are often not involved in the decision making process and have to receive top – down projects to implement on their territories (ibid, 347). Such a course of events lead, for example, to the construction of the Renault Tanger Méditerranée in the area of Malloussa without real involvement of local authorities (Belkheiri 2020, 12).

Another point of criticism is the level of industries integration within the region. The globalized production companies in the country have tight international connections, but very little economic connection to local Moroccan companies (Belkheiri 2020, 10). Despite the monarch's intentions with which TFZ was created, suppliers and specialized workers mostly come from abroad (Wippel 2020, 135). Due to the physical and legal isolation of globalized companies, operating in the free trade zones, collaboration and knowhow exchange with local companies is unlikely. What has happened so far, in terms of regional industrial employment, is a strong dependence on the global trades (Belkheiri 2020, 11).

On the other hand, what has been pointed out is that industrial strengthening of the region and its geographic concentration in demarcated areas (free and industrial zones) has largely contributed to rising wage claims and unions' power (ibid, 11). Low wages in the TMFZ (in some cases less than a Euro per hour) have created situations of working poverty, particularly in the context of a rapidly rising cost of living (Kanai and Kutz 2011, 349). Social movements found their way in northern Morocco, while the first general strike across the country in over 10 years was held in February 2025 to protest against the restriction of labour rights and the rising cost of living.

Following the inauguration of Tangier Med I in 2007 and the subsequent withdrawal of the commercial port from the urban core, the city experienced notable urban and spatial repercussions. The most obvious and indisputable one is the physical separation between the city and the

logistical hub, which had historically constituted a single, integrated entity..

Figure 1: The area of Tangier Med I and II over time: 2003, 2007 and 2025
Source: (obtained with Google Earth)

The launch of Tangier Med I in 2007 led to the migration of industrial and commercial activities from the city towards the area of Tangier Méditerranée (Abakouy and Jihane 2022, 183). All this left a big empty space, right at the heart of Tangier. How to fill this vacancy, then? The stated aim of the Tangier City Port Redevelopment Project, predisposed in 2014 by a limited company whose main shareholders are the Moroccan state and the Hassan II Funds, is to position the port city as a leading international cruise and yachting tourism destination while modernizing it and uniting it completely onto the city (ibid).

In accordance with such plan, entrusted to a private real estate investment company from Abu Dhabi (Schüle 2023, 62), the waterfront of the city underwent a complete redevelopment of its interface which is still going on today. First of all, the new name chosen for the area is the exotic *Tanja Marina Bay*. The waterfront has been cleared of industries, old skyscrapers, hotels, restaurants, and even of the old fishermen's harbour (moved further east) to create more space for yachts and cruise ships moored in the marina and to build new luxurious tourism facilities, such as 5-star hotels, charming riads, apartments and welcoming guesthouses. Such transformation has been addressed as a "urban cosmetic", characterized by globalized design and a decidedly rich target audience (Schüle 2023, 62; Wippel 2020, 6). Once again, we can see how Tangier's global interconnection is matched by a disconnection with its immediate hinterland and less wealthy fraction of the population. The new port, with its eight kilometres of coastline, is a territorial enclave that is physically fenced off, walled in and guarded (Wippel 2020, 8). It denies access to spaces hitherto open and used by a wide public, such as beaches. Within the city, holiday resorts and gated residential areas, intended for the wealthy and for an international clientele, physically fragment urban space.

Tanja Marina Bay, on the other hand, erect an invisible social barrier, as most of the services on offer are inaccessible, to the many, for economic reasons.

The ambitions to modernize and reintegrate the old port with the urban fabric are also reflected in the cable car project. Such long talked infrastructure was supposed to be accomplished by the end of 2024, but it hasn't seen the light yet. According to the plan, it would be 2 km long with 4 different stations, linking different parts of the downtown area to the marina / passenger terminal. The cable car system would consists of 17 white towers, 30 to 50 meters high. It can be assumed that the project will have a non-negligible impact on the urban landscape, while the ticket pricing is likely to be oriented more toward tourists' spending capacity than the average Moroccan's purchasing power.

Figure 2: A project picture of the cable car system in Tangier.

Source: Derived from the official website of the Societe d'Amenagement pour la Reconversion de la Zone Portuare de Tangier Ville

4. Discussion and Conclusions

This journey has brought us across the rapid transformations of Tangier region

over time. Since the idea of an International Zone took hold – facilitated by the city's strategic geographic location and colonial past - Tangier has been a centripetal pole for people and for businesses. The net of free zones that was created, together with modern infrastructure and developing country features (such as low wages and elastic legislation), is able to attract big international "fish".

Following a different and more daring line of translation for the latin *tango*, compared to the traditional one that I have presented, Tangier might not only be "touching", but also "seducing and trying to rob" someone or something. If one has known the beauty and, at the same time, the eager and the hunger of the place, he won't be surprised by the insolence of such translation. Not if he recalls the history of the city, infested by pirates in the far past and by pick-pocketers in the recent years. Not if he has spent an afternoon at a café right by the Atlantic Ocean while reading a book from Mohamed Choukri.

Tangier has seduced Europe and important global powers, by means of convenience. Her "europeanness" while being in Africa, together with the power of creating "globalized islands" or "protected bubbles" within her own territory, are definitely factors of success and attractiveness of the region. In many ways, the experience of TMFZ has been positive for Tangier and for Morocco, contributing significantly to the economic growth and positioning the country as a key player in global trade and manufacturing. The TMFZ has successfully attracted foreign direct investment, diversified the region's economy and stimulated significant investments in infrastructure, including modern roads, rail links, airports and port facilities.

However, we could also turn the same picture upside down and get a different view. It might be Tangier to be held in the net of globalization, forced to play by the hard rules of the game. From this point of view, Tangier is not seducing or robbing anyone. Except herself. In *Section 3.2*, we have seen the costs of establishing the TMFZ: a variety of negative impacts for the region, especially if we go beyond the merely economic dimension, can be linked to establishing free zones.

The considered studies on landuse change in the area suggest a strong growth of artificial territories, mostly concentrated along the coast and far away from the centres of Tangier and Tetouan. This is connected with a series of environmental problems and with a landscape transformation. In the case of

Tangier, it is evident—from the examples that were brought - how natural and traditional landscapes are being increasingly converted to luxurious tourism facilities, hence intended for the foreigners rather than for the local population.

What has been pointed out is also a clear separation between the newly created free zones and the surrounding region. This is true in a physical and in a social sense. Given their distance from the existing centres and their fenced borders, free zones have been defined globalized islands within a national territory. Ports more than all other zones, have acquired new physiognomies and have turned into impenetrable seams between land and sea (Delle Donne 2018, 567). Far from being coherent features of the city where they are located, ports are becoming increasingly autonomous and are being relocated to enclosed spaces forbidden to the public, sometimes on artificial islands costing colossal investments (Raisson 2020, 142).

Also from a social perspective, free zones are separated from the region and are controlled by forces having roots elsewhere. Despite the announcements, it has been highlighted that the level of integration between global industries operating within the free zones and local enterprises and labour remains limited. Local authorities are frequently bypassed during the decision-making process, often having little choice but to accept decisions made at higher administrative levels. By prioritising economic imperatives and mega-projects, local needs such as affordable housing and support to small businesses are left behind. By creating free zones and prioritising the appetites of global economic forces, Tangier is becoming a strategic and modern hub but is sacrificing the freedom to decide over its own territory.

References

Abakouy, M. & Salim Jihane, 2022, The city-port interface in the Tangier territory: what strategic fit of the triptych economic prosperity – social well-being – sustainability?. In: *Economic and Social Development: Book of Proceedings*, Varazdin, 174 – 187.

Alexander, A., 2015, "Tangier – Restored to Its Former Glory", The Guardian edition. https://www.theguardian.com/travel/2015/oct/23/on-the-radar-tangier-restored-to-former-glory.

ANSA, 2025, "Industria Auto Marocco Produce 1 Milione Di Veicoli l'anno", 19 March 2025. https://www.ansa.it/canale_motori/notizie/industria_analisi/2025/03/19/industria-auto-marocco-produce-1-milione-di-veicoli-lanno_a1f9ef20-d7fe-4834-8cdb-1d6b0c2cdd58.html.

Belkheiri, O., 2020, "Integration of the Northern Morocco into Globalization through Industry. What's Good and What's Bad". *Studies of Applied Economics* 38 (3). https://doi.org/10.25115/eea.v38i3.3645.

Celata, F. & Rossi, U., 2015, "Ripensare Le Politiche Di Sviluppo Locale in Italia: Un Approccio Territoriale-Relazionale". *Archivio di studi urbani e regionali*, no. 112 (April), 11–33. https://doi.org/10.3280/ASUR2015-112002.

Davis, E., 2009, *North Africa: The Roman Coast*. Chalfont St. Peter: Bradt Travel Guides.

Delle Donne, B., 2018, Dinamiche Città/Porto in Ambito Mediterraneo. In: *Barriere/Barriers. Giornata Di Studio Della Società Di Studi Geografici*. Pescara, 1 Dicembre 2017, edited by Marina Fuschi, 563–68. Memorie Geografiche NS 16. http://www.societastudigeografici.it/wp-content/uploads/2019/12/Memorie_Geografiche_2018.pdf.

Dematteis, G., 1992, "Possibilità e Limiti Dello Sviluppo Locale". *Sviluppo Locale* 1:10–30.

Farole, T., & Gokhan A., 2011, "Special Economic Zones : Progress, Emerging Challenges, and Future Directions". *World Bank*. https://openknowledge.worldbank.org/entities/publication/49cdd96b-37e1-50f0-ac30-7328b9f5a1f1.

Hadek, A. et al., 2024, "Mapping Land Use and Assessing Coastal Urbanization Impacts: A Case Study in Tangier Northern Morocco". *Environmental Research,*

Engineering and Management 80 (4): 60–74. https://doi.org/10.5755/j01.erem.80.4.37407.

Haller, D., 2021. *Tangier/Gibraltar - A Tale of One City: An Ethnography*. 1st ed. Kultur Und Soziale Praxis. Bielefeld: transcript Verlag.

Kanai, M. & Kutz, W., 2011, "Entrepreneurialism in the globalising city-region of Tangier, Morocco". *Tijdschrift Voor Economische En Sociale Geografie* 102 (3): 346–60. https://doi.org/10.1111/j.1467-9663.2010.00622.x.

Lavissière, A. & Jean-Paul Rodrigue, 2017, "Free Ports: Towards a Network of Trade Gateways". *Journal of Shipping and Trade* 2 (1): 7. https://doi.org/10.1186/s41072-017-0026-6.

Manna, G., 2024, "Il Marocco Di Muhammad VI: Una Potenza Africana". *Centro Studi Internazionali* (CeSi), 12 May 2024. https://www.cesi-italia.org/it/articoli/il-marocco-di-muhammad-vi-una-potenza-africana.

Navarro, M. et al., 2022, "Rural Exodus and Land Use Change in Northern Morocco: 2000–2020". *Arabian Journal of Geosciences* 15 (12): 1138. https://doi.org/10.1007/s12517-022-10341-w.

Panbianconews, 2025, "È Il Marocco Il Paese Più Visitato in Africa. Nel 2024 Ha Superato l'Egitto', 21 January 2025. https://hotellerie.pambianconews.com/2025/01/21/e-il-marocco-il-paese-piu-visitato-in-africa-nel-2024-ha-superato-legitto/.

Raisson, V., 2020, *2038: atlante dei futuri del mondo.* Bra (CN): Slow food editore.

Rochette, N., 2013, "Territory as a Physical Condition. Non-Regulatory Housing in Tangier". *Archipiélago* (MArch Urban Design Programme) (blog). 2013. https://archplg.cl/territory-as-a-physical-condition-the-case-of-non-regulatory-housing-neighbourhoods-in-tangier/.

Schüle, C., 2023, "Liberté, Toujours". In Mediterraneo, *The Passenger*, 54–73. Milano: Iperborea.

Simone, A., 2023, "Making Use of Everything: Tangier and Its Southern, Peripheral Practices". *South Atlantic Quarterly* 122 (2): 339–59. https://doi.org/10.1215/00382876-10405105.

Thrift, N. & Olds K.. 1996, "Refiguring the Economic in Economic Geography". Progress in Human Geography 20 (3): 311–37. https://doi.

org/10.1177/030913259602000302.

Vorotnikov, V., 2024, “Leaps and Bounds across the Strait: How Morocco Has Become the New Hub Driving Exports to Europe”. *Automotive Logistics* (blog). Spring 2024. https://www.automotivelogistics.media/finished-vehicle-logistics/morocco-becomes-largest-vehicle-exporter-to-eu/46307.article#:~:text=How%20Morocco%20has%20become%20the,Logistics%20%26%20Supply%20Chain%20Mexico%202025.

Wippel, S., 2020, “Re-Developing Tangier: The Globalisation of a Secondary City and Its Local Consequences”. *Trialog*, 4–11.

Abakouy, Mostafa, and Salim Jihane. 2022. ‘THE CITY-PORT INTERFACE IN THE TANGIER TERRITORY: WHAT STRATEGIC FIT OF THE TRIPTYCH ECONOMIC PROSPERITY – SOCIAL WELL-BEING – SUSTAINABILITY?’

Alexander, Adam. 2015. ‘Tangier – Restored to Its Former Glory’, 2015, The Guardian edition. https://www.theguardian.com/travel/2015/oct/23/on-the-radar-tangier-restored-to-former-glory.

ANSA. 2025. ‘Industria Auto Marocco Produce 1 Milione Di Veicoli l’anno’, 19 March 2025. https://www.ansa.it/canale_motori/notizie/industria_analisi/2025/03/19/industria-auto-marocco-produce-1-milione-di-veicoli-lanno_a1f9ef20-d7fe-4834-8cdb-1d6b0c2cdd58.html.

Belkheiri, Omar. 2020. ‘Integration of the Northern Morocco into Globalization through Industry. What’s Good and What’s Bad’. *Studies of Applied Economics* 38 (3). https://doi.org/10.25115/eea.v38i3.3645.

Celata, Filippo, and Ugo Rossi. 2015. ‘Ripensare Le Politiche Di Sviluppo Locale in Italia: Un Approccio Territoriale-Relazionale’. *ARCHIVIO DI STUDI URBANI E REGIONALI*, no. 112 (April), 11–33. https://doi.org/10.3280/ASUR2015-112002.

Davis, Ethel. 2009. *North Africa: The Roman Coast*. Chalfont St. Peter: Bradt Travel Guides.

Delle Donne, Barbara. 2018. ‘Dinamiche Città/Porto in Ambito Mediterraneo’. In *Barriere/Barriers. Giornata Di Studio Della Società Di Studi Geografici. Pescara, 1 Dicembre 2017*, edited by Marina Fuschi, 563–68. Memorie Geografiche NS 16. http://www.societastudigeografici.it/wp-content/uploads/2019/12/Memorie_Geografiche_2018.pdf.

Dematteis, Giuseppe. 1992. 'Possibilità e Limiti Dello Sviluppo Locale'. *Sviluppo Locale* 1:10–30.

Farole, Thomas, and Gokhan Akinci. 2011. 'Special Economic Zones: Progress, Emerging Challenges, and Future Directions'. World Bank. https://openknowledge.worldbank.org/entities/publication/49cdd96b-37e1-50f0-ac30-7328b9f5a1f1.

Hadek, Ali, Miriam Wahbi, Boutaina Sebbah, Mustapha Maatouk, Hakim Boulaassal, Omar El Kharki, and Otman Yazid Alaoui. 2024. 'Mapping Land Use and Assessing Coastal Urbanization Impacts: A Case Study in Tangier Northern Morocco'. *Environmental Research, Engineering and Management* 80 (4): 60–74. https://doi.org/10.5755/j01.erem.80.4.37407.

Haller, Dieter. 2021. *Tangier/Gibraltar - A Tale of One City: An Ethnography*. 1st ed. Kultur Und Soziale Praxis. Bielefeld: transcript Verlag.

Kanai, Miguel, and William Kutz. 2011. 'ENTREPRENEURIALISM IN THE GLOBALISING CITY-REGION OF TANGIER, MOROCCO'. *Tijdschrift Voor Economische En Sociale Geografie* 102 (3): 346–60. https://doi.org/10.1111/j.1467-9663.2010.00622.x.

Lavissière, Alexandre, and Jean-Paul Rodrigue. 2017. 'Free Ports: Towards a Network of Trade Gateways'. *Journal of Shipping and Trade* 2 (1): 7. https://doi.org/10.1186/s41072-017-0026-6.

Manna, Giuseppe. 2024. 'Il Marocco Di Muhammad VI: Una Potenza Africana'. *Centro Studi Internazionali (CeSi)*, 12 May 2024. https://www.cesi-italia.org/it/articoli/il-marocco-di-muhammad-vi-una-potenza-africana.

Navarro, Jesús Gabriel, Kamal Targuisti El Khalifi, Jesús Ventura Fernández, Ismail Hilal, and Eduardo López Magán. 2022. 'Rural Exodus and Land Use Change in Northern Morocco: 2000–2020'. *Arabian Journal of Geosciences* 15 (12): 1138. https://doi.org/10.1007/s12517-022-10341-w.

Panbianconews. 2025. 'È Il Marocco Il Paese Più Visitato in Africa. Nel 2024 Ha Superato l'Egitto'. 21 January 2025. https://hotellerie.pambianconews.com/2025/01/21/e-il-marocco-il-paese-piu-visitato-in-africa-nel-2024-ha-superato-legitto/.

Raisson, Virginie. 2020. *2038: atlante dei futuri del mondo*. Bra (CN): Slow food editore.

Rochette, Nicole. 2013. ‘Territory as a Physical Condition. Non-Regulatory Housing in Tangier’. *Archipiélago (MArch Urban Design Programme)* (blog). 2013. https://archplg.cl/territory-as-a-physical-condition-the-case-of-non-regulatory-housing-neighbourhoods-in-tangier/.

Schüle, Christian. 2023. ‘Liberté, Toujours’. In *Mediterraneo*, The Passenger, 54–73. Milano: Iperborea.

Simone, AbdouMaliq. 2023. ‘Making Use of Everything: Tangier and Its Southern, Peripheral Practices’. *South Atlantic Quarterly* 122 (2): 339–59. https://doi.org/10.1215/00382876-10405105.

Thrift, Nigel, and Kris Olds. 1996. ‘Refiguring the Economic in Economic Geography’. *Progress in Human Geography* 20 (3): 311–37. https://doi.org/10.1177/030913259602000302.

Vorotnikov, Vladislav. 2024. ‘Leaps and Bounds across the Strait: How Morocco Has Become the New Hub Driving Exports to Europe’. *Automotive Logistics* (blog). Spring 2024. https://www.automotivelogistics.media/finished-vehicle-logistics/morocco-becomes-largest-vehicle-exporter-to-eu/46307.article#:~:text=How%20Morocco%20has%20become%20the,Logistics%20%26%20Supply%20Chain%20Mexico%202025.

Wippel, Steffen. 2020. ‘Re-Developing Tangier: The Globalisation of a Secondary City and Its Local Consequences’. *Trialog*, 4–11.

6. Special Economic Zones as a policy tool for the promotion of economic and occupational development in Poland

Andrea Perrone[1]

Abstract

Poland's Special Economic Zones (SEZs) have been operating since 1994. The SEZs are administratively designated areas within Polish territory where entrepreneurs undertaking new investments can benefit from regional aid, primarily in the form of corporate income tax exemptions on revenue generated from activities specified in the permit. The SEZs were established mainly to accelerate regional economic development, repurpose post-industrial property and infrastructure, create new jobs, and attract foreign investment to Poland. In July 2018, the Polish government launched the Polish Investment Zone (PIZ) as a reform of the SEZ model, introducing a more uniform, nationwide investment support scheme. Unlike the SEZs, which operated exclusively in designated areas, the new system is designed to stimulate both domestic and international investment across the entire country.

Keywords

Poland, Special Economic Zone (SEZ), Polish Investment Zone (PIZ), European Union, development

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1. Introduction

In the context of regional development policies across Central and Eastern Europe, Poland's Special Economic Zones (SEZs) have emerged as a critical tool for investment promotion, territorial cohesion, and economic transformation. Introduced in the mid-1990s during the post-socialist transition, the SEZs were designed to stimulate industrial growth, attract Foreign Direct Investment (FDI), generate employment in structurally disadvantaged regions, and provide tax exemptions, infrastructural advantages, and simplified administrative procedures tailored to local economic needs.

This article examines the evolution of the Polish SEZs and their subsequent replacement by the Polish Investment Zone (PIZ) in 2018, which marks a significant policy shift from geographically bounded incentives to a nationwide framework (Jedrak, Odziemczyk, Tynel, 2019). The primary aim is to assess the effectiveness of SEZs as instruments of regional development and to explore the challenges and opportunities posed by the transition to the PIZ model.

Beyond analyzing fiscal and institutional arrangements, the article investigates the broader socio-territorial impacts of the SEZs, including employment dynamics, spatial inequality, and the emergence of industrial clusters. In doing so, it seeks to contextualize the Polish case within current debates on place-based development and the role of spatially targeted investment tools in the European Union.

By combining a territorial development lens with institutional and economic geography perspectives, the study aims to contribute to a better understanding of how spatial investment mechanisms function in practice, and how they can be adapted for more equitable and effective regional policy (Jedrak, Odziemczyk, Tynel, 2019).

2. Theoretical and Analytical Framework

This study situates the analysis of Poland's SEZs and their evolution into the PIZ within the broader theoretical context of regional development, particularly drawing on the place-based approach and institutionalist perspectives in

economic geography.

The place-based paradigm, as emphasized by Ambroziak and Hartwell (2018) and Czudec and Wójcik (2018), underlines that effective territorial development policies must be tailored to the unique socio-economic, cultural, and institutional characteristics of individual regions. This framework is highly relevant in assessing the SEZs, which are, by design, geographically bounded instruments that respond to localized development deficits. Rather than applying uniform, nationwide solutions, the SEZs represent an attempt to address territorial disparities through context-sensitive interventions, offering incentives where structural disadvantages are most pronounced (Galeota Lanza, 2019).

Complementing this, institutionalist theories of regional development stress the importance of both formal institutions (laws, incentives, governance structures) and informal ones (norms, trust, local networks) in shaping economic outcomes. The SEZs can be interpreted as "institutional enclaves" within national territory—zones where the rules of economic engagement are modified to catalyze investment, innovation, and regional growth (Dorożyński, Świerkocki, Dobrowolska, 2021). These institutional mechanisms are embedded in multi-level governance systems involving national and regional authorities, EU policies, and international investors.

In this light, the SEZs – and later the PIZ – can be seen as tools of selective spatial intervention, simultaneously guided by economic imperatives and territorial equity. Economically, they aim to stimulate industrial development, attract the FDI, and create employment. From a territorial perspective, they seek to reduce spatial inequalities by channeling development resources into structurally disadvantaged regions. The transition from the SEZs to the PIZ marks a shift from a "spatially concentrated" to a "spatially inclusive" model of development, consistent with EU principles of territorial cohesion and smart specialization.

Moreover, the framework draws on the concepts of territorial competitiveness and cluster development, explored in the Polish context by Oleksiuk (2017) and Ciżkowicz *et al.* (2021), who argue that the SEZs can function as incubators of innovation, agglomeration economies, and technological upgrading.

The SEZs are thus not merely zones of fiscal advantage but are potentially

pivotal for stimulating knowledge exchange, infrastructure modernization, and embedded industrial ecosystems.

Overall, this theoretical framework allows for a multidimensional reading of Poland's SEZ and PIZ policies, moving beyond institutional design and tax mechanics to examine their embeddedness in spatial and governance structures, and their alignment with broader goals of inclusive and sustainable regional development.

3. Methodology

The methodological approach adopted in this article is a qualitative-comparative case study, enriched by descriptive statistics and secondary data analysis. The case of Poland's SEZs and the transition to the PIZ offers a fertile ground for evaluating spatially targeted development policies within a post-socialist and EU-integrated context.

The analysis covers the period 1994–2023, encompassing the full operational life cycle of the SEZs and the early years of the PIZ framework. This timeline allows for a longitudinal perspective on the evolution, expansion, and transformation of Poland's investment incentive regime.

Data sources include official reports and datasets from the Polish Central Statistical Office (Główny Urząd Statystyczny, GUS), Ministry of Economic Development and Technology, and Eurostat. Additionally, findings from academic literature, policy papers, and evaluation reports (e.g., Ambroziak, Hartwell, 2018; Łukaniszyn-Domaszewska *et al.*, 2023) were used to validate and contextualize the findings.

The evaluation was structured around four analytical dimensions:

1. Investment performance, measured by FDI inflow, number of investment permits, and value of capital invested;
2. Employment generation, both in absolute terms and as a share of regional labor markets;

3. Infrastructural development, including the repurposing of post-industrial assets;
4. Territorial impact, in terms of regional cohesion, reduction of disparities, and spatial diffusion of development benefits.

A comparative framework was applied to assess the differences between the SEZ and the PIZ models, focusing on spatial reach, governance structure, access criteria, and socio-economic outcomes. By juxtaposing these models, the analysis seeks to understand not only the quantitative impacts of the policy tools but also their institutional and territorial implications.

The study intentionally goes beyond descriptive assessment, engaging with critical debates around policy effectiveness, spatial justice, and investment inequality. It highlights not only the achievements but also the limitations and tensions in implementing territorially differentiated policies within a unitary state and a multi-level governance framework like the EU.

4. The SEZs in Poland: 1994–2020

The establishment of the SEZs in Poland in the early 1990s was a strategic policy response to the economic instability and regional disparities inherited from the socialist era. Following the systemic transition to a market economy, Polish authorities adopted a spatially selective development strategy aimed at revitalizing deindustrialized regions, attracting foreign capital, and enhancing national competitiveness (Sinenko, Mayburov, 2017). The SEZs, legally instituted by the 1994 "Act on Special Economic Zones", became a key instrument in this strategy.

These zones were geographically delimited areas offering preferential treatment to investors, including exemptions from corporate income tax, facilitated access to public infrastructure, and regulatory simplifications. Their core objectives included accelerating regional development, reindustrializing post-socialist territories, creating new employment opportunities, and integrating Poland into global value chains. In their design and operation, the SEZs in Poland mirrored similar mechanisms used in other transition economies, though with a distinctive emphasis on regional aid and structural convergence with the EU.

Initially, 17 SEZs were announced by the Council of Ministers, but only 15 became operational, and 14 remain active to this day. These include the Katowicka, Krakowska, Legnicka, Wałbrzyska and others (Figure 1), spread across 287 municipalities and 189 cities.

Figure 1: The 14 SEZs in Poland
Source: (https://www.nagora.org/zes-in-europa-il-caso-polonia)

The first SEZ, in Mielec, was launched in 1995. Over time, these zones were expanded and adapted to local industrial heritage and infrastructure conditions, especially in regions struggling with post-industrial decline (Næss-Schmidt *et al.*, 2020).

Between 2005 and 2015, the impact of the SEZs became more visible: total investments reached approximately PLN 20 billion, and employment in SEZ-based enterprises rose from 75,000 to nearly 287,000. These outcomes demonstrate the zones' role in mitigating unemployment and reactivating underutilized assets. Scientific studies suggest that these developments were not merely the result of fiscal incentives but also of the synergy between the SEZ management, local authorities, and the EU cohesion policy mechanisms (Łukaniszyn-Domaszewska *et al.*, 2023; Næss-Schmidt *et al.*, 2020).

Importantly, the SEZs also played a bridging role between the national and the European development strategies. Their alignment with the EU's regional state aid framework – particularly from 2014 onwards – enabled Poland to harmonize its investment incentives with the European norms. As a result, the SEZs became embedded within broader spatial planning and regional development policies, especially in the context of smart specialization and territorial cohesion (Łukaniszyn-Domaszewska *et al.*, 2023).

However, as the spatial logic of development evolved and the geographical limitations of the SEZs began to expose structural weaknesses – such as uneven access to incentives or competition among municipalities – the need for reform became increasingly evident. These challenges laid the groundwork for the transition to the PIZ, which aimed to universalize benefits and modernize the incentive regime (Næss-Schmidt *et al.*, 2020).

5. The importance of the SEZs for the development of the national territory

The role of the SEZs in Poland must be understood within a broader reflection on the spatial organization of economic development and state intervention in structurally disadvantaged areas. As territorially bounded policy instruments, SEZs have contributed to redefining the geography of

investment in Poland, generating localized growth dynamics and contributing – albeit unevenly – to the restructuring of the national economic space.

From their inception, the SEZs were conceived not only as mechanisms for attracting FDI, but as strategic levers to reindustrialize peripheral areas, create employment, and trigger endogenous development processes. In this sense, the SEZs served multiple functions: they supported the economic reintegration of post-industrial zones, stabilized local labor markets, and provided an institutional platform for public-private cooperation at the territorial level (Łukaniszyn-Domaszewska *et al.*, 2023).

Multiple academic and policy studies have confirmed the positive role of the SEZs in improving the economic attractiveness of less-developed regions. According to data from the Polish Ministry of Economic Development and independent research (Ambroziak, Hartwell, 2018), the SEZs contributed to raising the investment potential of cities and municipalities that had experienced severe deindustrialization during the 1990s. The zones facilitated place-based interventions that directly addressed local bottlenecks such as underutilized infrastructure, lack of capital, and workforce displacement (Łukaniszyn-Domaszewska *et al.*, 2023).

The strategic localization of the SEZs often coincided with regions featuring high unemployment, declining industries, or limited access to capital markets. In such contexts, the zones helped reactivate industrial ecosystems and repurpose abandoned assets – such as old factories, logistics hubs, and rail networks – thereby embedding economic development within existing territorial configurations.

The importance of the SEZs goes beyond economic indicators. They have been instrumental in reshaping local institutional capacities by creating arenas of negotiation between central government bodies, local authorities, and private investors. Through the establishment of the SEZ management entities, many municipalities developed new governance capabilities in land-use planning, business support services, and investment promotion. These administrative innovations contributed to a broader modernization of local public administration in Poland's transition to a market economy.

Furthermore, the SEZs have contributed to cluster formation and industrial specialization, promoting agglomeration economies in sectors such as

automotive, electronics, and logistics. The presence of multiple firms operating in similar or complementary sectors within the same SEZ area has often led to the emergence of collaborative networks and supply chains. These effects align with the theories of regional innovation systems and cluster-based development, suggesting that the SEZs can serve as incubators of competitive industrial milieus.

However, the territorial impact of the SEZs has not been uniformly positive. While some zones have thrived and attracted significant investment (e.g., Katowice, Wałbrzych), others have struggled due to governance limitations, weak connectivity, or sectoral mismatches. The uneven performance of SEZs has raised concerns about spatial fragmentation, as the benefits of economic incentives remained restricted to specific enclaves, potentially deepening territorial disparities in the medium term.

Environmental and social concerns have also emerged. The focus on economic performance sometimes overshadowed the need for sustainable land use, environmental compliance, and inclusive development. Moreover, while SEZs were successful in generating employment, the quality of jobs – in terms of wages, security, and skill development – has varied significantly across zones and sectors.

In sum, the Polish SEZ experience illustrates the dual nature of territorially bounded incentives: on one hand, they can unleash local economic potential and foster place-based industrial renewal; on the other, they risk creating isolated "islands of prosperity" unless properly embedded in national spatial development strategies and linked to broader regional policy instruments, such as the EU Cohesion Policy (Næss-Schmidt *et al.*, 2020).

This duality ultimately laid the foundation for the 2018 reform and the adoption of the PIZ, which sought to preserve the strengths of the SEZs while addressing their spatial and institutional limitations through a more integrated and flexible territorial policy model.

6. From the SEZs to the PIZ: Reform and Systemic Change

The transition from the SEZs to the PIZ in 2018 marks a significant shift in Poland's approach to regional development and investment policy. This transformation was not merely administrative, but rather structural and conceptual, signaling a departure from geographically bounded incentives to a nationwide, integrated investment support system (Jedrak, Odziemczyk, Tynel, 2019). The Act of 20 October 1994 on SEZs will remain in force until the end of 2026, but only for permits issued before 30 June 2018, that is, prior to the entry into force of the Act of 10 May 2018 on Supporting New Investments (*Ustawa o wspieraniu nowych inwestycji*), which established the PIZ[2].

The reform responded to several emerging challenges. First, the territorial rigidity of the SEZs – limited to 14 designated areas – was increasingly at odds with the dynamic nature of global investment flows and evolving industrial geographies. In several cases, high-potential investment sites were located outside the SEZs, making them less competitive in attracting capital compared to the other EU regions. Second, the EU's state aid regulations imposed constraints on the types of incentives permissible within such zones, pressing national governments to harmonize local policy instruments with supranational frameworks.

The establishment of the PIZ, legislated through the 2018 Act on Supporting New Investments (*Ustawa o wspieraniu nowych inwestycji*), abolished the geographical limits of the SEZs and extended eligibility for tax exemptions to the entire national territory, provided that investment projects meet specific criteria based on location, project type, and company size. The reform introduced a more flexible, criteria-based approach, linking fiscal support to strategic goals such as technological innovation, labor market impact, and regional development priorities (Dorożyński, Świerkocki, 2023).

As of January 1, 2021, the PIZ system officially replaced the SEZ framework. The SEZs, originally established in 1994 and operational prior to the introduction of the PIZ, will continue to function during a transitional period

[2] Starting from May 10, 2018, the Act on Supporting New Investments (*Ustawa o wspieraniu nowych inwestycji*) came into force, establishing the unified framework of the PIZ, which replaced the SEZs.

extended until 2026.

Initially, they were intended to operate only until 2020, but their mandate was prolonged. Companies that previously benefited from SEZ incentives will continue to do so until those benefits expire, in accordance with the specific conditions of each zone and the agreements signed with local authorities.

After 2026, the Polish government plans to centralize all fiscal incentives and investment promotion tools under the PIZ framework, which now operates uniformly across the entire national territory (Łukaniszyn-Domaszewska *et al.*, 2023). Unlike the SEZs, the PIZ does not have a fixed expiration date. It was designed as a permanent measure, albeit with possible changes orextensions to the incentives governing it, based on the economic development and future needs of Poland.

In this regard, it is important to note that the fiscal benefits granted to companies operating within the PIZ are provided for a limited period, depending on the type of investment and the specific conditions outlined in each project. It is worth emphasizing that the fiscal incentives can last for a period of time ranging from 10 to 15 years, in order to stimulate investments and long-term economic development.

One of the key innovations of the PIZ system is the differentiation of support intensity by location. Investors operating in less-developed regions receive higher public support than those in economically advanced areas. This spatially differentiated system aligns more closely with the EU Cohesion Policy principles, aiming to promote convergence between regions while maintaining a single regulatory framework.

Moreover, the PIZ reform allowed greater involvement of local authorities and regional development agencies in the investment support process. This increased local ownership while maintaining central coordination, thereby strengthening multi-level governance and enhancing the administrative capacity of subnational actors.

Overall, the reform reflects a broader shift from zonal preferentialism to territorial equity, promoting a more balanced and comprehensive model of investment-led development. While still in its early stages, the PIZ has the potential to overcome the spatial fragmentation of the SEZ model and to better integrate investment

incentives into Poland's national and regional development strategies.

7. Challenges in the Transition from the SEZs to the PIZ model

While the PIZ represents a strategic modernization of investment policy, its implementation has not been without institutional, operational, and territorial challenges. The transition from a zone-based to a nationwide system required not only legal and administrative adjustments, but also a redefinition of governance, evaluation mechanisms, and investor engagement strategies.

One of the first challenges encountered was the institutional inertia within the SEZ management bodies. Many had developed strong local networks, operational routines, and financial dependencies based on the previous model. The PIZ reform, while integrating these entities, transformed their role from spatial managers to functional investment support agencies – a change that necessitated re-skilling, organizational restructuring, and a recalibration of their strategic mission.

Furthermore, the new model's reliance on evaluation criteria – such as innovation potential, sustainability, and labor market impact – introduced a layer of complexity in the allocation of support. Companies, particularly Small and Medium-sized Enterprises (SMEs), often reported difficulties in navigating the new system, highlighting the need for improved communication and simplification of procedures.

From a territorial perspective, one of the core tensions lies in balancing spatial justice with investment efficiency. The differentiated support intensity, while theoretically sound, may not fully compensate for structural disadvantages in peripheral regions. In some cases, the PIZ risks reinforcing existing patterns of asymmetric development, particularly when larger investors continue to concentrate in metropolitan areas with better infrastructure and human capital.

Additionally, the long-term monitoring and impact assessment mechanisms of the PIZ are still in development. The absence of a mature feedback system may hinder adaptive policy learning and the timely correction of implementation gaps.

Lastly, the reform occurred during a period marked by macroeconomic volatility (e.g., COVID-19, supply chain crises, inflation), which affected investor behavior and complicated the empirical evaluation of the reform's outcomes. These external shocks underscore the need for a resilient and adaptable policy framework that can maintain investment attractiveness while advancing long-term territorial cohesion goals.

Addressing these challenges will require sustained institutional capacity-building, stakeholder coordination, and the integration of the PIZ into a coherent national spatial strategy that aligns economic, social, and environmental objectives.

8. Socio-Territorial Impacts of the SEZs and the PIZ

Beyond their institutional and fiscal architecture, the SEZs and increasingly the PIZ, have produced profound socio-territorial impacts that merit closer examination. These impacts encompass not only economic growth but also transformations in social structure, territorial equity, and urban-rural dynamics.

First, the SEZs have played a critical role in restructuring the social geography of work in post-socialist Poland. By generating employment opportunities in deindustrialized or marginal regions, the SEZs contributed to a partial rebalancing of labor market disparities. This effect was particularly visible in regions with high youth and long-term unemployment rates, where the SEZs facilitated access to formal employment and improved income levels.

Second, the zones catalyzed improvements in public infrastructure and services, often as a spillover of private investment. The construction of industrial parks, roads, logistics facilities, and energy grids has had positive externalities on surrounding communities, enhancing territorial accessibility and connectivity. In several municipalities, the SEZs indirectly supported the development of vocational training programs and public-private partnerships in education, thereby increasing local human capital.

However, the benefits have not been evenly distributed. Certain SEZs, especially those located in already semi-developed regions, concentrated

investment flows, while more peripheral or rural zones remained underutilized. Moreover, the environmental footprint of some industrial activities raised concerns about land degradation, pollution, and unsustainable resource use. These issues underline the need to better integrate environmental governance into investment policy.

The PIZ reform, by extending eligibility nationwide, offers an opportunity to broaden the socio-territorial benefits of investment support. Nevertheless, early observations suggest that urban areas continue to attract a disproportionate share of large-scale projects. This trend raises the question of whether the new system can truly equalize development opportunities across space or whether it might reproduce the core-periphery divide under a different guise.

In this context, policy coordination with local governments, regional development plans, and the EU-funded cohesion instruments becomes critical. Socio-territorial integration requires more than fiscal tools: it demands strategic planning, participatory governance, and monitoring systems that go beyond economic indicators to include quality of life, social cohesion, and ecological balance.

Ultimately, the socio-territorial impact of the SEZs and the PIZ should be assessed not only in terms of investment volumes but also through their contribution to inclusive, balanced, and sustainable regional development (Dorożyński, Świerkocki, 2023).

9. Conclusion

Over the past three decades, Poland's experience with the SEZs has demonstrated the potential of territorially focused investment incentives to drive industrial renewal, attract capital, and mitigate regional inequalities. The SEZs created fertile ground for localized economic transformation, especially in structurally disadvantaged areas. However, the limitations of a geographically restricted model – its rigidity, uneven benefits, and potential for spatial fragmentation – prompted the transition toward the PIZ, a more flexible, criteria-driven, and nationwide system (Dorożyński, Świerkocki, 2023). This reform marks a shift toward

a more integrated and inclusive investment policy, better aligned with the European Union cohesion principles and Poland's evolving socio-economic landscape.

The analysis has shown that both the SEZs and the PIZ contributed to territorial development, but also revealed tensions between growth and equity, centralization and local autonomy, and fiscal efficiency versus long-term sustainability. While the PIZ model introduces innovations that address many of the SEZs' weaknesses, it is not immune to risks of spatial concentration, administrative complexity, or environmental externalities.

Going forward, the success of the PIZ system will depend on its ability to operate within a broader territorial development strategy. This strategy should integrate spatial planning, labour market policies, environmental safeguards, and strong institutional coordination. Effective monitoring and evaluation, inclusive governance, and region-specific diagnostics will be key to ensuring that the PIZ meets its investment goals and contributes to inclusive, resilient development across all Polish regions.

References

Ambroziak, A.A., 2009, *Krajowa pomoc regionalna w specjalnych strefach ekonomicznych w Polsce – Regional state aid in special economic zones in Poland*, Warsaw School of Economics Press, Warsaw. doi: 10.13140/2.1.3900.5127.

Ambroziak, A.A., Hartwell, C.A., 2018, "The impact of investments in special economic zones on regional development: the case of Poland", *Regional studies*, 52, 10, 1322-1331. doi: 10.1080/00343404.2017.1395005.

Ambroziak, A.A., Dziemianowicz, W., 2021, "The impact of Special Economic Zones on local labour markets in Poland", *Miscellanea Geographica – Regional Studies on Development*, 25, 2, 1-6. doi: 10.2478/mgrsd-2020-0032.

Cieślik, A., 2025, "Political economy of special economic zones location in Poland", *Journal of Economics and Management*, 47, 1-25. doi: 10.22367/jem.2025.47.01.

Ciżkowicz P., Ciżkowic-Pękała M., Pękała P., Rzońca A. (2015). *The effects of Special economic zones on employment and investment: spatial panel modelling perspective*, Economic Institute, Warsaw. Accessed 21st June 2025 https://static.nbp.pl/publikacje/materialy-i-studia/208_en.pdf.

Ciżkowicz, P., Ciżkowicz-Pękała, M., Pękała, P., Rzońca, A., 2021, "Why do some special economic zones attract more firms than others? Panel data analysis of polish special economic zones", *Prague Economic Papers*, 1, 61-89. doi: 10.18267/j.pep.763

Czyżowska, J., Żmija, D., 2022, "Special economic zones (SEZ) in the crisis caused by the COVID-19 pandemic", *Journal of Management and Financial Sciences*, 15, 45, 9-25. doi:10.33119/JMFS.2022.45.1

Ciżkowicz, P., Ciżkowicz-Pękała, M., Pękała, P., Rzońca, A., 2017, "The effects of special economic zones on employment and investment: a spatial panel modeling perspective", *Journal of Economic Geography*, 17, 3, 571–605. doi: 10.1093/jeg/lbw028

Dorożyński, T., Świerkocki, J., 2023, "Have Special Economic Zones contributed to regional disparities in Poland?", *Acta Universitatis Lodziensis, Folia Sociologica*, 87, 73-87. doi: 10.18778/0208-600X.87.06

Dorożyński, T., Świerkocki, J., Dobrowolska, B., 2021, "Governance of special economic zones and their performance: Evidence from Poland", *Entrepreneurial Business and Economics Review*, 9, 3, 149-167. doi: 10.15678/EBER.2021.090310.

Dzieńdziora, J., Smolarek, M., Piontek, B., 2021, "Activation of Investment Processes in the Context of Operation of Special Economic Zones in Poland", *European Research Studies Journal*, 24, 1, 130-146. doi: 10.35808/ersj/1954.

Farole, T., Akinci, G., 2011, *Special Economic Zones: Progress, Emerging Challenges, and Future Directions*, World Bank, Washington, DC. Accessed 21st March 2025 https://openknowledge.worldbank.org/server/api/core/bitstreams/90c2d4e4-399e-5e8f-bddf-ca6ab344ea18/content.

Galeota Lanza, G., 2019, "Le Zone Economiche Speciali come strumenti per lo sviluppo economico. Il caso della Polonia", *Semestrale di Studi e Ricerche di Geografia*, 31, 2, 85-101.

Hunter, R.J., Lozada, H.R., 2021, "Foreign direct investment in Poland: Opportunities and pitfalls", *British Journal of Economics, Finance and Management Sciences*, 18, 1, 1-16.

Jedrak, D., Odziemczyk, M., Tynel P., 2019, *Polish Investment Zone*, Colliers International, PAIH Group PRF. Accessed 21st June 2025 https://www.econstor.eu/bitstream/10419/204302/1/Nazarczuk_Uminski_2019_Foreign_Trade_in_Special_Economic_Zones_in_Poland.pdf.

Jensen C., 2018, "The employment impact of Poland's special economic zones policy", *Regional studies*, 52, 7, 877-889. DOI: 10.1080/00343404.2017.1360477

Jensen, C., Winiarczyk, M., 2014, *Special economic zones: 20 years later*, CASE Network Studies & Analyses. Accessed 21st May 2025 https://www.econstor.eu/bitstream/10419/128279/1/778427536.pdf.

Kaneko, H., 2017, "Special economic zones in Poland: A black hole swallowing state budget or a messiah for regional development?", *Reviewing European Union Accession*, 57-74. doi: 10.1163/9789004352070_006.

Krukowska, J., 2018, "Assessing the Impact of Special Economic Zones in Poland: Towards Sustainable Economic Growth", *Environmental Economics and Policy Studies*, 20, 5, 765-784. doi: 10.1080/00343404.2022.2069745

Lille Coudroy de, L., 2007, "Les zones économiques spéciales en Pologne: un

tremplin pour l'emploi régional ou des miettes de la mondialisation?", *Annales de géographie*, 658, 6, 645–666.

Łukaniszyn-Domaszewska, K., Mazur-Włodarczyk, K., Karaś, E., 2023, "Special Economic Zones (Sezs) as an Element of Sustainable Development in Emerging Countries: a Case of Poland", *Scientific Papers of Silesian University of Technology Organization and Management Series*, 251-275. doi: 10.29119/1641-3466.2023.179.13

Michałek, J., 2023, "Analysis of the impact of special economic zones on macroeconomic indicators in Poland", *Forum Scientiae Oeconomia*, 11, 3, 69-86. doi: 10.23762/FSO_VOL11_NO3_4

Miklinska, J., 2019, The Polish Investment Zone as a New Solution for Supporting Investments and Sustainable Regional Development. In: Dukic, D., Studzieniecki, T., Grzinic, J., (Eds.), *Economic and Social Development 49th International Scientific Conference on Economic and Social Development Development*, "Building Resilient Society", Zagreb, 13-14 December, Varazdin Development and Entrepreneurship Agency and University North, Zagreb, 244-253.

Misztal, P., Kulakou, V., 2024, "Investment attractiveness factors in the opinion of companies from Special Economic Zones in Poland", *Managerial Economics*, 25, 1, 71–104. doi: 10.7494/manage.2024.25.1.71

Næss-Schmidt, S., Dahlberg, E., May Hansen M., Ehmann, H., 2020, *European Special Economic Zones*, Research spin-off project of "The World in Europe: Global FDI flows towards Europe (ESPON FDI)"", Policy Brief, November, Espon, Luxemboug. Accessed 21st March 2025 https://archive.espon.eu/sites/default/files/attachments/Policy%20Brief%20SEZ%20corr%2003-12.pdf.

Nazarczuk, J.M., Cicha-Nazarczuk, M., 2021, "What are the Key Location Factors for Firms in Special Economic Zones? Evidence from Poland", *European Research Studies Journal*, XXIV, 1, pp. 147-160.

Nazarczuk, J.M., Cicha-Nazarczuk, M., 2024, "Sustainable Employment Creation through the Polish Investment Zone in Lagging Regions", *Sustainability*, 16, 5144. doi: 10.3390/su16125144.

Nazarczuk, J.M., Umiński, S., 2018, "The geography of openness to foreign trade in Poland: The role of special economic zones and foreign-owned entities", *Bulletin of Geography*, Socio-economic Series, 39, pp. 97-111. doi: 10.2478/bog-2018-0007.

Nazarczuk, J.M., Uminski, S., 2019, *Foreign Trade in Special Economic Zones in Poland*, UWM, Olsztyn.

Oleksiuk, A., 2017, "Cluster Policy and Development of the Polish Special Economic Zones", *International Journal of Social Science & Economic Research*, 2, 2, 2463-2475.

Piersiala, L., 2019, "The usage pattern of development method to assess the functioning of Special economic zones: the case of Poland", *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 14, 1, 167–181. doi: 10.24136/eq.2019.008.

Przybyła, K., Kulczyk-Dynowska, A., 2018, The Impact of Global Economic Crisis on the Functioning of Special Economic Zones in Poland. In: *Consumer Behavior, Organizational Strategy and Financial Economics: Proceedings of the 21st Eurasia Business and Economics Society Conference*, 255-263, Springer International Publishing. doi: 10.1007/978-3-319-76288-3_19.

Rykała, M., 2024, "The Impact of the Introduction of the Polish Investment Zone on the Participation of Smes and Businesses with Polish Capital in the Use of Cit and Pit Exemptions on the Example of the Katowice Special Economic Zone", *Humanitas Zarządzanie*, 25, 2, 159-172. doi: 10.5604/01.3001.0054.6950.

Sinenko, O., Mayburov, I., 2017, "Comparative Analysis of the Effectiveness of Special Economic Zones and their Influence on the Development of Territories", *International Journal of Economics and Financial Issues*, 7, 1, 115-122.

Ślusarczyk, B., 2018, "Tax incentives as a main factor to attract foreign direct investments in Poland", *Administratie si Management Public*, 30, 67-81. doi: 10.24818/amp/2018.30-05.

Ślusarczyk, B., Grondys, K., 2018, "The concept of sustainable development in the functioning of municipalities belonging to special economic zones in Poland", *Sustainability*, 10, 7, 2169. doi: 10.3390/su10072169.

World Bank, 2017, *Special Economic Zones. An Operational Review of Their Impacts*, The World Bank Group, Washington, DC. Accessed 21st June 2025 https://documents1.worldbank.org/curated/en/316931512640011812/pdf/P154708-12-07-2017-1512640006382.pdf.

7. Spatial transformation and industrial diversification through Special Economic Zones: a look at South Africa

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Abstract

This study investigates the role of Special Economic Zones (SEZs) in supporting South Africa's effort to rebalance the fractured economic and urban landscape inherited from Apartheid. This role is embedded within an evolutionary trajectory that culminated in the 2014 SEZ Act, which facilitated their establishment throughout the country, including in rural and less developed areas. To this end, a descriptive approach was adopted based on the identification of 20 currently designed or proposed SEZs. Through spatial overlay, information on SEZs was then integrated with socio-economic, demographic and infrastructural data collected at the provincial and municipal scale. SEZs were also analyzed in relation to the settlement typology of the territories in which they are located, using the classification of the Municipal Infrastructure Investment Framework (MIIF). The results provide a comparative assessment of SEZs in terms of geographical distribution, performance, and coherence with development priorities articulated at different governmental levels.

Keywords

Special Economic Zones; Place-Based Industrial Policies; Territorial Disparities.

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1. Introduction[5]

In Africa, urbanization is advancing faster than in any other part of the world; growth rates are highest in the Western, Eastern, and Central regions (UNECA, 2022; OECD, 2025). By 2050, it is highly likely that its urban population will double and grow almost four times faster than the rural population (OECD, 2025). Similarly, it is estimated that 80% of the demographic growth will be absorbed by cities (*Ibid*.). This has led to recent interest in the current trends of urbanization and the spatial organization of African cities. Despite this, challenges remain due to discrepancies in national definitions of «urban area» and the limited availability of data (Brown, 2024; Appiah-Kubi & Gyambibi, 2025). The correlated effects of demographic growth, the historical legacy of colonialism and post-colonialism on settlement patterns, and other economic, climatic, and socio-political factors influence the current trends of African urbanization and raise questions about how cities can be planned and governed.

African urbanization is characterized by complex and heterogeneous developments. At the continental level, the trajectories of urban transition are not uniform; moreover, they are not easily comparable to the socio-economic transformations that have historically supported urbanization in more developed countries (Kemajou *et al*., 2020).

The number of cities has also increased, but there are significant variations among urbanization patterns (Brown, 2024). According to the OECD (2022), African cities are engines of development. Urbanization contributed approximately one-third to the annual per capita GDP growth in Africa between 2001 and 2020. Cities demonstrate superior socio-economic performance compared to their respective countries, and their positive effects extend to surrounding rural areas (*Ibid.*). At the same time, in several countries, "primate cities" dominate urban hierarchies, experiencing significant diseconomies due to unplanned development (Appiah-Kubi & Gyambibi, 2025).

Studies identify various factors that influence the dynamics of this transition. Generally, these include rapid natural population growth, the particular vulnerability of certain regions to climate change, poverty in rural areas,

[5] The research is the outcome of the collaborative effort of all the authors, should be equally attributed to each of them.

and rural-to-urban migration (Zimmer *et al*., 2020; Korah *et al*., 2024). The centripetal forces attributed to urban realities are explained by the benefits associated with the operation of agglomeration mechanisms, which appear as externalities of urbanization. In many African cities, urban transition processes are often either not governed or are supported by poorly coordinated sectoral interventions, leading to territorially and socially inequitable effects (Visagie & Turok, 2020; Korah *et al*., 2024).

Compared to what is observed elsewhere, in Africa, particularly Sub-Saharan Africa, the link between urbanization and development is weaker and seems not to be supported by a process of structural transformation of cities and countrysides (Henderson & Kriticos, 2018; Fox & Goodfellow, 2022). Some urban areas are oversized in relation to their actual productive capacities, and their growth is not always accompanied by solid industrialization. Many cities struggle to absorb the compact population growth and the simultaneous rise in demand for housing and access to essential infrastructure and services. At the same time, the larger share of working-age individuals and the exit of agricultural workers amplify the role of the «informal economy» and lower productivity services in urban socio-economic assets (OECD, 2022). The spread of slums and informal settlements exacerbates poverty and inequalities. More than 50% of the population in Sub-Saharan Africa lives in these conditions, facing inefficiencies in land use, diseconomies related to high density, and environmental issues.

Spatial inequalities take various forms and are expressed within a multi-scalar view of space, ranging from the large national scale to the sub-regional scale (Wei, 2015). Over time, there has been a growing interest among scholars and policymakers in the applicability of Special Economic Zones (SEZs) as a spatial-industrial policy tool aimed at promoting a more equitable distribution of economic activities across space (Narula & Zhan, 2019).

SEZs are “spatially delimited areas within an economy that function with administrative, regulatory, and often fiscal regimes that are different (typically more liberal) than those of the domestic economy” (Farole, 2011, p.17). They are designed to maximize comparative and geographic location advantages, and for this reason, they are supported at the national level by infrastructure policies aimed at transforming the economic framework of external economies within selected territorial units, as well as other initiatives aimed at improving the overall investment climate (*Ibid*.; UNCTAD, 2021). The literature is

unanimous in considering SEZs a complex tool and difficult to implement. The durability of the advantages of an SEZ over time is not guaranteed, and much depends on the endogenous factors of the program, their specific design, which must be aligned with objectives and context, the connectivity of the territory, the existence of strong institutions, clear medium-to-long-term political goals, and the ability of the zone to integrate with the local economy in line with the broader strategic goals developed by the country (Farole, 2011; Aggarwal, 2019; Zeng, 2022; Esposito, 2024; Zheng & Pan, 2024). The presence of agglomeration sources is another important factor. Urban areas and the presence of critical infrastructure are, in theory, considered more favorable environments for designing SEZs capable of supporting large-scale agglomeration and generating territorial spillover effects (Farole & Sharp, 2017; UNIDO & AEZO, 2024). Interactions between intra- and extra-SEZ firms have the potential to generate spillover effects, such as demonstration effects, on-the-job training or learning by doing, technology transfer, and stimulation of creativity and entrepreneurship (Frick & Radouane, 2024). The links between SEZs and the local economy prevent the zones from becoming enclaves, while still contributing to short-term growth. These links are more effective when incorporated from the design phase of the zone and supported by appropriate urban planning (UNCTAD, 2021).

Some studies have attempted to investigate the suitability of SEZs as a tool to stimulate growth in underdeveloped areas and, at different scales, to promote agglomeration economies in peripheral or rural areas that are less serviced and located far from major urban centers, infrastructure hubs, trade gateways, or labor pools (Nel & Rogerson, 2013; Pigliucci, 2019; Rodríguez-Pose & Wilkie, 2019; Huang *et al*., 2024). However, in these areas, the effects are more heterogeneous. In this regard, some African governments have begun to establish SEZs as a tool to address the irregularities in urbanization processes and attempt to spatialize external economies in order to promote large-scale industrialization (Robbins, 2024). For example, Xu and Wang (2020) in a comparative study of two SEZs located in Ethiopia and Zambia analyze the potential of this instruments to promote a more strategic and rational planning of the urban territory, in an attempt to reverse uncontrolled urbanization. From this perspective, we believe it is possible to place the SEZ policy of the Republic of South Africa. In the country, compared to other cases (Bencardino & Esposito, 2020; UNCTAD, 2021; Esposito & Bencardino, 2024) the spatial objectives of territorial rebalancing goals associated with SEZs and promoted by different levels of government are more

explicit. These objectives respond to persistent spatial inequalities inherited from the Apartheid era (Nel & Rogerson, 2014; Farole & Sharp, 2017; Todes & Turok, 2018). In this regard, South Africa represents a particularly valuable case for understanding how SEZs are integrated into multi-scalar development strategies and utilized by policymakers to influence resource distribution, correct spatial distortions, and recalibrate territorial organization.

2. Spatial Policies in South Africa: a long history

South Africa is an economy with spatially inequal dynamics (Todes & Turok, 2018; DPME, 2019; Turok & Visagie, 2025). Socio-economic inequalities between places are historically deep-rooted and profound (Rogerson & Nel, 2016). The World Bank (2018) classified South Africa as one of the most unequal countries in the world. In the post-Apartheid context, the country has made significant progress in poverty reduction, and efforts have been made to improve economic inclusivity and equal opportunities for residents of the townships. However, overall inequalities remain high, particularly among black South Africans. Rural areas and former homelands[6] exhibit the highest concentration of poverty, while the labor market remains highly polarized (*Ibid*.). After the end of Apartheid (1948-1994), the movement of people towards growing economic cities increased, particularly towards Gauteng and the Western Cape. The metropolitan areas and large cities have been the primary destinations (Oranje & Merrifield, 2010). Indeed, the absence of a cohesive and coordinated planning approach at the regional level has prevented a balanced distribution of resources and opportunities. Territorial development has not been equitable, and historical inequalities have been perpetuated. In 2019, the *National Spatial Development Framework Draft* highlighted that current spatial distortions stem from urbanization, the inequitable use of land, high poverty in former bantustan areas and townships, and a fragmented national spatial model (DPME, 2019, p.183).

Several estimates confirm that in the coming decades, urban population growth

[6] Bantustans/homelands were areas of spatial segregation imposed by Apartheid, designated for the indigenous population. South Africa was divided into 10 Bantustans, which represented approximately 13% of the country's territory, despite the Black population being the majority. These areas were often small and infertile (DPME, 2019).

is expected to increase, potentially reaching around 80% by 2050 (DPME, 2019). The urban regions of Gauteng, Western Cape, and eThekwini (Durban) will experience the largest growth (*Ibid*.). Additionally, there are densely populated rural areas partly overlapping with the former homelands, such as settlements along the eastern coastal belt of KwaZulu-Natal and the Eastern Cape (*Ibid*., p.52).

Growth is geographically polarized around the central regions (Rogerson & Nel, 2016). Indeed, this has led to the characterization of a dual economy with structural features. Thus, socio-economic inequalities are reflected in the perpetuation of territorial inequalities between the areas of the "first economy" (polarization centers integrated into the global economy) and the marginalized areas of the "second economy" (former homelands, townships, rural areas), which, in relation to the former, describe a condition of substantial dependence (DPLG, 2006).

Since 1948, the Apartheid state represented a highly centralized model, designed to maintain a political system along colonial and segregationist ideological lines to the detriment of the Black majority population. To such an ideological structure, the functions of territorial planning and economic programming were anchored in the decades that followed.

The regional policy initiated in 1960 with the *Regional Industrial Decentralisation Programme* (RIDP), which has been modified several times since its inception, was aimed at implementing targeted industrial decentralisation programs (Todes & Turok, 2018). Geographically and economically, industrial decentralisation was carried out to counterbalance the excessive urban concentration of economic activity in areas like Pretoria-Witwatersrand-Vereeniging (Gauteng) and to encourage investments to shift towards the bantustans (Pasta, 1983). The relocation of manufacturing activities was conceived through selective planning aimed at "growth points", defined as such for their expected ability to influence agglomeration creation and achieve keynesian multiplier effects on employment and income, in line with a perrouxian-inspired logic (Wellings & Black, 1986). The goal was to create productive and employment opportunities through the establishment of industrial hubs, initially adjacent ("border areas") and later within the bantustans (Pasta, 1983). The creation of cumulative external economies would thus support the development of these territories into independent States (Wellings & Black, 1986; Oranje & Merrifield, 2010). Since these

territories were far from major economic centers, the state incentive policy was particularly incisive. Industrial decentralisation was rooted within a clear ideological vision of ethnic zoning of the territorial development, aimed at maintaining geographical separation between blacks and whites and reinforcing control over the influx of blacks into urban centers, while simultaneously maintaining a cheap African labor force. The *National Physical Development Plan* (1975) employed the language of poles, growth centers, and development axes within a hierarchical and spatially unbalanced perspective of territorial organization. Despite its lack of formal adoption, the plan indirectly influenced economic agglomeration in major cities through its guidelines (Fair, 1975; Oranje & Merrifield, 2010).

The socio-spatial disparities and the effects of economic instability inherited in 1994 by the democratic government led to the adoption of a series of political frameworks over the years aimed at overcoming these deep-rooted distortions. Initially, the government adopted an ambiguous approach to spatial policies, which over time became intertwined with the rise of neoliberal orientations (Nel & Rogerson, 2013). Subsequently, territorial integration and rebalancing became crucial objectives for the democratic governments, aiming to deeply restructure the territory inherited from Apartheid.

In 1996, spatially targeted interventions for regional development were introduced with the launch of the *Spatial Development Initiatives* (SDIs). The SDIs were conceived in conjunction with the *Growth, Employment and Redistribution* (GEAR) strategy and the gradual abandonment of the RIDP. In 2000, the *Industrial Development Zones* (IDZs) were implemented, which, while sharing some objectives with the SDIs, represented a distinct industrial policy tool.

The SDIs, under government oversight, were short-term planned interventions aimed at "unlocking economic potential and facilitating new investment and job creation in a localized area or region" (Jourdan, 1998, p.718). The program aligned with an approach that sought to encourage exports and promote growth driven by the private sector (Hall, 1999). The SDIs incorporated a holistic approach and aimed to exploit the "under-utilized or inherent" economic potential (*Ibid*.) of a given area (transnational or subnational). The model was based on "corridor development", such as the *Maputo Development Corridor* (MDC), and other targeted initiatives aimed at stimulating industrial investments and generating employment. Although the SDI program officially

ended in 2001, some initiatives have continued at the transnational level.

SDIs and IDZs operate on different scales: SDIs are large geographic areas with economic potential to be unlocked through extensive public and private investments and multi-sectoral anchor projects. The rehabilitation of infrastructure along the MDC aimed to promote economic integration between the port of Maputo and South Africa's industry. The infrastructuring and associated projects were intended to stimulate a process of radiating development, involving local communities in the surrounding areas (Sequeira *et al*., 2014).

IDZs, on the other hand, are selective industrial policy tools designed to attract FDI in export-led activities in specific geographic areas. According to Lewis and Bloch (1998, p.731), they are "dedicated industrial estates adjacent to specified sea- and airports, and comprise an infrastructural component, as well as regulatory and other institutional interventions". The first IDZs established were: Coega IDZ (2001), OR Tambo International Airport IDZ (2002), East London IDZ (2002), and Richards Bay IDZ (2002). The location choice was largely focused on coastal municipalities hosting strategic infrastructures.

Studies and operational research agree on the underperforming results of the IDZs (Nel & Rogerson, 2013). Ten years after its launch, the OR Tambo IDZ remained non-operational. The remaining IDZs achieved static gains that were lower than expected (DTI, 2012). Among the challenges, several analyses, including DTI (2012), highlighted: the lack of a clear strategic framework among the programs; the absence of a tailored regulatory framework (*Ibid*.; Nel & Rogerson, 2013); an excessive focus on fiscal benefits (which were limited); the absence of a territorial marketing plan; weak coordination; reliance on a single type of instrument (Export Processing Zone) (McCallum, 2011); limited private investment participation, resulting in public spending burdens that made the programs uncertain and costly in the medium term (Baissac, 2010; DTI, 2012); limited links with the territory and local firms (Todes & Turok, 2018), partly attributed to the decision to focus the programs on heavy industry and capital-intensive sectors (Baissac, 2010).

3. Methodology

The study adopts a descriptive analysis based on the systematic mapping of the SEZs currently identified by the South African program. The aim of this research is to observe and interpret their diffusion and territorial distribution in relation to both the objectives of the national strategy for reducing territorial disparities and the diverse subnational contexts and specific orientations promoted at the local level, where Provinces and Municipalities integrate SEZs into broader frameworks of socio-economic and infrastructural development.

The initial phase of the analysis focused on the identification of the SEZs currently established or promoted in the country. To this end, regulatory, reporting, and documentary sources were consulted, supplemented by online research conducted through each zone's homepage (where available), official websites of involved entities, and additional web resources.

Based on the cross-referencing of these sources, 20 SEZs were identified: 13 designated and 7 proposed. It was not possible to obtain a complete and uniform set of information for all zones; however, in most cases the following data were collected: Municipality and exact site location; area (in hectares); year of designation or proposal; and, based on annual reports provided by the Department of Trade, Industry and Competition (2021; 2024), limited to nine zones, the number of operational investors, investment value, and jobs created were derived. The examination of sources made it possible to extract additional technical elements for each SEZ, both designated and proposed, such as objectives and design characteristics, governance model, and target sectors.

Subsequently, a spatial overlay analysis was conducted to align point-based information for each SEZ location and area in hectares) with the socio-economic dimension and infrastructural elements of the reference territories. To this end, the information framework was enriched at provincial and municipal levels. The territorial data used are sourced from the Department of Statistics South Africa (Stats SA) and cover the entire national territory. Specifically, the economic dimension was measured at the provincial level, referring to the share of provincial GDP in the national total using 2022 estimates (Stats SA, 2023a); while the demographic dimension was disaggregated at the Metropolitan and Local Municipalities level, with data extracted from the 2022 Census (Stats SA, 2022). For infrastructure

elements, literature sources (Thorn *et al*., 2022 for Development Corridors) and map sources, such as ESRI's airport classification and data on cities, railways, highways and port classification from Natural Earth, were used.

In subsequent phases of descriptive analysis, complementary data on provincial economy, specifically manufacturing employment (Stats SA, 2023b) and sectoral GDP (Stats SA, 2023a; 2024b). Finally, to complete the spatial analysis, SEZs were further interpreted according to the settlement characteristics of their location territories. In South Africa, it is complex to obtain a clear definition of urban/rural. We use the territorial hierarchy of the Municipal Infrastructure Investment Framework (MIIF) as a reference, since it was adopted by the 2022 Census (Stats SA, 2022; Turok and Visagie, 2025). The MIIF classification divides local municipalities into sub-categories: metropolitan municipalities (A); secondary or intermediary cities (B1); large towns (B2); small towns (B3); largely rural municipalities (B4) (DCoG, 2016; Stats SA, 2022).

Overall, the results obtained from this information allow for multi-scalar observation of: i) the chronological diffusion and territorial distribution of SEZs; ii) some performance indicators, useful for comparative reading and interpretation of zones for which such data are made available; iii) the ways in which SEZs are configured in relation to the characteristics of territorial contexts and institutional priorities expressed at different levels of government.

4. SEZs: Attempts in South Africa to reorganize industrial space

Discussions on SEZs began in 2007, developed as a response to the structural shortcomings of the IDZ program, which was undergoing a revision phase (DTI, 2018). Since then, the SEZ program has been supported by a series of strategic programming documents and industrial policy frameworks, such as the *National Industrial Policy Framework* (NIPF), the *National Development Plan* (NDP), and the various *Industrial Policy Action Plans* (IPAP). SEZs were proposed in 2012 (DTI, 2012); according to the *IPAP 2012/2013-2014/2015*, the new program would specifically be used "to promote the creation of a regionally diversified industrial economy by establishing new industrial hubs

in underdeveloped regions of the country" (DTI, 2010, p.48). The SEZs were officially formalized two years later through the *Special Economic Zones Act 16 of 2014* (RSA, 2014), which came into effect in 2016 to integrate (and replace within three years) the existing IDZs (Nel & Rogerson, 2014).

SEZs are geographically designated areas intended to act as hubs for attracting direct investments. Through them, state and provincial authorities aim to promote the development of industrial capacity in targeted activities, create employment, and support and diversify exports. SEZs are implemented to encourage industrial agglomeration in selected territorial units and other medium-to-long-term dynamic gains arising from the bidirectional connections between SEZ enterprises and the local firms (DTI, 2012). Expectations regarding the outcomes of SEZs are embedded in various documents, including the SEZ Act, which defines them as "economic development tools to promote national economic growth and export by using support measures in order to attract targeted foreign and domestic investments and technology" (RSA, 2014: section 4 (1)).

To achieve these objectives, and similarly to programs in other countries, South African SEZs are supported by a dedicated regulatory framework and fiscal incentives that include: a preferential 15% corporate tax rate (as opposed to the national 28%); building allowances; employment incentives; tax deductions; and Customs-Controlled areas (DTI, 2014). The differentiated tax systems are combined with non-fiscal incentives, such as on/off-site infrastructure, technical consultancy services, and a One-Stop Shop. The government introduced the possibility of establishing different types of zones, which can include: "free port"; "free trade zone"; "industrial development zone"; and "sector development zone". It is evident that there is an attempt to overcome the rigidities of the IDZs, which were conceived as the sole mechanism of industrial policy at the territorial level.

The effort to make the SEZs operate to activate territorial development processes is further identified in the decision to give more space to sub-national institutional bodies in their development. The management of SEZs is a complex system that, in addition to the national government, involves provinces, regional development agencies, entities, and private investors. The Minister of the *Department of Trade, Industry and Competition* (DTIC) has the prerogative to designate a zone, supported by the functions of an advisory board that provides recommendations and oversight. Requests for designation

may come (also jointly) from the government, provinces, municipalities, public entities, municipal entities, and Public-Private Partnerships (RSA, 2014). The DTIC coordinates and oversees SEZ policy at the national level; however, at the local scale, there is systematic involvement of provinces and municipalities in their development and management. In particular, these entities generally operate through participation in separate companies created to manage and operate economic and commercial activities. This approach allows SEZs to be tailored to the economic and territorial specificities of each province. Moreover, provinces and municipalities contribute investments in off-site infrastructure and logistics, investment attraction policies, and the development of local human capital, thus facilitating the embedding of SEZs into the regional economic fabric.

Table 1 provides the distribution of SEZs by province and includes information on some of their characteristics. Based on a mix of sources, this study identifies 20 SEZs, of which 13 are designated.

No.	Province	Special Economic Zone	Status	Size (Ha)	Year
1	Eastern Cape	**Coega SEZ** (incl. NMB Logistics Park)	designated	9,003.0 (216.0)	2001 (2008)
2	Eastern Cape	**East London**	designated	462.1	2002
3	Eastern Cape	**Wild Coast: Mthatha**	proposed	226.0	
4	Free State	**Maluti-a-Phofung**	designated	1,039.0	2017
5	Gauteng	**OR Tambo SEZ** (incl. Ortia 1, Ortia 2, Springs SEZ)	designated	51.0	2002 (Ortia 1), 2019 (Ortia 2, Springs SEZ)
6	Gauteng	**Tshwane Automotive**	designated	204.8	2020
7	Gauteng	**Vaal SEZ** (incl. Midvaal, Emfuleni, Lesedi)	proposed	3,028.2	
8	Gauteng	**Gauteng Science high-tech hub**	designated	4.7	n.d.
9	Gauteng	**West Rand SEZ** (incl. Rand West City site, Merafong City site)	proposed	3,189.0	
10	Gauteng	**Lanseria Smart City SEZ**	proposed	1,127.0	
11	KwaZulu Natal	**Richards Bay**	designated	467.0	2002
12	KwaZulu Natal	**Dube TradePort** (incl. Cargo Terminal, Dube TradeZone, Dube AgriZone, Dube City)	designated	3,800.0	2016
13	Limpopo	**Musina- Makhado** (incl. 2 sites)	Musina North (proposed)	Musina North (3,500.0)	
			Makhado South (designated)	Makhado South (8,000.0	2017
14	Limpopo	**Fetakgomo-Tubatse**	proposed	1,220.0	
15	Mpumalanga	**Nkomazi**	designated	155.0	2019
16	North West	**Bojanala**	proposed	1,175.0	
17	Northern Cape	**Namakwa**	designated	1,270.0	2024
18	Northern Cape	**Upington**	proposed	400.0	
19	Western Cape	**Saldanha Bay**	designated	356.1	2013
20	Western Cape	**Atlantis**	designated	118.6	2018

Table 1– *SEZs in South Africa.*

Source: Authors' elaboration on DTIC (2021; 2024), regulatory acts, zone reports and other online sources.

The spread of SEZs prior to the enactment of the new regulatory framework was fairly sporadic, but following the introduction of the SEZ Act, a certain continuity was observed. The SEZs adopt differentiated approaches based on the combined use of various industrial focuses, aiming to leverage the specific territorial advantages associated with the environments in which they are located. With the increase in the number and territorial spread of the programs, progressively larger SEZs, in terms of designated/proposed hectares, have emerged. Furthermore, although they are largely multi-activity zones, certain productions are more represented in some SEZs than others. For example, the Tshwane Automotive Special Economic Zone (TASEZ) is a specialized economic zone focused on the automotive sector. According to the DTIC (2024), in four years the area has hosted 10 operational investors, with an investment value of over 4 billion (in local currency) and 3,291 employees (Tab. 2).

	Q3 of the 2020/2021			Q1 of the 2024/2025		
Special Economic Zones	**Operational Investors**	**Investment value**	**Jobs created**	**Operational Investors**	**Investment value**	**Jobs created**
Coega	49	10,941	8,113	55	11,526	10,527
East London	33	4,177	2,075	40	5,825	4,418
Tshwane Automotive	0	0	0	10	4,850	3,291
Dube TradePort	43	2,079	3,794	55	3,010	5,159
Richards Bay	3	320	96	4	1,941	147
Maluti-a-Phofung	4	1,025	80	4	1,025	172
Atlantis	4	680	332	7	815	423
OR Tambo	1	257	1,200	2	359	2,734
Saldanha Bay	6	120	57	16	268	107
Total	143	19,598	15,747	193	29,619	26,978

Table 2– *Operational SEZs performance (Investment Values in millions of Rand).*

Source: Authors' elaboration on DTIC (2021; 2024).

The mission of TASEZ is to scale investment destinations in the global automotive sector and, in parallel, increase local production capacities. The City of Tshwane represents 28.4% of the provincial economy, but it simultaneously experiences high levels of inequality (GPG, 2021). COEGA SEZ, designed on 9,003 Ha, is operated by the Coega Development Corporation (CDC), a public entity wholly owned by the Eastern Cape Province, established in 1999 (CDC, 2023). The zone is multi-sector, organized into 14 areas following a supply chain logic to maximize the economies of localization. It includes the maritime port of Port of Ngqura which became operational in 2009 as a container transshipment hub with deep-water berths. COEGA

SEZ has achieved greater static benefits compared to other zones in the country. Recent estimates (Stats SA, 2024a) report 6,079 direct jobs created by June 2023 (58.4% of which are in manufacturing), in addition to 2,489 jobs through labor intermediation (81.2% of which are in manufacturing). The Nelson Mandela Bay Logistics Park, managed by the CDC, hosts further logistical functions for the automotive manufacturing industry.

The distribution of SEZs reflects a more spatially distributed approach at the national level compared to the original IDZs. The map (Fig. 1) shows the exact location of SEZs in each province. The contribution of each province to national economic production, expressed in GDP with the most recent available data (Stats SA, 2023a), is depicted by varying color gradients. SEZ initiatives are currently favored in all 9 provinces, although some are still categorized as proposals. SEZs are designated and proposed both in leading provinces and in those contributing less to national GDP. The leading provinces include Western Cape (13.9%), KwaZulu-Natal (15.9%), and Gauteng (33.1%), while the remaining regions have a lower incidence, with their contribution to the national output being below 10%. In all cases, the programs align within provincial and local strategies that, with varying intensity, work to promote regional development and stimulate economic growth.

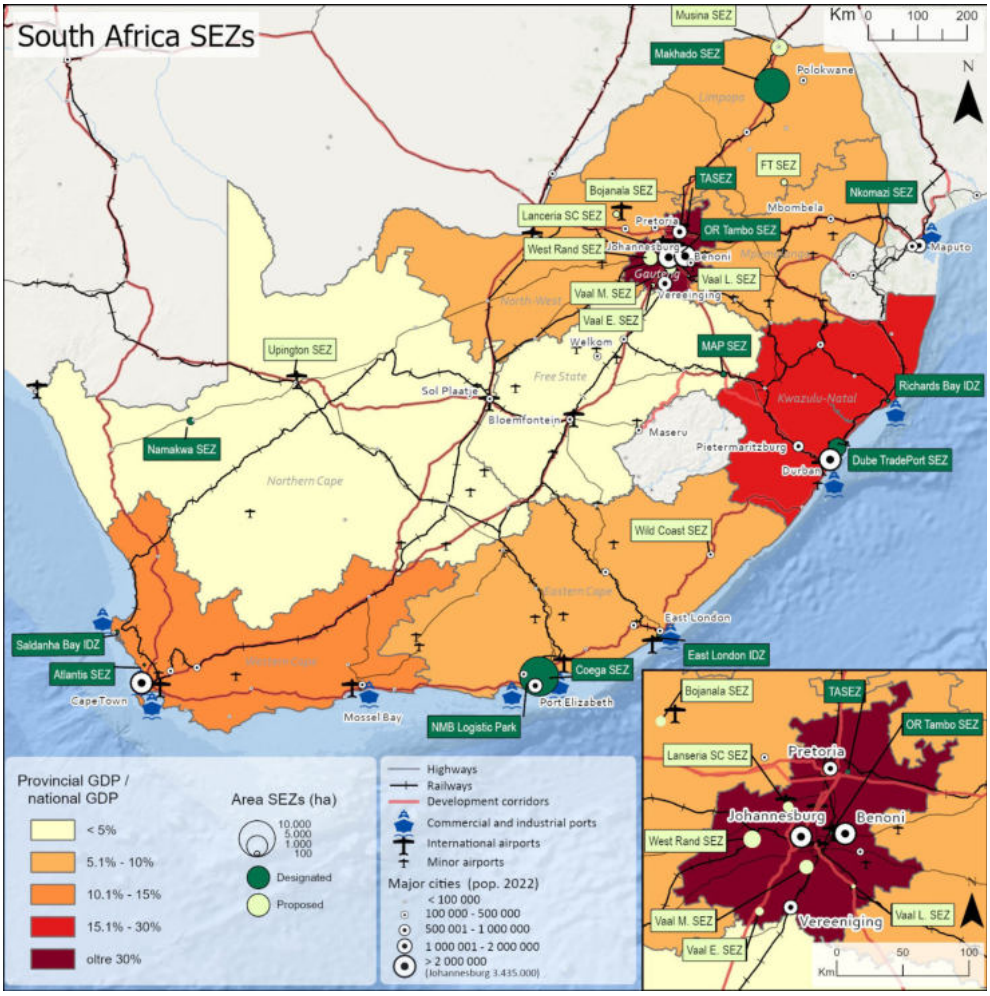

Figure 1 – *SEZs spatial diffusion*.

Source: Authors' elaboration based on Stats SA (2023a) – GDP contribution by province (2022, %); ESRI database – Administrative boundaries and airport classification; Thorn *et al*. (2022) – Development corridors; www.naturalearthdata.com – Population (2022), cities, railways, highways, port classification.

The leading provinces, with the highest population share (Western Cape 12.0%; KwaZulu-Natal 20.0%; Gauteng 24.3%), also exhibit the highest concentration of manufacturing employment in the national total in 2021 (Western Cape 18.1%; KwaZulu-Natal 18.9%; Gauteng 43.3%) (*Ibid*., 2023b). Additionally, they are the major contributors to financial and business services (*Ibid*., 2024b). These provinces host SEZs generally planned to capture specific locational

advantages related to the presence of port infrastructure (Richards Bay, Saldanha Bay) and airport infrastructure (Or Tambo SEZ, Dube TradePort). A notable example is the Richards Bay SEZ, located in the local municipality of uMhlathuze, which represents a major industrial hub and transport node in South Africa. Strategically connected to the port of Richards Bay, the main export hub for coal and raw materials, it also benefits from proximity to the N2 trade corridor, essential for freight transportation and access to regional markets (DPME, 2019). Other SEZs benefit from their proximity to metropolitan areas, along with associated infrastructure and services. Atlantis City, within the Cape Town metropolitan area, originated as a growth point during the Apartheid years. Subsequently, it has been the subject of industrial and employment revitalization initiatives. Today, it hosts the Atlantis SEZ, a green-tech hub based on the concept of an "eco-industrial park" and an incubator supporting local MSMEs (UNCTAD, 2021). The zone is developed by the Atlantis SEZ Company whose shareholders include the provincial government and the City of Cape Town. The park is connected to the West Coast Road Corridor and the ports of Saldanha Bay and Cape Town.

In Mpumalanga, Limpopo, North West and Northern Cape, the local economy is strongly linked to the mining industry, which accounts for up to 30% of the provincial value-added (Stats SA, 2023a). Most of the proposed SEZs aim to leverage local natural resources, mining and agricultural resources. Examples of such SEZs include the Namakwa SEZ (mining and energy industries), the Bojanala SEZ (mining and mineral processing, agro-processing, renewable energy) and the Fetakgomo-Tubatse SEZ (mineral beneficiation, renewable energy, agro-processing, support for local PGM producers) (NDM, 2021).

Table 3 presents the distribution of SEZs by municipality type. As shown in the table, the locational positioning of the SEZs involves municipalities of varying ranks.

Special Economic Zone	Province	Municipal Pop.	Status	MIIF
Coega	Eastern Cape	1,190,496	2001	METRO
East London	Eastern Cape	975,255	2002	METRO
Wild Coast: Mthatha	Eastern Cape	476,558		B2
Maluti-a-Phofung	Free State	398,459	2017	B3
OR tambo SEZ	Gauteng	4,803,262	2002	METRO
Tshwane Automotive	Gauteng	4,040,315	2020	METRO
Lanseria Smart City	Gauteng	4,803,262		METRO
Vaal SEZ -Lesedi site	Gauteng	132,783		B3
West Rand - Rand West City	Gauteng	334,773		B2
West Rand - Merafong City	Gauteng	225476		B2
Vaal SEZ -Midvaal site	Gauteng	112,254		B2
Vaal SEZ -Emfuleni site	Gauteng	945,650		B1
Dube TradePort	KwaZulu-Natal	4,239,901	2016	METRO
Richards Bay	KwaZulu-Natal	412,075	2002	B1
Makhado (South site)	Limpopo	502,452	2017	B4
Fetakgomo-Tubatse	Limpopo	575,960		B4
Musina (North site)	Limpopo	130,899		B3
Nkomazi	Mpumalanga	591,928	2019	B4
Bojanala	North West	265,668		B4
Namakwa	Northen Cape	8,510	2024	B3
Upington	Northen Cape	125,744		B2
Atlantis	Western Cape	4,772,846	2018	METRO
Saldanha Bay	Western Cape	154,635	2013	B2

Table 3 – *SEZs by type of local municipalities by MIIF classification (prime IDZs in gray areas).*

Source: Authors' elaboration on Stat SA (2022).

Some SEZs derived from the IDZs have been located in higher-ranked municipalities, primarily coastal ones (COEGA SEZ and East London). The Richards Bay SEZ is located in a B1-ranked city. Other SEZs, such as Dube Trade Port, Atlantis and Saldanha Bay, are situated in coastal units and have the potential to promote economic redistribution inland due to their strategic location.

More recent initiatives concern SEZs located in rural municipalities, far from the major urban centers. These SEZs aim to "*bring jobs to the people*" (CSP, 2018). Some are border-SEZs, such as Musina-Makhado, located at

the border with Zimbabwe to leverage the advantages of the North-South Corridor, and the Nkomazi SEZ, which targets the Port of Maputo as an outlet for export-led investments, particularly in the mining and energy industries of Mpumalanga. Some SEZs also focus on light industries, with a particular emphasis on agro-processing and manufacturing transformation.

Provinces and local governments integrate SEZs into broader infrastructure and socio-economic policies, aiming to diversify production and reorganize spatial arrangements at the local level. The Dube TradePort serves as the center for economic and residential planning in the northern area of eThekwini and is the base for the Durban Aerotropolis, the first such project in Africa. Located near the King Shaka International Airport the aerotropolis will span 32,000 Ha, with the goal of attracting both public and private investments. The Gauteng City-Region (GCR) is a proposal for a functional region composed of cities, towns, and urban nodes. The GCR is implemented through development corridors that extend in all directions, supported by public and private investments. The SEZs contribute to the economic integration of the GCR along these corridors, with the aim of transforming it "into a single, multitier and integrated SEZ" (GPG, 2020; 2021). The corridors operate at a trans-provincial level, connecting Gauteng to neighboring territories to catalyze their industrialization, also supported by inter-provincial planning mechanisms.

5. Commentary and concluding reflections

South Africa is attempting to rebalance the economic and urban space inherited from apartheid in 1994. To this end, the SEZs are interpreted within a clear multi-objective vision specifically aimed at recalibrating space with a focus on territorial equity. Consequently, the SEZs are considered central to promoting the creation of a regionally diversified industrial economy (DTI, 2010). This approach is anchored in initiatives that work together to overcome infrastructural inefficiencies and equip the territory with the basic resources necessary to activate development processes. The link between infrastructure and industrial policies is emphasized by the pillars of the *Local Economic Development* (LED) for the period 2018-2028. Municipalities are encouraged to incorporate initiatives such as SEZs, industrial parks, and other actions into their LED strategies to promote local productive capacities (DCoG, 2018).

SEZs are assigned a catalytic role in stimulating direct investment, developing an industrial base, and achieving the indirect benefits associated with them. The program is related to specific regional development goals according to a logic of territorial rebalancing to be achieved through a reconfiguration of the national industrial asset. Moreover, provincial and local governments are involved to support industrialization in less developed areas. Territorial rebalancing is a joint effort by all administrative levels (DTI, 2012; Nel & Rogerson, 2014; Farole & Sharp, 2017; Todes & Turok, 2018; DTIC, 2024).

The creation of SEZs designed in a coherent manner with respect to the context reduces the risk that the zones may over time transform into completely disconnected enclaves. Locally rooted zones, because they are connected to the territory through bidirectional relationships and supported by frameworks for strategic territorial planning, are more likely to achieve greater impacts. At the same time, the extension of the geography of eligible territories can lead to very heterogeneous SEZ impacts. According to Todes and Turok (2018), this could be observed in areas with lower absorption capacity. In rural areas and regions that contribute less to the national product, in the absence of interventions in the broader context and with lower administrative capacity, the programs may not achieve the expected benefits from embedding SEZs into the local economy. For this reason, the idea of concentrating the program's resources to attract labor-intensive industries to urban areas, focusing on external economies and specialization, has been supported (CSP, 2018). Farole and Sharp (2017) argue that SEZs have been more successful when located in leading areas and cities, while they have proven ineffective in reducing regional inequalities or fostering development in lagging areas. Overall, South Africa's SEZs have yielded mixed results. Makgetla (2021) observes that the funds allocated have not translated into rapid growth in manufacturing value-added or employment. COEGA SEZ is undoubtedly the most successful, though it is still in a development phase (Zeng, 2022). Compared to other zones, COEGA SEZ has stood out for its ability to attract higher levels of investment. According to UNCTAD (2021), 40% of foreign enterprises invest in COEGA to serve the regional market, while 60% aim for the local market. Furthermore, the SEZ has developed strong links with the local firms: Rodríguez-Pose *et al*. (2022) note that, between 2015 and 2020, the procurement rate from local SMEs reached 35%, nearing the corporate target of 40%. This outcome is attributed to the direct involvement of the CDC in initiatives supporting SMEs (UNCTAD, 2021).

The integration of SEZs into multi-level strategies is crucial for balancing urban expansion with the development capacity of peripheral and rural areas. SEZ policy cannot be detached from a broader approach to territorial strategic planning. This is necessary so that the spatial rebalancing goals conveyed by SEZs are not weakened by the territorial impacts of other sectoral policies. Integrated policies and effective institutional coordination are essential to enhance the attractiveness and local embeddedness of SEZs. This approach optimizes synergies in key sectors such as transportation, infrastructure, energy, essential services, and human capital development. Although the law does not mandate a direct and binding relationship between SEZs and local administrations, in practice, collaboration is often necessary to ensure their success. According to Farole and Sharp (2017), the lack of clear institutional coordination mechanisms between the various actors has, in some cases, led to a misalignment between general plans and territorial plans, preventing the effective embeddedness of SEZs into the economy. The GCR represents a particularly interesting model, an integrated approach that combines SEZs with infrastructure and socio-economic policies to diversify the production fabric and recalibrate spatial organization, although coordination between the various levels of planning remains a significant challenge (Ebrahim & Everatt, 2023).

It should be noted that it remains complex to determine the outcomes of the zones in terms of their actual impacts on the development of peripheral territories. In general, the relationship between SEZs and peripheral areas, in terms of the capacity of SEZs to trigger broad, self-reinforcing and expansive processes, remains quite controversial in the literature. The existence of infrastructure alongside geographical location and/or the presence of agglomerative structures are key local determinants for SEZs to achieve better outcomes. Conversely, weak territorial endowments could hinder the entry of new businesses, neutralize potential diffusion effects, or compromise the embedding of the zone into the territory, risking the creation of economic enclaves. From a complementary approach with broader territorial development strategies, SEZs can help overcome institutional and market deficiencies in less developed areas and accelerate the competitiveness of the local production system. However, in such contexts, the zones may require more time to catalyze territorial effects. In some cases, SEZs may not even be the best feasible option. In the case of South Africa, it can be assumed that the establishment of zones in provinces with the lowest GDP contribution and in rural municipalities will require more analytical evaluations to understand the potential medium- and long-term impact on territorial transformation. Evaluations, based on accessible territorial

and zonal data, will certainly enrich the analytical framework provided.

It is clear that this policy also has an explicit geopolitical rationale. In this context, attention is drawn to South Africa's position within the geo-economic block of the BRICS, its role as a hub for mineral and natural resources, and its strategic location provided by the long coastline and the shipping route passing through the Cape of Good Hope, serving as a springboard to expand the reach of internal trade towards Africa.

References

Aggarwal, A, 2019, "SEZs and economic transformation: towards a developmental approach", *Transnational Corporations*", 26, 2, 27-48.

Appiah-Kubi, M. A., Gyambibi, F. A., 2025, "City size distribution of African countries: A spatial analysis using geospatial data", *Cities*, 160, 105808.

Baissac, C., 2010 February, *SEZs for South Africa: Final* [Report commissioned by the Center for Development and Enterprise]. Center for Development and Enterprise. www.cde.org.za.

Bencardino, M., Esposito, V., 2020, Tanger MED SEZs: A Logistic and Industrial Hub in the Western Mediterranean. In: Gervasi, O., *et al.* (Eds.), *Computational Science and its Applications – ICCSA 2020*. Lecture Notes in Computer Science, 12255, 46. Springer, Cham.

Brown, D., 2024, "Emerging African towns are critical urban planning priorities: A research agenda for the sub-continent", *Cities*, 154, 105347.

CDC, 2023, *Integrated Annual Report 2023*, Coega Development Corporation, Nelson Mandela Bay Municipality.

CSP, 2018, *Managing Urbanisation to Achieve Inclusive Growth. A review of trends in South African urbanisation and suggestions for improved management of urbanization*, Cities Support Programme, Pretoria.

Department of Cooperative Governance (DCoG), 2016, *Integrated urban development framework*, Department of Cooperative Governance and Traditional Affairs, Pretoria.

Department of Cooperative Governance (DCoG), 2018*, The National Framework for Local Economic Development: Creating Innovation-driven Local Economies 2018-2028*, South Africa.

Department of Planning, Monitoring and Evaluation (DPME), 2019, *National Spatial Development Framework (Draft)*, Government of South Africa, Pretoria. Available at: https://www.gov.za/documents/other/national-spatial-development-framework-draft-30-apr-2019. Accessed: November 2024.

DPLG, 2006, *National Framework for Local Economic Development (LED) in South Africa (2016-2011)*, Department Provincial and Local Government, Pretoria. Available at: https://www.cogta.gov.za/led/wp-content/

uploads/2013/07/National-LED-Framework.pdf. Accessed: October 2024.

DTI, 2010, *Industrial Policy Action Plan (IPAP) 2012/2013 – 2014/2015*, Department of Trade and Industry, Pretoria

DTI, 2012, *Policy on the development of special economic zones in South Africa (2012)*, Department Trade and Industry SA, Pretoria. Available at: https://www.thedtic.gov.za/wp-content/uploads/Policy_SEZ.pdf. Accessed: September 2024.

DTI, 2014, *Special Economic Zones Tax Incentive Guide*, Department of Trade, Industry and Competition, Pretoria.

DTI, 2018, *Special Economic Zones Advisory Board: Annual Report 2017/2018*, Department of Trade and Industry, Pretoria.

DTIC, 2021, *Portfolio Committee on Trade and Industry: Special Economic Zones Programme. Progress on the implementation*, Department of Trade, Industry and Competition, Pretoria. Available at: https://www.thedtic.gov.za/wp-content/uploads/SEZ_Implementation.pdf. Accessed: October 2024.

DTIC, 2024, *the dtic Overview & Annual Performance Plan 2024/2025. Presentation to the Select Committee on Economic Development and Trade 17 July 2024*, Department of Trade, Industry and Competition, Pretoria. Available at: https://static.pmg.org.za/240717_-_the_dtic_APP_Presentation.pdf. Accessed: October 2024.

Ebrahim, Z., Everatt, D., 2023, "Politics, Planning and the Future of the Gauteng City-Region", *Urbanisation*, 8,1, 22-40.

Esposito, V., 2024, "Reflections on exploiting the potential of Special Economic Zones", *GeoProgress Journal*, 11, 33-47.

Esposito, V., Bencardino, M., 2024, Special Economic Zones in Egitto: Un caso studio. In: Messina, G., Nicosia, E., Porto C.M (Eds.), *Oltre la globalizzazione – Sud/South*. Memorie geografiche NS 26, Società di Studi Geografici, Firenze, 189-195

Fair, T. J., 1975, "The National Physical Development Plan (NPDP): a summary and a review", *South African geographical journal*, 57, 2, 126-134.

Farole, T., 2011, *Special economic zones in Africa: comparing performance and learning from global experiences*, World Bank Publications, Washington, D.C.

Farole, T., Sharp, M., 2017, "Spatial industrial policy, special economic zones and cities in South Africa", *Unpublished manuscript. Washington: World Bank*.

Fox, S., Goodfellow, T., 2022, "On the conditions of 'late urbanization'", *Urban Studies*, 59, 10, 1959-1980.

Frick, S. A., Radouane, I, 2024, "Special economic zones and entrepreneurship: A new path forward for SEZs in Africa?", *Transnational Corporations Journal*, 31,1, 97-114.

GPG, 2020, *Growing Gauteng Together: Vision, Priorities and Action Plans of the Gauteng City Regions 2019 to 2030*. Gauteng Provincial Government of South Africa, Johannesburg.

GPG, 2021, *Implementing the District Development Model in Gauteng. Building the Gauteng Ciy-Region*, Volume 1, Gauteng Provincial Government, Johannesburg.

Hall, P.V., 1999, *Regional institutional structure and industrial strategy: Richards Bay and the Spatial Development Initiatives (Development and Poverty Research Unit Working Paper 99/028)*. University of Cape Town, Faculty of Commerce, Development Policy Research Unit (DPRU). Available at: http://hdl.handle.net/11427/7243. Accessed: November 2024.

Henderson, J. V., Kriticos, S., 2018, "The development of the African system of cities", *Annual Review of Economics*, 10, 1, 287-314.

Huang, D., Wang, Y., Zheng, L., 2024, "Is the special economic zone an effective policy tool for promoting polycentricity? Evidence from China", *Journal of Geographical Sciences*, 34, 11, 2166-2192.

Jourdan, P., 1998, "Spatial development initiatives (SDIs)-the official view", *Development Southern Africa*, 15, 5, 717-725.

Kemajou, A., Konou, A. A., Jaligot, R., Chenal, J., 2020, "Analyzing four decades of literature on urban planning studies in Africa (1980–2020)", *African Geographical Review*, 40,4, 425-443.

Korah, A., Koch, J. A., Wimberly, M. C., 2024, "Understanding urban growth modeling in Africa: Dynamics, drivers, and challenges", *Cities*, 146, 104734.

Lewis, D., Bloch, R., 1998, "SDIs: Infrastructure, agglomeration and the region in industrial policy", *Development Southern Africa*, 155, 7, 27-755.

Makgetla, N., 2021, "Learning from experience: Special Economic Zones in Southern Africa" (WIDER Working Paper 2021/124), UNU-WIDER, Helsinki.

McCallum, J., K., 2011, *Export processing zones: comparative data from China, Honduras, Nicaragua and South Africa* (Working Paper No. 21), International Labour Office, Geneva.

Narula, R., Zhan, J., 2019, "Using special economic zones to facilitate development: policy implications", *Transnational Corporations Journal*, *26*, 2.

NDM, 2021, *Integrated Development Plan. Summary 2022 – 2027*, Namakwa District Municipality.

Nel, E. L., Rogerson, C. M., 2014, "Re-spatializing development: Reflections from South Africa's recent re-engagement with planning for special economic zones", *Urbani izziv*, 25, S24-S35.

Nel, E.L., Rogerson, C.M., 2013, "Special Economic Zones in South Africa: Reflections from International Debates", *Urban Forum*, 24, 205-217.

OECD *et al*., 2025, *Africa's Urbanisation Dynamics 2025: Planning for Urban Expansion*, West African Studies, OECD Publishing, Paris.

OECD/UN, ECA/AfDB, 2022, *Africa's Urbanisation Dynamics 2022: The Economic Power of Africa's Cities*, West African Studies, OECD Publishing, Paris.

Oranje, M., Merrifield, A., 2010, "National spatial development planning in South Africa 1930-2010: An introductory comparative analysis", *Town and regional Planning*, 56, 29-45.

Pasta, G, 1983, "Alcuni aspetti dell'Apartheid in Sudafrica", *Bollettino della Società Geografica Italiana*, 681-727.

Pigliucci, M., 2019, *Le Zone Economiche Speciali nel Mezzogiorno d'Italia*, Edizioni Nuova Cultura, Roma.

Robbins, G., 2024, "A tale of no cities? The neglect of cities in South Africa's post-apartheid national economic policies", *Area Development and Policy*, 10, 1, 63-83.

Rodríguez-Pose, A., Bartalucci, F., Frick, S. A., Santos-Paulino, A. U., Bolwijn, R., 2022, "The challenge of developing special economic zones in

Africa: Evidence and lessons learnt", *Regional Science Policy & Practice*, 14, 2, 456-482.

Rodríguez-Pose, A., Wilkie, C., 2019, "Strategies of gain and strategies of waste: What determines the success of development intervention?.", *Progress in Planning*, 133, 100423.

Rogerson, C. M., Nel, E., 2016, "Planning for local economic development in spaces of despair: Key trends in South Africa's 'distressed areas'", *Local Economy*, 31,1-2, 124-141.

RSA (Republic of South Africa), Act No. 16 of 2014: Special Economic Zones Act (2014), *Government Gazette*, Vol. 587, No. 37664, Cape Town.

Sequeira, S., Hartmann, O., Kunaka, C., 2014, *Reviving Trade Routes: Evidence from the Maputo Corridor*, Sub-Saharan Africa Transport Policy Program (SSATP), Discussion paper no. 14, World Bank, Washington, DC.

Stats SA, 2022, *Census 2022. Provinces at a glance*, Department Statistics South Africa, Pretoria.

Stats SA, 2023a, *Provincial gross domestic product: experimental estimates, 2013–2022*, Discussion Document D0441.1., Department Statistics South Africa, Pretoria.

Stats SA, 2023b, *Manufacturing industry: Financial, 2021*, Department Statistics South Africa, Pretoria.

Stats SA, 2024a, *Coega Special Economic Zone, 2023*, Report No. 00-30-02 (2023), Department Statistics South Africa, Pretoria.

Stats SA, 2024b, *Provincial gross domestic product 2023*, Statistical Release P0441.2, Department Statistics South Africa, Pretoria.

Thorn, J., P., Bignoli, D., J., Mwangi, B., Marchant, R., A., 2022, "The African Development Corridors Database: a new tool to assess the impacts of infrastructure investments", *Scientific data*, 9, 1, 679.

Todes, A., Turok, I., 2018, "Spatial inequalities and policies in South Africa: Place-based or people-centred?." *Progress in Planning*, 123, 1-31.

Turok, I., Visagie, J., 2025, "Striking disparities in employment across South Africa: Evidence from a new spatial database", *Development Southern Africa*, 42, 3, 383-396

UNCTAD, 2021, *Handbook on special economic zones in Africa: Towards Economic Diversification across the Continent*, United Nations Conference on Trade and Development, Geneva.

UNECA, 2022, *Cities: Gateways for Africa's Regional Economic Integration*, United Nations Economic Commission for Africa, Ethiopia.

UNIDO, AEZO, 2024, *Characteristics, trends, and way forward for Special Economic Zones in Africa. Insights from a UNIDO-AEZO Survey*, United Nations Industrial Development Organization, Africa Economic Zones Organization, Vienna.

Visagie, J., Turok, I., 2020, "Getting urban density to work in informal settlements in Africa", *Environment & Urbanization*, 32,2, 351-370.

Wei, Y. D., 2015, "Spatiality of regional inequality", *Applied Geography*, 61, 1-10.

Wellings, P., Black, A., 1986, "Industrial decentralisation in South Africa: tool of Apartheid or spontaneous restructuring?", *GeoJournal*, 12, 137-149.

World Bank, 2018, *Overcoming Poverty and Inequality in South Africa: An Assessment of Drivers, Constraints and Opportunities*, World Bank Group, Washington, D.C.

Xu, J., Wang, X, 2020, "Reversing uncontrolled and unprofitable urban expansion in Africa through special economic zones: an evaluation of Ethiopian and Zambian cases", *Sustainability*,12, 21, 9246.

Zeng, D., Z., 2022, "What Determines the Heterogeneous Performance of Special Economic Zones? Evidence from Sub-Sahara Africa", *Global Policy*, 13, 4, 495-506.

Zheng, L., Pan, F., 2024, "Does place-based policy increase new firm births? Evidence from special economic zones in China", *Applied Geography*, 168, 103303.

Zimmer, A., Guido, Z., Tuholske, C., Pakalniskis, A., Lopus, S., Caylor, K., Evans, T., 2020, "Dynamics of population growth in secondary cities across southern Africa", *Landscape Ecology*, 35, 2501-2516.

Web references

Esri, https://www.arcgis.com/home/.Accessed: October 2024.

Natural Earth, https://www.naturalearthdata.com/. Accessed: October 2024.

8. Special Economic Zones as a tool for relaunching marginal territories: the sicilian case study

Gianni Petino[1]

Abstract

The paper aims to explore the concept of Special Economic Zones as a tool for the participatory management of territorial resources, analyzing in this context their key role in addressing the issue of socio-economic marginalization that affects a part of the Italian territory. The main objective of the research is to understand how the SEZs can facilitate the conservation and enhancement of the economic system, promoting at the same time the sustainable development of local communities and territorial cohesion. The methodology is based on a review of the available literature on the concept of special economic zones, and their role in the management of territorial heritage, with particular reference to the Sicily region. The results of the research would tend to indicate that SEZs can act as a catalyst for management and enhancement, actively involving local communities in the conservation and enhancement of their territories.

Keywords

SEZs, territorial marginality, territorial cohesion, territorial development, Sicily

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1. Models of Special Economic Zones around the world: Best Practices, Critical Issues, and Limitations

Special Economic Zones (SEZs) are delimited geographic areas, usually near ports or airports, in which favorable tax, customs, and administrative regulations are applied, designed to attract foreign investment, foster industrialization, create new jobs, and accelerate economic growth (Zizzo, 2018; Pigliucci, 2019). Created to test innovative economic policies and facilitate the production of goods for export, SEZs are used by many countries to improve their international competitiveness. The idea of Special Economic Zones first took shape in the 1950s and 1960s, in countries such as Ireland and Puerto Rico, in order to address unemployment and improve the economy by attracting investments. However, the real success of SEZs came in the 1980s, with the Chinese case of Shenzhen being a striking example of accelerated economic development and urbanization due to the facilities offered to foreign investors.

The Chinese model is the best known and probably the most effective. SEZs in China, such as those in Shenzhen, Zhuhai, Shantou, and Xiamen, have been pioneering not only for China itself, but for all developing countries (Sabatino, 2020b). These zones have been the subject of a series of incentives, such as reduced business taxes, customs facilities, and a modern infrastructure. The strategy of opening up SEZs has enabled China to attract foreign direct investment (FDI) and promote rapid industrialization and urbanization (Galeota Lanza, 2019; Sabatino, 2020a).

In India, SEZs have become an important tool for promoting exports and industrialization. India has taken a slightly different approach from China, introducing SEZs in many regions, including the federated states of Tamil Nadu and Maharashtra. These zones have attracted investment in the IT, textile manufacturing, and electronic manufacturing sectors (Indian Ministry of Commerce and Industry, 2024). However, SEZs here have also encountered some difficulties, including bureaucracy and lack of adequate infrastructure.

In Latin America, SEZs have had a diverse impact. Countries such as Mexico have developed SEZs along the border with the United States, with the "maquiladoras" program intended to promote the production of goods for export to the U.S. market (Dorocki & Brzegowy, 2014). In Brazil, SEZs in

Manaus and Pecém have sought to promote economic growth in poorer regions, but have struggled to ensure lasting impact (Gomes da Conceição et al., 2024). In Africa, SEZs are seen as a tool to accelerate economic development and reduce dependence on primary sectors. Countries such as Kenya, Ethiopia, and Nigeria have introduced SEZs to attract investment in manufacturing and services. However, challenges related to lack of infrastructure and political stability have limited the results of SEZs in many parts of Africa (Rodríguez-Pose, 2022).

In general, the key drivers behind the global spread of SEZs can be summarized in the targeted tax and customs incentives with reduced rates or exemptions on certain taxes. Secondarily, the following play a role: the establishment of quality infrastructure, including efficient transportation, modern communications, and access to energy resources; bureaucratic simplification with the adoption of clear regulations and administrative facilitation; and finally, collaboration with foreign investors to transfer knowledge and technology (Pigliucci, 2019).

However, SEZs also have some critical issues. Job creation in these areas is often limited to low-skill, low-wage occupations, which can lead to exploitative situations and economic inequality (Klein, 2001). Some areas have also not seen the hoped-for benefits due to corruption, bureaucracy, or lack of an appropriate infrastructure and regulatory environment. SEZs can also foster an economic model that is dependent on foreign countries and vulnerable to global economic crises.

In fact, one of the main limitations of SEZs is their dependence on foreign direct investment (FDI), since they attract international firms with tax incentives, customs facilities, and favorable regulations, which often make them attractive in comparison with territories with less competitive tax and regulatory regulations. However, this incentive-based model can generate dependence on foreign investors, making the SEZ economy vulnerable to disinvestment decisions, global economic volatility, and increasing international competition. This economic vulnerability is particularly evident when firms operating in SEZs are not integrated with the local economy, thus limiting the transfer of knowledge and technology to domestic firms. In such cases, SEZs risk becoming mere "economic enclaves", isolated from the national economic fabric and highly dependent on international capital flows, which can fail in times of economic crisis or due to changes in global trade policies.

As mentioned, another major critical issue is the quality of jobs created within

SEZs. Many of these jobs are in manufacturing or assembly sectors, which tend to offer lower wages and less favorable working conditions than jobs in other industries or in high value-added services. The attraction of firms with the goal of maximizing cost competitiveness often leads to compromises in the quality of working conditions, with limited protection of workers' rights, low wages, and sometimes the absence of unions. The International Labor Organization (ILO) has documented cases of labor exploitation in some SEZs, especially in developing countries, where workers have little access to union representation and forms of protection. The risk is that SEZs become areas where foreign capital can operate under "social dumping", that is, benefiting from lower working conditions and wages than in the rest of the country, thus creating unfair competition that penalizes local workers (Berlinguer, 2024).

Many SEZs aim to promote industrialization and production, often without adequate consideration of the environmental impacts these activities may have (Lopes, 2023). The need to attract foreign investors often leads governments to limit environmental regulations or grant special exemptions within SEZs, with the risk of environmental damage and unregulated pollution (ISPI, 2021). In some cases, SEZs have turned into highly polluting industrial zones, affecting air, water and soil quality, thus compromising public health and biodiversity in the surrounding areas (Verhoef & Nijkamp, 2002). The problem of pollution in SEZs is particularly severe in developing countries, where environmental regulations are often weak or poorly enforced. This has led to toxic waste accumulation, groundwater pollution, and degradation of natural resources, especially in agricultural regions that depend on clean water resources for their livelihoods (Wang & Nie, 2016). The lack of strict environmental control not only puts the ecosystem at risk, but can also undermine the quality of life of local communities, which often oppose the presence of SEZs because of the negative impacts on the area.

SEZs tend to be established in specific geographic areas, often near strategic ports or airports, and as a result do not always contribute to balanced economic growth throughout the country. This creates significant regional disparities, with areas characterized by high levels of investment, advanced infrastructure, and job opportunities, while other regions remain marginalized and neglected. This lack of balance can amplify social and economic inequalities, encouraging the concentration of wealth in some regions and increasing poverty in others. In addition, the creation of SEZs often leads to tensions among local populations, who may perceive the facilities granted to investors as a form

of economic privilege. This is especially true when SEZs are developed on agricultural land or in traditionally inhabited areas, forcing residents to relocate or give up resources they use for their livelihoods (Kumar, 2014). The absence of open and inclusive dialogue with local communities can create discontent and social conflicts that limit the success of the SEZ itself.

The long-term sustainability of SEZs thus depends on their ability to generate economic and social benefits that justify their initial fiscal costs, a balance that is not always easy to achieve. In many countries, SEZs have produced short-term benefits, such as job creation and increased exports, but the long-term effects are less clear.

2. What's going on in Italy?

Also on Italian national territory, Special Economic Zones are an economic policy tool designed to promote the development of areas with economic difficulties and to attract strategic investment. In Italy, SEZs were recently introduced with the aim of revitalizing southern regions and reducing the economic and infrastructure gap with northern regions. The idea was born following the success of SEZs in other countries, particularly China, where these areas have contributed significantly to economic growth. The Italian SEZs were designed primarily for southern Italy, an area that has historically experienced lower economic development than the North and continues to suffer from infrastructure deficiencies, high unemployment rates, and limited attractiveness for foreign investment.

Decree Law No. 91 of 2017, also known as the "Mezzogiorno Decree", introduced SEZs in the Mezzogiorno, that is, the southern part of Italy, defining target areas and outlining the first incentive measures. SEZs were conceived here as well-defined areas, often linked to strategic infrastructure such as ports and airports, to encourage the development of industrial, logistics, and research activities, offering a range of incentives to companies that decide to set up in these areas. Also in Italy, the main incentives include tax breaks (income tax reductions, exemptions, and tax credits for investments) and administrative simplifications in order to facilitate the start-up of new businesses; in fact, companies setting up in SEZs enjoy reduced bureaucracy and faster

procedures. Again, access to development funds is made possible, allowing companies to benefit from non-repayable grants and subsidized funds to invest in innovation and infrastructure. SEZs are designed in cooperation with local governments, chambers of commerce, and trade associations, with the aim of ensuring that investments are tailored to the specific needs of the area.

As anticipated, Italy's SEZs were created in the regions of southern Italy, particularly Campania, Apulia, Calabria, Sicily, Basilicata, Abruzzo, Molise, and Sardinia; each SEZ is composed of a set of interconnected areas that include ports, airports, industrial zones, and back-port areas, in order to ensure proximity to major logistics nodes and facilitate the transportation of goods. Among the most important are: the Adriatic SEZ, which includes port and industrial areas of Apulia and Molise, with the aim of strengthening the region's competitiveness in the manufacturing and agri-food sectors; the Ionian SEZ, which includes the Taranto port area and other areas of Basilicata, with a strong vocation for the energy and petrochemical sectors; and finally, the Campania SEZ, one of the most developed SEZs, located around the port of Naples and other industrial areas, with a focus on logistics and international trade. The aim of these and other Italian SEZs is mainly to exploit the strategic position of the South of Italy in the Mediterranean and facilitate the integration of local economies into major international trade flows.

Despite their potential, Italian SEZs also have some critical issues that limit their effectiveness. These can certainly include the complex bureaucratic machinery and administrative inefficiency, despite the fact that SEZs were created with the aim of offering bureaucratic simplifications. There is also a lack of modern infrastructure, as many areas in the South suffer from a chronic infrastructure deficit, which limits their attractiveness. Finally, the risk of dependence on public funds and poor integration with the local economy should not be underestimated, with the danger that foreign firms established will not build ties with local companies, thus limiting the transfer of skills and technology.

2.1 The Single SEZ for the Mezzogiorno

The Single Special Economic Zone (SEZ) for the Mezzogiorno (low-growth lagging region) was established on January 1, 2024, by Decree-Law No. 124 of September 19, 2023, converted into Law No. 162 of November 13, 2023

(Gazzetta Ufficiale No. 268 of November 16, 2023); it includes the territories of the regions of Abruzzo, Basilicata, Calabria, Campania, Molise, Apulia, Sicily, and Sardinia. The Special Economic Zone is defined by law as a delimited area of the territory of the state, in which the exercise of economic and entrepreneurial activities, both by companies already operating in the relevant territories and those that will be established there, can benefit from special conditions, in relation to investments and business development activities.

The Single SEZ for the Mezzogiorno aims to provide an integrated and coherent approach to support economic development and growth in the targeted regions through administrative simplification (Single Authorization) and investment facilitation. The Single SEZ Strategic Plan is governed by Article 11 of Decree-Law No. 124 of September 19, 2023, coordinated with Conversion Law No. 162 of November 13, 2023. The Plan has a three-year duration and defines the development policy of the Single SEZ, also in coherence with the National Recovery and Resilience Plan (PNRR) and with national and regional programming of the European structural funds, as well as in compliance with the principles of environmental sustainability; it identifies, also in a diversified form for the regions that are part of it, the sectors to be promoted and those to be strengthened, the priority investments and interventions for the development of the Single SEZ, including those intended to encourage industrial reconversion aimed at energy transition, and the implementation methods. A specific section of the Plan is devoted to priority investments and interventions, necessary to remove, in accordance with the provisions of Article 119, sixth paragraph, of the Constitution, the disadvantages of insularity, in the regions of Sicily and Sardinia.

The Single SEZ Mission Structure is in charge of preparing the outline of the Strategic Plan, ensuring the full participation of the involved regions. Three representatives jointly designated by the Union of Italian Provinces and the National Association of Italian Municipalities also participate in the preparation of the Plan. The Plan is approved by Prime Ministerial Decree, at the proposal of the Minister for European Affairs, the South, Cohesion Policies, and the PNRR, in consultation with the Minister of Economy and Finance, the Minister of Infrastructure and Transport, the Minister of Business and Made in Italy, and the Minister for Civil Protection and Sea Policies, after receiving the opinion of the Steering Committee referred to in Article 10, paragraph 1.

3. What happened in Sicily?

Sicily is among the Italian regions benefiting from this tool, introduced with the aim of stimulating economic growth and reducing the gap with the most advanced regions of the country. SEZs in Sicily can represent a strategic opportunity to revitalize the island's economy and attract investment, in a context historically characterized by lower economic development than the rest of Italy and Europe.

Sicily is a region with a long history, a strategic geographic location, and rich cultural and natural resources, but at the same time it is plagued by structural problems that have hindered its full economic development. Despite its privileged location in the heart of the Mediterranean, Sicily has one of the lowest GDP per capita in Italy and high unemployment rates, especially among young people. The region's economic structure is dominated by traditional sectors such as agriculture and tourism, while the industrial and technological sectors are less developed than in other Italian regions.

The goal of introducing SEZs in Sicily was to stimulate new investment in strategic sectors, improve infrastructure, and create jobs. The potential is particularly significant due to its proximity to foreign markets, availability of commercial ports, and strategic location for Mediterranean logistics. In fact, the decision to create SEZs around the main ports of Southern Italy is part of a strategy aimed at enhancing the maritime economy, with the goal of compensating for both the geographical disadvantage compared to the rest of the continent and the significant infrastructural backwardness, which is a serious obstacle to competitiveness and requires urgent action (Pigliucci, 2019).

In Sicily, SEZs are designed to cover specific areas that include existing port, airport, and industrial areas, such as the port areas of Augusta, Catania, and Palermo, and retroport and industrial areas in other Sicilian cities. The subdivision of SEZs in Sicily includes: the Eastern Sicily SEZ, which includes the ports of Catania, and Augusta, and industrial areas in the province of Syracuse, with a focus on the logistics and energy sectors; and the Western Sicily SEZ, which includes the ports of Palermo, Termini Imerese, and Mazara del Vallo, with a focus on sectors related to agribusiness, the fishing industry, and logistics. The choice of these areas was based on logistics development criteria, because of

their proximity to the island's main ports, which play a key role in maritime trade, and to industrial areas that could benefit from increased investment (see fig. 1).

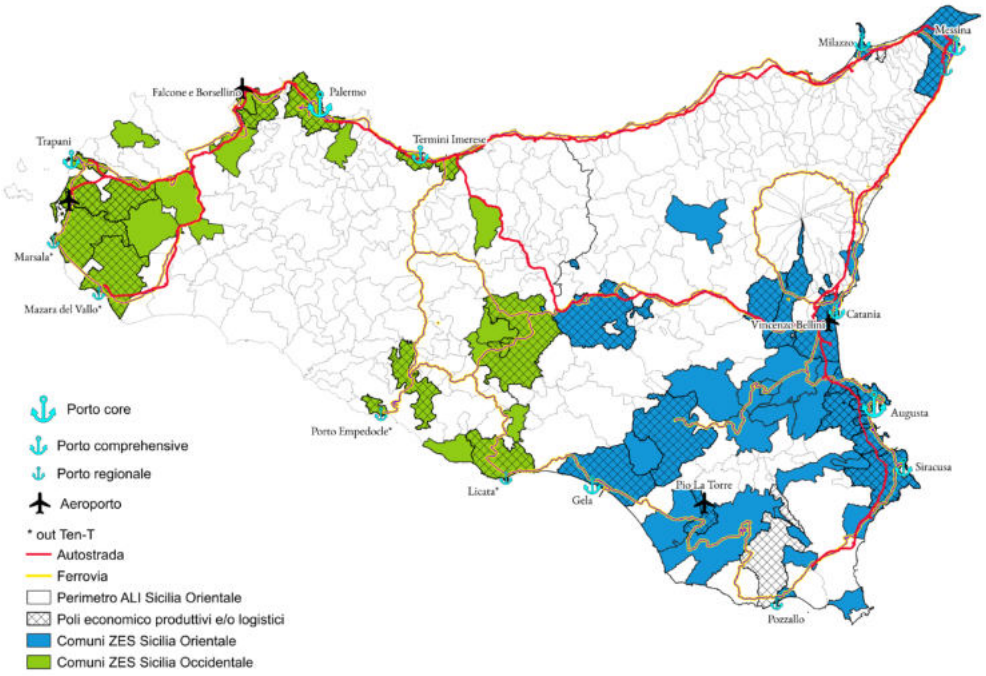


Fig. 1 – Identification of Special Economic Zones and facilities for land, air, and sea mobility.

Source: Scrofani *et al.*, 2021.

Sicily's SEZs, like all others, aim to attract investment in specific sectors that can enhance local resources and skills, as well as promote sustainable economic growth. The main investment sectors include logistics and transport, recalling that Sicily, due to its location in the Mediterranean, is a strategic point for maritime transport with the transit of goods to Europe and especially North Africa.

Sicily is renowned for the quality of its agricultural and food products, and, from this point of view, SEZs could offer incentives to develop processing plants and strengthen the agrifood chain, making local products more competitive in international markets (Petino, 2020). The energy sector is

also becoming a strategic factor, and in relation to the late industrialism that still tends to characterize the eastern area of the island, with the presence of industrial areas in Augusta, Milazzo, Gela, and Ragusa, it offers an opportunity to attract investment in the energy and petrochemical sectors, as well as in renewable energy, an increasingly strategic sector for the ecological transition (Petino, 2022). Finally, for the continuously developing sector that is tourism and culture, SEZs could play an important role in promoting investment in tourism infrastructure, improving accessibility and accommodation facilities, and fostering the enhancement of Sicily's cultural heritage and landscape.

Despite their development potential, Sicily's SEZs face several challenges that limit their effectiveness. The main critical issues include those related to infrastructure, the lack of which remains a major challenge for SEZs. Roads, railways, and logistics networks need modernization to enable more efficient movement of goods, especially to port areas. Despite planned administrative simplifications, complex bureaucracy and administrative inefficiency persist in many areas, which can slow down investment processes and discourage investors. Sicily also suffers from significant depopulation, especially of young people of working age, to other regions or countries in search of better job opportunities. This limits the availability of skilled human resources and poses a challenge for SEZs, which need a skilled workforce to support productive activities.

From the perspective of sustainability, it would be strategic to encourage investment in sustainable technologies and practices to avoid the negative environmental impact of industrial and manufacturing activities, strengthen cooperation with local institutions through technical tables, and work closely with local governments and businesses to ensure efficient management of SEZs and create an environment conducive to development and territorial cohesion.

4. Special economic zones as a tool for participatory management

Created to test innovative economic policies and facilitate the production of goods for export and improve competitiveness at the international level, SEZs have taken on increasingly articulated roles as a result of the critical issues that

have emerged since their activation and as a function of the diversification of the territories in which they have been, more recently, experimented (Pigliucci, 2019). Special Economic Zones are a powerful tool for economic development when implemented with criteria of efficiency, transparency, and sustainability. Just think of the success of China's SEZs, which provided a model that many countries have attempted to replicate with varying outcomes. Improving their practices, however, along with adaptation to local needs, seems to be the key to the success of SEZs in the future. SEZs represent a significant and innovative tool for participatory management of territorial resources, particularly in addressing socio-economic challenges such as marginality. In the Italian context, where some regions face deep economic and social disparities, SEZs offer a potential pathway to promote sustainable development, territorial cohesion, and empowerment of local communities (Jensen, 2018; Pigliucci, 2019).

The concept of Special Economic Zones has emerged worldwide as a policy tool aimed at stimulating economic activity through favorable regulations, tax incentives, and infrastructure development. However, their role goes beyond economic growth, encompassing participatory land-use management. In this regard, SEZs can be crucial in addressing socioeconomic marginality by fostering the involvement of local communities, ensuring equitable access to resources, and promoting inclusive growth. In this regard, the Italian experience with SEZs is particularly relevant given the persistent economic disparities between northern and southern regions. The south, including Sicily, has long struggled with problems such as unemployment, limited industrial development, and emigration. Focusing on the region of Sicily, we highlight how SEZs can serve as a platform for integrated development, taking advantage of the region's cultural and natural resources while addressing structural economic weaknesses.

The primary aim of this analysis was to understand how SEZs can facilitate the preservation and enhancement of the economic system in a way that aligns with the principles of sustainable development. Sustainable development, in this context, involves balancing economic growth with the conservation of environmental and cultural resources, ensuring that the benefits of development are equitably distributed among current and future generations. SEZs, thanks to their regulatory frameworks and incentives, have the potential to attract investments that prioritize sustainability, such as renewable energy projects, ecotourism initiatives, and green technologies. A key aspect of the SEZ

model is its ability to actively involve local communities in the management and enhancement of land resources. Community participation ensures that development strategies are tailored to local needs and aspirations, promoting a sense of ownership and responsibility. This participatory approach is essential for the preservation of territorial heritage, which includes not only physical assets such as historic sites and natural landscapes, but also intangible elements such as traditions, knowledge systems, and cultural practices. However, the success of SEZs depends on several critical factors, including effective governance, transparent policies, and strong collaboration with stakeholders. In order to ensure that SEZs fulfill their promise of participatory management, a concerted effort is needed from government agencies, private investors, and local communities. To maximize the impact of SEZs, challenges such as bureaucratic inefficiencies, lack of infrastructure, and social inequalities need to be addressed. While these are promising policies as a tool for participatory management of territorial resources, the importance of adapting them to local contexts (place-based), exploiting unique regional strengths, and addressing structural and especially territorial weaknesses should not be underestimated (Sharma, 2009; Pigliucci, 2019).

4.1 The Sicilian case study

As Pigliucci (2019) reminds us, despite the significant and growing delay in the use of public funds, the Sicilian Region was the last among the Italian regions with ports of European significance to prepare the Strategic Development Plan, a key step for the activation of the SEZs. To draft the plan, a specific regional steering committee (2018) was charged with the task of identifying and selecting areas for SEZs through specific guidelines. The selected areas include: sub-regional areas with significant development potential (see Fig. 1); and, of course, port and backport areas, including inland areas and Sites of National Interest (SNIs).

The choice of these areas brings into the picture some relevant issues related to the starting condition of these territories and the ability of local communities to "participate in choices" (Petino & Ruggiero, 2022). The structure of a territorial system is composed of several interacting layers, and the ways in which they overlap, how they interact, and how they are organized represent its evolutionary capacity and should also denote its competitive ability (Gelosi, 2004; Battaglini, 2014).

A territory in "good condition" is normally able to manage itself; that is, it is able to self-direct territorial development and at the same time give answers to the demands of the inhabitants, e.g., legitimate needs and rights of citizenship. This is especially true where the meshes are tighter, at the local scale, where the interconnections between the administered and the administrator are more "intimate", and where the socio-economic forces and the changes they bring, are evident and tangible (Gelosi, 2004).

To introduce the reasoning about the Sicilian region, a brief introduction of general context is in order for us. Indeed, it is possible to observe how, in the last fifty years, some Western geographic regions have been affected by processes of industrial decline and the expansion of other activities, which have led to significant economic and social transformations, as well as structural changes in space and landscape, from urban to productive areas (Lazzeroni & Grava, 2021). Significant examples include cities such as Bilbao and Glasgow or industrial regions such as the Ruhr, which are often considered paradigmatic cases. Through redevelopment initiatives supported by effective governance, these areas have successfully redefined their physical forms and restructured their economic and social systems (Mastronardi, 2019). In contrast, what is currently occurring in Sicily, and probably in other parts of southern Italy, represents a divergent trend. Here we observe, as previously mentioned, a phase of "late industrialism", characterized by alternating and contradictory signals, both in terms of the persistence of productive activities and the nature of territorial relations (Benadusi *et al*., 2021). What happens, however, is that when industry goes into crisis and wealth declines, resulting in rising unemployment – partly due to early but obvious signs of industrial disinvestment – the local economic system goes into crisis, making the exploration of potential alternatives quite crucial. As Magnaghi (2010) points out, these alternatives can be found in spatial resources, processes, and experiences that he calls "energies of contradiction". These are functional forces that make it possible to interrupt the previous idea of uniform and continuous spatial development. The opportunities, then, lie in the resources prior to industrialization, particularly in the rural vocation of the territory and its natural suitability for tourism activities. These can coexist with industry or even conflict with it, because of the negative impact of industrial activities on the region's historical, cultural, and environmental heritage.

This can be particularly true and noticeable in Sicily, a particularly complex territorial reality where some of its most modern and significant dimensions

have intensely experienced the conflict related to the spatial distribution between countryside, city, and industry. This process has generated polarizations, shifting political and economic interests from inland areas to the coasts, particularly to coastal cities, and to other urban centers where the tertiary sector and related decision-making power have redefined the main dynamics of development (Napoli & Petino, 2017; Petino, 2020). Analysis of the spatial configuration shows that, since the 1950s, a concentrated industrial polarization has developed in eastern Sicily, with particular emphasis in the southeast of the island. This phenomenon has altered the relationships between urban and industrial contexts, leading to significant consequences, such as increased risk to populations due to the proximity between industrial plants and residential areas on the edges of conurbations, in addition to negative environmental and health externalities.

Examining the main industrial poles in detail, we can observe a complex and significant history. An emblematic example is that of the petrochemical industries of Augusta, Melilli, and Priolo Gargallo, which produced major territorial transformations. The municipality of Priolo, for example, has experienced impressive urban sprawl, bringing housing right up to the industrial plants, and equally significant population growth, with the population doubling between the 1951 and 2011 censuses. Industrialization also had devastating effects, such as the disappearance of the seaside village of Marina di Melilli, which today is remembered only through fragments of painful memories that testify to the impact of transformations on the territory and its identity. As Benadusi (2017) reminds us, areas affected by the settlement of industrial poles after World War II have been classified as areas of high risk of environmental crisis. This began, albeit belatedly and without a conclusion, a season of environmental remediation as corrective interventions, often accompanied by the withdrawal of industries that left behind unresolved damage. This process required substantial public investment and, through the spatial instrument of Sites of National Interest (SNIs), exposed the many contradictions of industrial development as we know it. In 1990, the petrochemical cluster in the Gulf of Augusta (Melilli, Priolo Gargallo, and Syracuse) was declared "at risk of environmental crisis", and in 2000, the area between Syracuse and Augusta was classified as an SNI. In the case of Gela, as early as 1990 the disused industrial area was recognized as an SNI, while the remaining activities were reconverted into a bio-refinery. The city tried to outline a new vision of the future, less dependent on industry, as evidenced by the project carried out during the season of Integrated Territorial Projects: the

Gela district marked a paradigm shift, focusing on a multi-sectoral, self-sufficient, and sustainable development, summarized in its "strength idea".

Finally, we can say that the legacy of so-called big business, with its initial high rates of economic growth, wealth generated by thousands of jobs, and huge public investments, proves to be controversial. In fact, this model ended up creating "an unfavorable environment for self-sustaining development", as "the intoxication from so much sudden prosperity" limited the ability to imagine alternative growth paths capable of sustaining themselves independently (Hytten & Marchioni, 1970; Trigilia, 1992; Lutri, 2020). This brief observation on the local industrial sector allows us to note how the geography of marginal, inland, and intermediate territories has undergone changes, including and excluding different areas and populations according to their "usefulness" in hosting economic activities. These territories expand and shrink constantly, defining how being marginal sometimes means finding oneself forgotten by public policies, excluded from plans and projects, neglected by studies and research, and ignored by public opinion and cultural institutions. However, marginality is also linked to processes of territorial and social stigmatization that can be generated by both external and internal factors within the territory, reminding us that a territory is considered marginal when socioeconomic and cultural development is consistently decided elsewhere.

5. Closing remarks

We have largely observed how the concept of Special Economic Zones (SEZs) has emerged as a strategic tool for promoting economic development, particularly in regions characterized by stagnation, underinvestment, and marginalization. Although SEZs have demonstrated considerable success in some regions, their potential to revitalize marginal territories presents both opportunities and challenges, making them not exportable everywhere. Marginal territories are areas that suffer from geographic, economic, and social disadvantages. These regions often have limited access to infrastructure, high unemployment rates, and insufficient investment in education and skills development. In addition, they are often excluded from mainstream development policies and are stigmatized, which perpetuates cycles of poverty and underdevelopment. The question of how to integrate these areas into broader economic frameworks

remains central to policy discussions, making SEZs an attractive option. We have also discussed extensively the mechanisms by which SEZs enable the challenges of marginal territories to be addressed, but as much as they present significant opportunities, their implementation in marginal territories is not without risks. Some of which, and some more than others, can be summarized as uneven development, increasingly pressing environmental concerns, and social dislocation related to land acquisition. These issues cannot be separated from the involvement of local communities in the planning and implementation of SEZs, considering it the most important policy recommendation, which would be followed by others such as meeting the equity and sustainability dimensions.

In the Sicilian case, is it possible to assume that Special Economic Zones have significant potential as a tool to revitalize marginal territories? It is clear that SEZs can potentially offer pathways to economic revitalization, infrastructure development, and social progress. However, their success depends on careful planning, inclusive governance, and considering the general marginality of the region. The legacy of top-down development seasons, such as the industrial one we have offered a glimpse of and from which we have yet to emerge, with the aggravating dynamics of development peripheralization, leaves more than a few doubts.

References

Battaglini, E., 2014, *Sviluppo territoriale: dal disegno della ricerca alla valutazione dei risultati*, FrancoAngeli, Milano.

Benadusi, M., 2017, Frizioni, disastri futuri «sostenibili»? Traiettorie di ricerca nella zona petrolchimica siracusana. In: Meli, M., Adorno, S. (Eds.), *Il futuro del polo petrolchimico siracusano. Tra bonifiche e riqualificazione*, Giappichelli, Torino, pp. 53-66.

Benadusi, M., Di Bella, A., Lutri, A., Ponton, D., Rizza, M., Ruggiero, L., 2021, *Tardo industrialismo. Energia, ambiente e nuovi immaginari di sviluppo in Sicilia*, Meltemi, Milano.

Berlinguer, A., 2024, "Pubblico e privato nello sviluppo del mezzogiorno: la vicenda tormentata delle Zone Economiche Speciali", *Studies in Law and Social Sciences* n. 11, Università degli Studi Roma Tre, Roma, pp. 545-605.

Dorocki, S., Brzegowy, P., 2014, The maquiladora industry impact on the social and economic situation in Mexico in the era of globalization. In: Wójtowicz, M., Winiarczyk-Raźniak, A. (Eds.), *Environmental and socio-economic transformations in developing areas as the effect of globalization*, Wydawnictwo Naukowe UP, Kraków, pp. 93-110.

Galeota Lanza, G., 2019, "Le Zone Economiche Speciali come strumenti per lo sviluppo economico. Il caso della Polonia", *Semestrale di Studi e Ricerche di Geografia*, XXXI, 2, 2019, ISSN 1125-5218, pp. 85-101.

Gelosi, C., 2004, *Comunicare il territorio. Il nuovo ruolo delle amministrazioni nella comunicazione istituzionale*, FrancoAngeli, Milano.

Gomes da Conceição, P., Ardinghi Brollo, M.E., Mastrodi, J., 2024, *Zonas econômicas especiais: aplicação de seu conceito ao Projeto HIDS* (online, last accessed January 10, 2025) https://hids.org.br/wp-content/uploads/2024/03/Entrega4-HIDS-como-Zona-Economica-Especial-e-Zona-Franca-do-Conhecimento.pdf

Hytten, E., Marchioni, M., 1970, *Industrializzazione senza sviluppo. Gela: una storia meridionale*, FrancoAngeli, Milano.

Klein, N., 2001, *No logo: economia globale e nuova contestazione*, Baldini & Castoldi, Milano, pp. 176-177.

Kumar, V., 2014, “SEZs and Land Diversifications: Need for an Alternative Model”, *Journal of Economics and Development Studies*, Vol. 2, No. 3, pp. 215-224.

ISPI, 2021, *ZES a prova di sostenibilità*, (online, last accessed January 10, 2025) https://www.ispionline.it/it/pubblicazione/zes-prova-di-sostenibilita-32696

Indian Ministry of Commerce and Industry, 2024, *Special Economic Zones in India: introduction*, (online, last accessed January 10, 2025) https://sezindia.gov.in/introduction

Jensen, C., (2018), “The employment impact of Poland’s special economic zones policy”, *Regional Studies*, 52 (7), pp. 877-889.

Lazzeroni, M., Grava, M., 2021, “Dalle fabbriche ai nuovi spazi dell’innovazione: transizioni socio-economiche e mutamenti dei paesaggi della produzione”, *Rivista Geografica Italiana*, 128, 4, pp. 45-73.

Lopes, A., 2023, Le ZES: una, nessuna o centomila… che confusione!, *Rivista di studio delle dinamiche territoriali*, Associazione Italiana di Scienze Regionali, (online, last accessed January 10, 2025) https://www.dite-aisre.it/le-zes-una-nessuna-o-centomila-che-confusione/

Lutri, A., 2020, “Sulle tracce dell’industrializzazione nel paesaggio tardo-industriale gelese: una tardiva scoperta antropo-logica”, *Tracce Urbane*, 7, pp. 163-182.

Magnaghi, A., 2010, *Il progetto locale. Verso la coscienza di luogo*, Bollati Boringhieri, Torino.

Mastronardi, A., 2019, *Bagnoli, quale rigenerazione senza una vera bonifica?*, DEA Edizioni, Torino.

Napoli, M.D., Petino, G., 2017, “Il prodotto attrae, il territorio accoglie. Analisi dell’offerta turistica di due areali produttivi IGP siciliani”, *Annali del Turismo*, 6, pp. 153-175.

Petino, G., 2020, *Atlante siciliano delle aree interne e delle specialities agricole*, Aracne Editore, Roma.

Petino, G., 2022, “Il tardo industrialismo in Sicilia, tra coesistenze e conflitti”, *Geotema*, n. 69, Pàtron Editore, Bologna, pp. 50-59.

Petino, G., Ruggiero, L., 2022, “Dall’industria alle comunità locali: una ipotesi

di ecomuseo nel Golfo di Augusta”, *Bollettino della Società Geografica Italiana*, serie 14, 5(1): pp. 15-32. doi: 10.36253/bsgi-1606

Pigliucci, M., 2019, *Le zone economiche speciali nel mezzogiorno d’Italia*, Edizioni Nuova Cultura, Roma.

Rodríguez-Pose, A., Bartalucci, F., Frick, S. A., Santos-Paulino, A. U., Bolwijn, R., 2022, “The challenge of developing special economic zones in Africa: Evidence and lessons learnt”, *Regional Science Policy & Practice*, 14 (2), pp. 456-481. https://doi.org/10.1111/rsp3.12535

Sabatino, G., 2020*a*, *Chinese Special Economic Zones and International Economic Law: Diversification, Expansion, Containment and Circulation of a Cryptic Legal Model*, Transnational Dispute Management, (online, last accessed January 10, 2025) https://www.transnational-dispute-management.com/journal-advance-publication-article.asp?key=1820

Sabatino, G., 2020*b*, *Breve Storia ed Attualità delle Zone Economiche Speciali in Cina*, Aperta Contrada (online, last accessed January 10, 2025), https://www.apertacontrada.it/2020/06/01/breve-storia-ed-attualita-delle-zone-economiche-speciali-in-cina/

Scrofani, L., Leone, M., 2021, Le zone economiche speciali siciliane, ultima occasione per uscire dall’isolamento?. In: Dini, F., Martellozzo, F., Randelli, F., Romei, P. (Eds.). *Oltre la globalizzazione – Feedback*, Società di Studi Geografici (Memorie geografiche, n.s. 19), pp. 75-82.

Sharma, N.K., 2009, “Special Economic Zones: Socio-Economic Implications”, *Economic and Political Weekly*, 44(20), pp. 18-21.

Trigilia, C., 1992, *Sviluppo senza autonomia. Effetti perversidelle politiche del Mezzogiorno*, Il Mulino, Bologna.

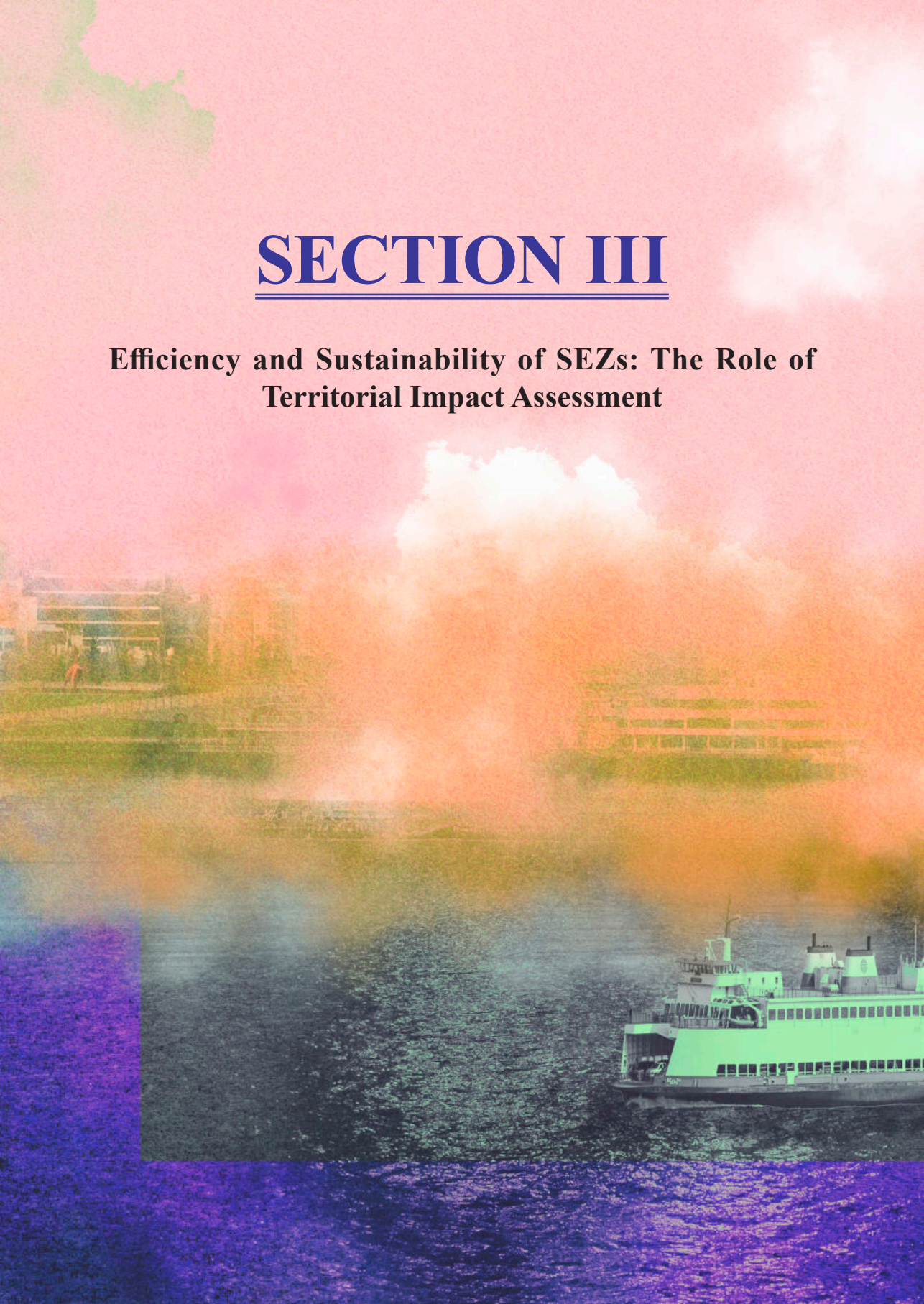
Verhoef, E.T., Nijkamp, P., 2002, “Externalities in urban sustainability: Environmental versus localization-type agglomeration externalities in a general spatial equilibrium model of a single-sector monocentric industrial city”. *Ecol. Econ.* 2002; 40:157–179. doi: 10.1016/S0921-8009(01)00253-1.

Wang, B., Nie, X., 2016, “Industrial agglomeration and environmental governance: Boost or resistance – Evidence from a quasi-natural experiment on the establishment of development zones”. *China Ind. Econ*. 2016; 12:75–89. doi: 10.19581/j.cnki.ciejournal.2016.12.006.

Zizzo, E., 2018, “Le zone economiche speciali: tra successo europeo e débâcle italiana”, *Annali del Dipartimento Jonico*, Università degli Studi di Bari Aldo Moro, Taranto, pp. 487-506.

SECTION III

Efficiency and Sustainability of SEZs: The Role of Territorial Impact Assessment



9. Territorial Impact Assessment for SEZs. A possible alliance between two policy-decision tools

Maria Prezioso[1]

Abstract

The chapter focuses on the implementation of the Territorial Impact Assessment (TIA) in the context of the Italian "Unique SEZ", using the STeMA approach as a reference model. The starting point of the analysis is the scenario and sectoral policy outlined in the "SEZ Strategic Plan" 2024, and the paper details the process through which the TIA can be integrated into public policy assessment mechanisms. The integration of TIA into the SEZ assessment mechanisms is intended to guide a necessary strategic spatial plan, while respecting and exploiting the geographical diversity of the region. The application of TIA promotes both economic-financial competitiveness and territorial cohesion, demonstrating how TIA can be effectively used in planning decisions to balance economic viability with environmental and social sustainability. A European Group of Territorial Cooperation (EGTC) governance model is also proposed to better manage and develop the organisation of SEZs.

Keywords

TIA, SEZ, STeMA, Strategic planning, EGTC

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1. Introduction

Recent advancements in the domain of Territorial Impact Assessment (TIA) have established it as a pivotal instrument in decision-making and strategic planning for European public policy and associated tailored investments. This process is facilitated by the alignment of territorial planning with overarching EU and national objectives.

The application of this approach to the definition and contents of the Special Economic Zones (SEZs) and related strategic plan represents a novel contribution to the Italian framework, although TIA plays a significant role in emphasising the value of place-evidence in ensuring the sustainability and cohesion of this competitive economic choice (CIIP, 2017; Prezioso, 2024).

The evaluation of the European Cohesion Policy (ECP) for the period 2014-2019 revealed the efficacy of the TIA in its capacity to orient policy decision-making towards the achievement of stated strategic objectives (Zeng, 2021). The integration of TIA into the Italian Recovery and Resilience Facility Plan (RRFP) is an additional notable advancement, underscoring its pivotal role in reinforcing sustainability in policy formulation and resource allocation (Prezioso, 2024a). Concurrently, the evolution of Special Economic Zones (SEZs) towards the "economic zone 5.0" through the utilisation of digital technologies necessitates the measurement of the robust correlation with urban and rural development (Zeng, 2021). The ongoing challenges and designs in Europe (e.g. in Poland, SurLux, Ireland, the Baltic macroregion) poses the question of how to reduce the impacts of the SEZ choice inside and on cross-border living areas affected by this cooperative special design at regional level (Coletti, Chilla, Salerno, 2024).The role of Functional Areas (FAs) is confirmed as a fundamental aspect of the territorialised assessment process, which encompasses the TIA also toward the strategic plan elaboration (CEMAT, 2017).

The integration of a TIA, incorporating FAs, into the multifaceted evaluation framework of SEZs, encompassing social, economic, financial and sustainability considerations, is a feasible undertaking through the utilisation of the Sustainable Environmental/Economic Management Approach (STeMA) model. This approach is consistent with the EU Green Deal pillars and the Urban and Territorial Agendas 2030. Furthermore, adherence to a framework

encompassing economic and financial considerations through cost-benefit analysis (CBA) is ensured, while adherence to sustainability under the 'do no significant harm' principle (DNSH) is also guaranteed (Prezioso, 2024a). The development of a more resilient and sustainable future for European Special Economic Zones (SEZs) is a key benefit of this potential synergy, enhancing their competitiveness – as demonstrated by the Italian case – and fostering macroregional economic growth and its associated spillover effects on neighbouring regions. The necessity for the implementation of an alternative governance model, namely the European Group of Territorial Cooperation (EGTC), is highlighted with reference to this SEZ as a Mediterranean macroregion (Solduga, 2024).

2. Rationale in nutshells

TIA has been identified as a valuable tool for identifying the most effective policies for refocusing investment to territorial policy needs (EC, 2022; ECoR, 2022), as well as territorial identity weights (ESPON, 2023). The evaluation of Italian large infrastructural public works under the Recovery and Resilience Facility Plan 2021-2026 (MIT, 2021) has led to an expansion in the TIA application field (Prezioso, 2024) through the utilisation of political and technical instruments to align strategies and outcomes with the EU vision, Cohesion Policy and the expectations of citizens (the fifth pillar of the European Green Deal 2021-2027).

The incorporation of TIA within the SEZ Strategic Plan 2024 (Ministero per gli affari europei, il Sud, le Politiche di coesione e il PNRR, 2024) serves to substantiate this orientation.

It has been determined that policy sectors require enhancement in order to function as effective supply chains. These include the agribusiness and agroindustry, tourism, electronics and ICT, automotive, quality Made in Italy, chemistry and pharmaceuticals, naval and core research, and aerospace and railways. It is recommended that digital technologies, cleantech, and biotech be incorporated into the evaluation process related to the macroregional dimension of the Unique SEZ, that includes the regions Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicilia, and Sardinia, along with

functional areas (territorial typologies) should be considered at a minimum level of NUTS 2 and 3 (CEMAT, 2017; Prezioso, 2019; Perony, 2020; Coletti, Chilla, Salerno, 2024).

The correlation between policy choices and their effects, as well as the integration of indicators and the consideration of territory, pose a significant challenge. Since the year 2000, TIA models have sought to address this challenge; however, it should be noted that only the STeMA model has got the capacity to establish a direct connection due to its flexible design (BOX 1) (Prezioso, 2018). A distinguishing feature of the STeMA model is its capacity to adapt and align its consistency with the EU Cohesion Policy and Territorial Agenda (TA) 2030 pillars (Informal Meeting of Ministers, 2020; Prezioso, 2020), facilitating consideration of geographical diversity.

The STeMA (Sustainable Territorial Economic/Environmental Management Approach) model, has developed by Maria Prezioso from 2006. It is is an assessment tool designed to support an integrated and sustainable strategic vision of spatial, social and economic policies at all levels of decision-making.

STeMA-TIA is predicated on a qualitative-quantitative methodology, incorporating 10 simplifying assumptions and 9 logical steps. The methodology y involves the utilisation of a multifaceted set of indicators, encompassing economic, social, environmental, cultural, organisational and financial dimensions, to evaluate the territorial impact.

STeMA is founded upon the principles of General Systems Theory, thereby ensuring consistent interaction between models and indicators through open and closed cyclical steps.

Number of stages constitute the Territorial Impact Assessment process. The analysis of spatial components and the assignment of initial territorial value sensitivity (ITV) is to be conducted on the basis of thematic categories and indicators.

The final territorial value (FTV) for each policy action must be determined.

The selection of the most effective policy solution, in conjunction with the implementation of policy corrections, is integral to the mitigation of impacts.

The measurement of impacts is conducted through the utilisation of indicator-policy action relationship matrices of the initial scenario. These matrices serve to ascertain the severity of the reduction in spatial quality.
STeMA's methodology integrates the quantitative approach (multi-criteria analysis) with the systemic-qualitative approach.

STeMA has been utilised in a variety of studies and applied research and projects, including:

• European territorial strategies identified as a key area of focus in both Lisbon and Gothenburg directives.
• The concept of regional polycentrism predicated on the notion of territorial cohesion.
• The national and regional operational plans for the year 2020.
• The Italian structural reforms at metropolitan and regional levels.
• The large works of the RRF plan in Italy.
• European projects pertaining to Economy and Earth observation data, management of tourism, general and sectoral spatial plans.

This approach has enabled the formulation of integrated plans that respect local identities, whilst also fostering economic growth and social inclusion.

BOX 1: STeMA in a nuthshall

From the perspectives of both European and Italian policies, the TIA may fulfil a different function. It permits for an ex ante – ex post evaluation or a mid-term and final review within the RRFP, thereby facilitating a rebalancing of strategic planning priorities and national/regional strategies in light of progress made or problems encountered in the policy application and/or utilisation of funds.

It is also important to note that the assessment process of the development of territorial cohesion within Italian RRFP projects as the Unique SEZ represents a pioneering approach to the implementation of the 2021-2027 programming period, in light of the progressive importance of territorial cohesion for competitiveness. This may be the basis for the formulation of a strategic spatial plan for the Special Economic Zone (SEZ).

The European guidelines and case studies (EC, 2020, 2020a) do not provide a single methodology for reviewing plans but do introduce new instruments.

Nevertheless, several European strategic plans have been devised with the support of the TIA, chiefly concerning EU macroregions, and the on going Territorial Agenda Review (ESPON2030, 2024; ECoR, 2025). For instance, the VASAB Strategic Plan 2040, which focuses on the Baltic macroregion, encompasses urban and metropolitan areas, rural regions, small and medium-sized towns and cities. These entities are encouraged to identify and leverage their unique strengths and synergies within and across TIA-supported planning systems, which are characterised by efficiency and interoperability. Furthermore, TIA has initiated a monitoring system that communicates the development of objectives and observations, thus facilitating the selection of appropriate mitigative measures.

As stated in the 2016 VASAB Conference (Wobben, 2016), the importance of TIA was already declared in accordance with the position of the European Committee of Regions. In 2024, ESPON established TIA as a place-based approach principle of the Territorial Agenda 2030, as well as an instrument for its translation into practice (Figure 1). The TIA relationship with Cost-Benefit Analysis (CBA) and the Do Not Significant Harm (DNSH) principle has also been demonstrated (Prezioso, 2024a), thereby reducing the uncertain effect of policy choices.

A further series experiences pertaining to the planning process in the Czech Republic and Hungary have been directly influenced by Community Led

Local Development (CLLD) and Integrated Territorial Investments (ITI) (ESPON, 2018, 2021), and are supported by an evaluation process as TIA.

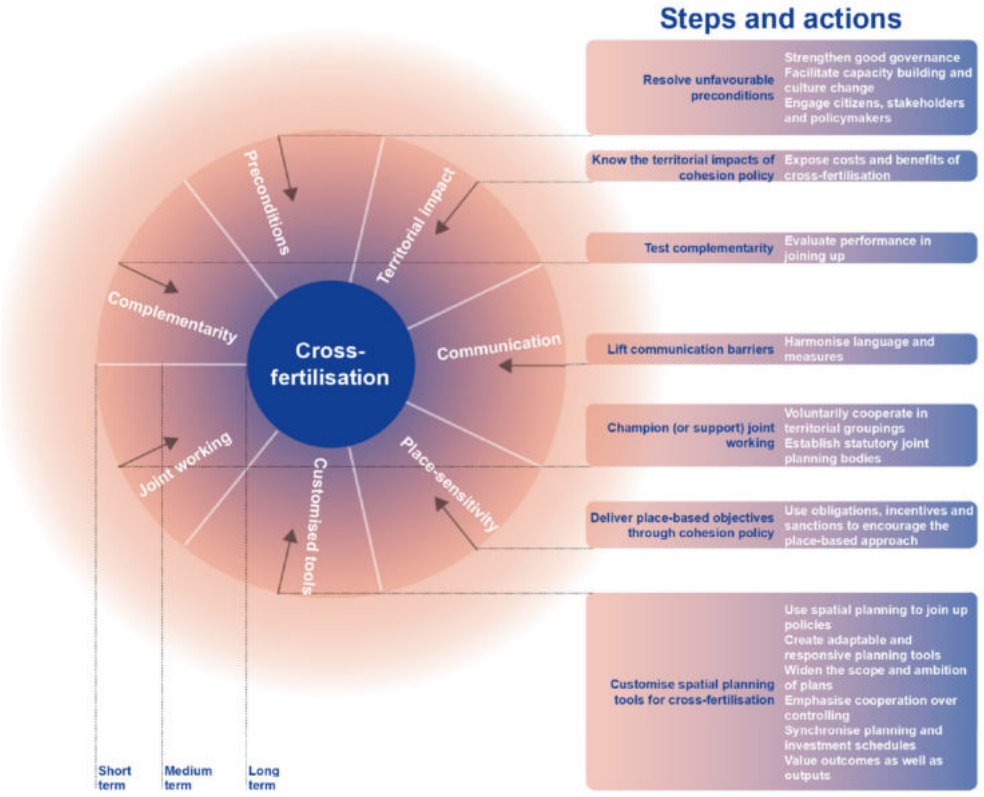


Figure 1: Cross-fertilisation in spatial planning: steps and actions

Source: ESPON2020, 2021, 19.

3. STeMA Methodological setting to apply to plan

The Strategic Territorial Plan of a SEZ merits attention for its dual impact at the political and operational levels (Prezioso, 2024a). Indeed, the present type of plan (VI generation) represents a genuine reversal of the prevailing trend, advocating a shift towards the place evidence in the resolution of problems, in

contrast to the tendency towards their diffused homologation. This approach also serves to eliminate the distinction between milieu and environment as discrete fields, thereby affirming them as the primary references for integrated development processes. The value of the territorial resource, in the geographical analysis of the the landscape, is also recognised as contributing to social well-being.

The SEZ plan idea is intended to serve the public interest by covering the territorial location of productive assets and all aspects of investment. The aforementioned factors encompass, for example, bio-agriculture and tourism, reduction of land use and protection of soil from risks, the extent of geological contribution to instability, seismicity and water scarcity; and social inclusion and well-being. The resulting territorial impact (i.e. the impact on the employment) counteracts the trend towards concentrating settlements in favourable zones and abandoning the inner peripheries. It is evident that there is a discernible interest in the regulation of participatory processes. The overarching objectives of these plans are to achieve the harmonious integration of macroregional sustainable development plans (e.g. in the VASAB plan, from 2004 to the present) within the European legal, regulatory and administrative frameworks relating to the active protection of societal wellbeing.

Since 2006 today, the STeMA TIA model has encompassed all the dimensions required by a European programme to evaluate the SEZ strategic plan (see Table 1). It is evident that a number of these dimensions are also reflected in the content of the DNSH and in the CBA. A thorough examination of the entire STeMA TIA process, as outlined in Prezioso (2020a), feasible within the present chapter. This section thus undertakes a critical examination of several pertinent elements that facilitate its interpretation as being useful to the SEZ application.

In the context of the STeMA-TIA 3.0 model (Prezioso, 2020), 73 indicators have been selected and organised at various levels of assessment within seven systemic functional typologies (Prezioso, 2019). The objective of this organisation is to correlate statistical data with the geographic diversity of regions (NUTS2) and sub-regions (NUTS3). The plan has been devised in such a manner as to minimise the impact of the initiative by establishing four coaxial matrices which link indicators to policies and expected effects. The model can be used for both ex-ante and ex-post evaluation and monitoring of Cohesion Policy initiatives, RRFP projects and strategic territorial plans

in relation to the relevant European and national/regional/local addresses.

In the following table (*Table 1*), a review of sectoral policies is conducted to establish comparable EU and national SEZ orientations.

2021-27 Policies	Flags (and pillars) of planning	Actions of policy design	SEZ investments
Smarter Growth & Digitalisation	Education and Human Capital	Supply of education	
		Human capital internationalisation	
	Digital society (Digital Tecnology)	Bridging digital divided and digital transition	
		Technological\innovative dissemination for the enterprises and institutions	Elettronics&ICT Automotive Chemistry pharmaceuticals Naval
		Support to transregional cooperative projects	All sectors
		Use/development of environmental friendly techologies	All sectors
		Quality certification and assessment tools	Quality made in Italy all sectors
	Innovation and R&D	R&D infrastructures	ICT Core research
		Support to BAT	Elettronics chemistry pharmaceuticals naval
		Development of recycling technologies and products (circular economy)	Elettronics chemistry pharmaceuticals naval
	Transport/network	Development of telecomunication networks	Elettronics&ICT areospace
		Development of energy networks	
		Increase of phisical accessibility	Naval Raylways

More Sustainable Growth	Competitiveness and Economic development (Biotech, Cleantech)	Support Local productive identity	Agrifood and agrindustry
		Promotion of a global enterprise culture	All sectors
		New business/service instruments	All sectors
		Inflation/Deflaction control	
		Internationalisation of good and services	All sectors
	Natural Resources efficiency	Use of renovable resources	
		Active Protection of Natural resources	
		Reduction of Natural Resources consumption (Green infrastructures)	
		Natural hazard prevention	
	Climate Change	Energy policies	
		Flexible Mechanisms	
		Climate Change adaptation and mitigation	Cleantech
	Bio-diversity	Active Protection of Natural resources	Biotech
More Inclusive Growth and Europe closer to Citizens	People & Territory	Reinvolvement of aging people	
		Support leisure	Tourism Quality made in Italy
		Social inclusion	
		Child protection	
		Poverty reduction	
		Policies dissemination for transparency and efficency of burocracy	
		Cultural integration	Tourism Quality made in Italy
	Employment	Homogeneisation of enterprise costs	
		Support enterprise creation	all sectors
		Support employer mobility	
		Support equal opportunities	All sectors
	Public Healt	Social and Green Programme Financing	
		Safety	Biotech
		Support Welfare	

Table 1. Declination of the Unique SEZ Strategy sectoral policy according to STeMA-TIA

Source: Author elaboration on Prezioso, 2020

In order to obtain a territorialised ex-ante and ex-post evaluation process, it is necessary to establish a direct link between the STFTs and the initial cohesion value. These elements form the basis for a qualitative-quantitative systemic analysis and impact assessment of European policies (pillars and flags) and related regional investments. The logical combination of selected indicators, with reference to different geographical scales, is able to address the policy choice by selecting effects and calculating their impact within a systemic process.

The integration of four typologies of territories exhibiting geographical diversity, four typologies of Inner Periphery, and seven typologies as defined by STeMA, results in the identification of seven STFTs as the foundation for the TIA (Prezioso, 2018).

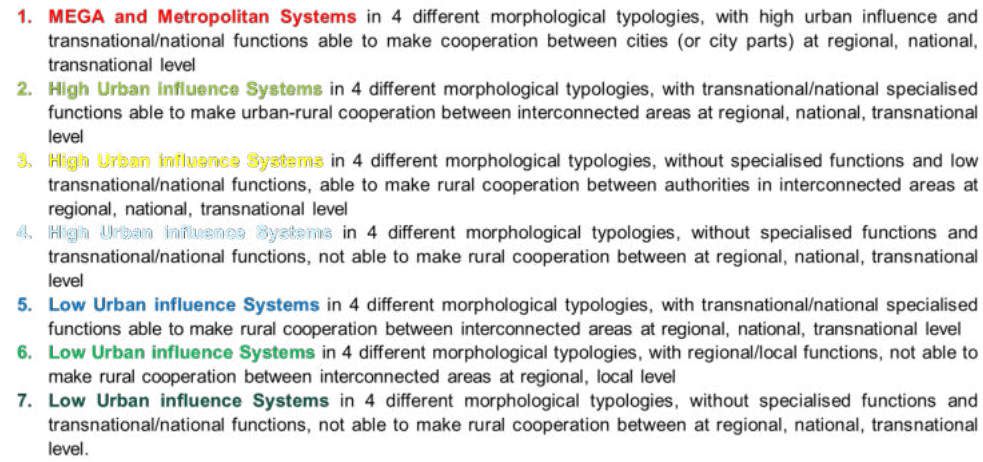
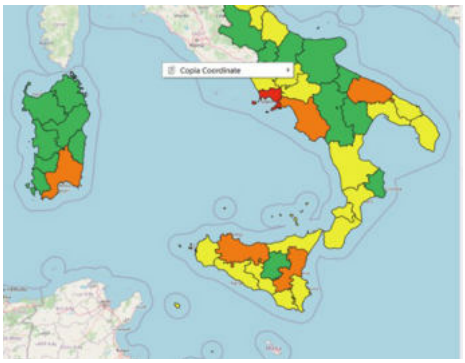


Figure 2: The seven systemic territorial functional typologies of STeMA

Source: Prezioso, 2019

The level of TC within the seven STFTs is indicative of the capability to valorise the territorial capital. The level of TC within a region is contingent upon the quality, efficiency and identity of the territorial systems in which it is embedded, as well as the nature of their cooperative interrelations. This concept signifies the capacity to formulate socio-territorial and governance frameworks through the integration of shared principles. The level of TC exerts a significant influence on the spending capability efficiency, thereby facilitating the alignment of local needs with political objectives.

Map 1 **Map 2**



Legend

Systemic Territorial Functional Typologies

- STFTs 1
- STFTs 2
- STFTs 3
- STFTs 4
- STFTs 5
- STFTs 6
- STFTs 7

Map 1: The eight original SEZs

Map 2: Systemic Territorial Functional Typologies in the Unique macroregion

Source: Ministero per gli Affari europei, 2024. Prezioso, 2019

The delineated regions exhibit notable distinctions due to the aggregation of provinces as identity toponymies in the initial map, and as functional typologies in the subsequent one.

It is evident that some STFTs have the capability to influence spending capacity, even involving neighbouring territories, and increase territorial cohesion.

The 2014-2020 period has seen the implementation of a territorialised expenditure policy, leading to notable levels of local investment in certain areas, with a medium-low impact. For instance, systems with a high degree of urban influence, devoid of specialised functions and exhibiting limited transnational functions (type 3 STFTs) have a discernible impact on the potential effect of high regional spending capacity. Type 3 areas (STFTs) are located in close proximity to metropolitan cities; however, they are frequently excluded from direct participation in cross-regional cooperation projects,

despite benefiting indirectly from metropolitan advantages "through contact". The emergence of several "localism" systems has been observed, which remain isolated and fail to connect with a transnational policy level. It is therefore recommended that regions consider the adoption of more interconnected and contiguous systems at the local level, with a view to extending the benefits of localised spending.

3.1 What indicators show about the regional and subregional attitude in the ex ante phase

At the inception of the new programming period and until the end of the pandemic, it is possible to highlight some critical questions, both in general and in particular in the SEZs regions by STeMA (Prezioso, 2020):

- Evidently, the most significant impediment to development in the Calabria Region was Territorial Capital. By the 2014-2020 Regional Operative Programme (ROP), the SEZ policies chosen by the government werw influenced by the ROP. The aerospace, agri-food, green chemistry, intelligent manufacturing, implementation of land-sea mobility, technologies for living environments and smart community sectors were identified as key areas for development, despite the low density of enterprises in these regions.

- It has been determined that Research and Development (R&D) constitute a pivotal element in enhancing competitiveness within the coastal provinces of the Apulia and Abruzzo regions.

- Nevertheless, a decline in the number of graduate students has been observed, alongside a notable exodus of highly skilled professionals from the southern provinces, resulting in a phenomenon referred to as 'brain drain'.

- It has been determined that metropolitan cities are the primary employment hubs, with a geographical distribution extending from Calabria to Messina in Sicily. A significant relocation of financial and human resources is observed, with the highest concentrations observed in the northern regions.

- It is evident that attitudes towards social inclusion vary considerably across different regions. The Abruzzo, Molise and Sardinia regions exhibit medium-low levels of social inclusion, while the majority of southern regions demonstrate very low levels. This issue is further compounded by suboptimal levels of equal opportunity and female employment. It is noteworthy that the

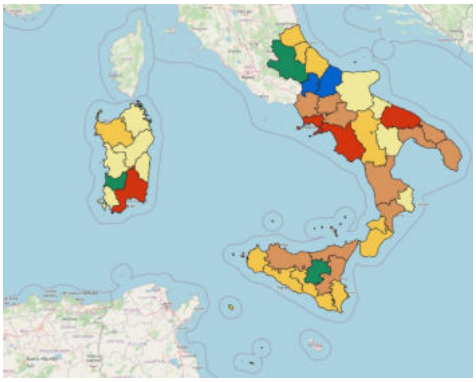
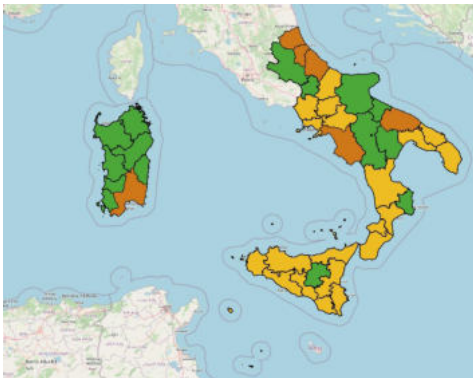
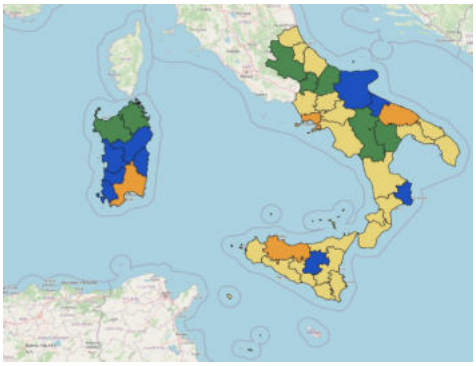
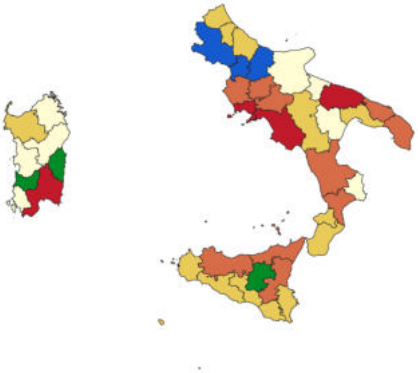
Apennine inner periphery demonstrates higher levels of policy confidence, despite exhibiting comparatively lower cultural levels.

• Campania has been identified as the primary cultural attractor in the southern region.

• Furthermore, the regions of Sardinia, Sicily, Apulia, Basilicata and Abruzzo have exhibited a readiness to engage in collaborative endeavours with European partners, thereby contributing to the development of macroregional strategies (EUSAIR, MED, WEST MED, etc.) and initiatives. It is noteworthy that 21 out of 35 large-scale projects were suspended and 7 were restarted under the 2021-27 programming period.

• It is worthy of note that no Special Economic Zones (SEZ) cities or towns have been included in the European FUA list.

The four dimensions of Territorial Cohesion under the 2020 European Strategy (smart, sustainable, inclusive, funds) were not implemented in the new SEZ strategic plan (*Maps 3-6*).

Map 3: Smart growth	**Map 4:** Sustainable growth
	
Map 5: Inclusive growth	**Map 6:** Funds spending
	

Source: Author elaboration on Prezioso 2020

Legend of values:

A - absolute; **B** - very high; **C** – high; **D** – medium; **E** – low; **F** – very low

4. What factors should be given greaterconsideration in the plan

In the past decade, the Unique SEZ has manifested as a set of cooperative regions within the broader Mediterranean one (Figure 2) and within the European framework (Figure 3), predicated on environmental concerns and other issues.

Figure 2: Proposal of macro-regions in Italy on the basis of cooperation relationships

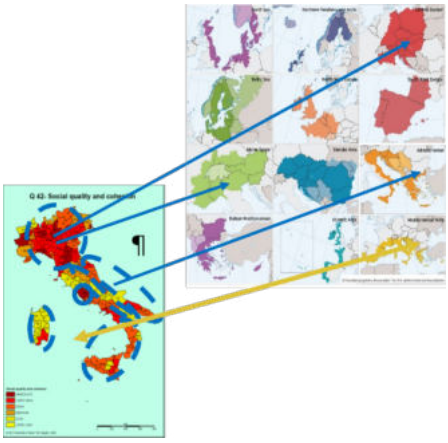
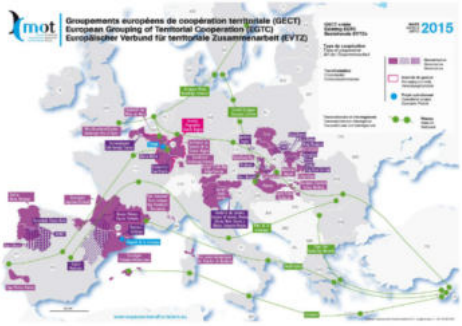


Figure 3: Macroregional Eeuropean Grouping of Territorial Cooperation (EGTC)



Source: Prezioso, 2017, 73; Mission Opérationnelle Transfrontalière (MOT) – http://www.espaces-transfrontaliers.org/ressources/cartes/

In contrast, the strategic plan of the Unique SEZ is predominantly focused on the economic and financial aspects of certain policy sectors and on offering tax advantages.

However, it is crucial to emphasise that an economic plan must incorporate strategic territorial elements to ensure its realisation as an integrated entity. "Strategic spatial planning is concept that has gained popularity during periods of economic prosperity times, as political regimes utilise publicly funded plans to substantiate decisions concerning future settlement options. However, during an economic downturn, strategic spatial plans become less appealing as few individuals are willing to accept reductions" (Olsen, 2023). This is imperative to ensure congruence between the declared objectives of the SEZ and spatial planning, and vice versa, and to identify the most suitable

areas of investment through a sophisticated technical process. For instance, Interreg, a EU-funded programme, has facilitated this activity in the VASAB and Great Region macroregional plans (see Figures 4 and 5).

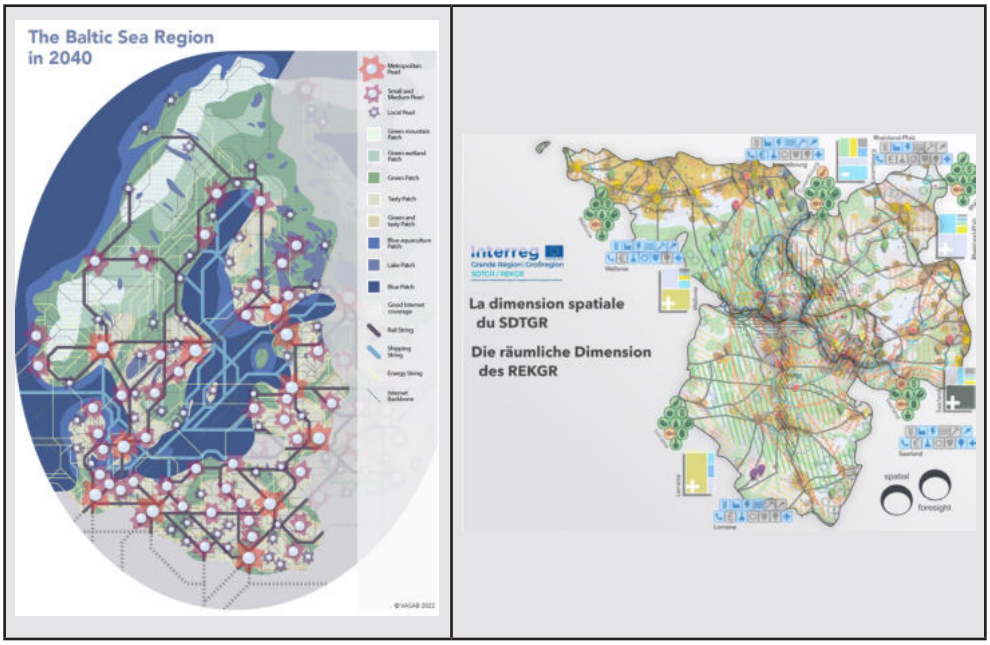


Figure 4 and 5: A comprehensive view of the VASAB and Great Region macroregional plans

Sources: VASAB, 2024; Hans&Spatial Foresight, 2021.

In Europe, a fundamental challenge for strategic spatial planning is to regain its political legitimacy (Hoch, 2023; Olesen, 2023). This phenomenon is especially pronounced in Italy, where the national legislation dates back to 1942 and the ongoing simplification process is interpreted as a deregulation of spatial and urban planning.

The overarching policy objectives of strategic spatial planning encompass a wide range of issues, including the just transition (energy, social, digital), climate change, migration, accessibility, the maritime question (coastal pressure, ports, land-sea interaction), urban-rural dynamics, and more. A further challenge pertains to the management of spatial dynamics (population, settlement, employment) in order to respond to the unequal urbanisation and land use processes. In this regard, strategic planning, statutory planning and collaborative planning are integral components of the (new and shared) SEZ

governance framework, which is founded upon sustainability principles.

The strategic plan is thus a combination of policy practices and tools, and it is essential that the needs and priorities of political leadership are confirmed at the territorial level. The influence of EU directives on spatial planning is evident, with directives impacting the socio-economic, political and cultural contexts of a given place and their contribution to cross-fertilisation. In accordance with the principles set out in the TA2030, the strategic plan may be regarded as a summation of Local Action Plans (LAP) or local labs organised by Community-Led Local Development (CLLD). A recent review of the TA2030 (ESPON2030, 2024) identified its strengths as strategic spatial planning, territorial cohesion and their relationship with the territorial dimension of sector policies at all governance levels. It is acknowledged that pilot initiatives and LAPs may not consistently yield transformative or scalable outcomes. However, it is imperative to recognise the necessity for TA to align governance and planning systems and the culture, necessitating a synthesis of the TA and theUrban Agenda.

Since 2011, the planning process has been guided by six territorial priorities:

1. *The promotion of polycentric and balanced territorial development is of paramount importance.*

2*. The promotion of integrated development in urban, rural and specific regions is of paramount importance.*

3*. The process of territorial integration within the context of cross-border and transnational functional regions.*

4*. The necessity of ensuring the global competitiveness of regions is predicated on the premise of robust local economies.*

5. *The enhancement of territorial connectivity for individuals, communities and enterprises is a subject that has been the focus of much recent research.*

6. *Managing and connecting ecological, landscape and cultural values of regions*

As in the EU Great Region, the SEZ strategic plan should be understood as

"A huge arena of formalised but non-binding policy agreements and policy experimentation, alongside various cross-border sub-units (...) anticipating, accompanying and steering processes of transformation, in order to prepare efficient responses" (Hesse, 2024), also in inner periphery. Cross-border planning is recommended, as well as the involvement of regional and local sectoral stakeholders and public participation, because the typology of regional spatial planning is different in the SEZ.

In this regard, soft territorial cooperative planning adopts a pragmatic approach to SEZ macroregion-building, combining different regionalisation logics and "territorial fuzziness" (ESPON2020, 2021).

In order to plan their SEZs, the Baltic Area and Poland have also utilised the 'territorial optimum model'. This is defined as the maximisation of the synergistic use of the territorial potentials of all sub-areas of the region at a given level of expected territorial utility (Bradley&Zaucha, 2017). The target territorial utility can be attained through intervention in various aspects, including private material capital resources, public capital stock, spatial assets, and the costs of interaction (e.g., transportation costs) between subareas.

A comparison of macroregional plans reveals several key points that are worthy of attention:

1 Having a Vision (an appropriate slogan could be "a European global bridge by the South microregion"), because the macroarea is:

- Well connected
- Polycentric
- Cooperative and integrated (land-sea, coastal-inner)
- Digitalised
- Close to needs and identity

2 Getting and Organisation in matter of:

- Inner areas
- Nature and biodiversity, Cultural Heritage
- Small-medium sized towns
- Metropolitan cities
- Sustainable tourism
- Entrepreneurship

- Employment and job market

3 Planning Economy and physical elements by thematic plans:

- Connectivity
- Transports and accessibility
- Inter and transregional links and cooperation
- Land-sea
- Inner periphery
- Digital and virtual plan
- Energy (just transition)
- Fiscal advantages

4 Never forgetting People and its cohesive need of social-economic inclusion:

- Demography
- Social inclusion
- Quality of life
- Services of general interest (public health, education)
- Safety
- Gender equality

5 Being Sustainability means to be competitive:

- Green Infrastructures
- Circular Economy
- Climate Change Adaptation and Mitigation

Then, the primary objective is to formulate a vision that encapsulates the essence of the European-global bridge by the South microregion.

4.1 The governance model

In order to manage the SEZ, it is recommended that a European Group Territorial Cooperation (EGTC) be adopted. Since 2006, the European Parliament (EP) and the European Commission have been supporting this governance model, which provides several benefits to the institutional setting:

- The financial and administrative burden on states and regions is reduced.
- The allocation of additional financial resources to the domain of

research is a crucial aspect that warrants careful consideration.

- The national political instrument is undergoing development as an institution, in response to the evolving political landscape.
- The establishment of connections, whilst eschewing the imposition of borders, is of paramount importance.

As illustrated in Figure 6, the network of EGTCs is indicative of a pronounced emphasis on the implementation of a strategy that has been collectively formulated within a SEZ. This strategy is meticulously delineated, delineating the tasks, responsibilities and scope within the ambit of a Green Infrastructure (GI) framework.

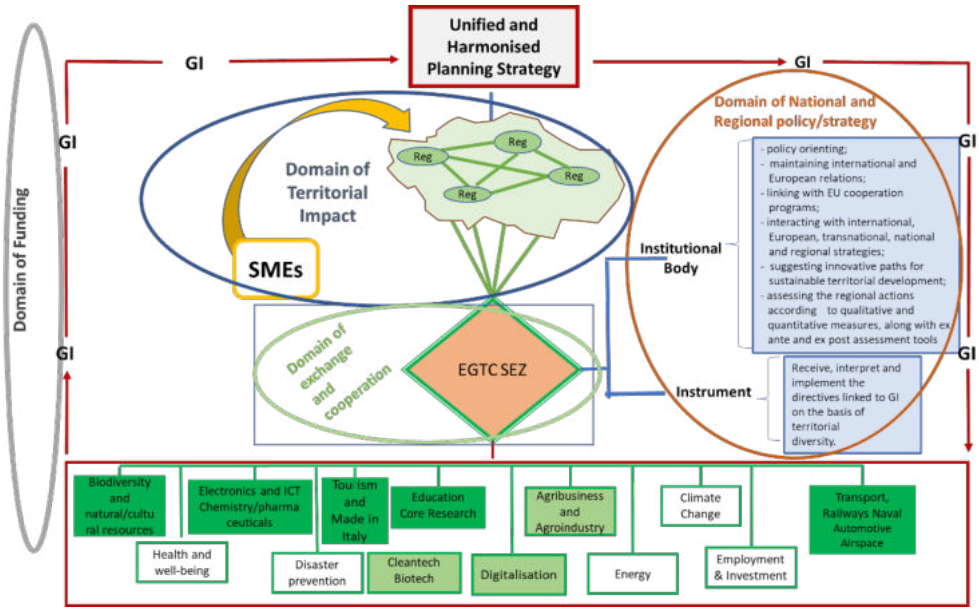


Fig. 6: Author elaboration on ESPON2020, 2018a.

Source: Author elaboration

In any case, the practical implementation of EGTC is challenging due to the necessity of a voluntary "pooling" of "domestic territories" at national and regional level (Coletti, Chilla, Salerno, 2024, p. 28).

The EGTC was originally established as an informal partnership, motivated

by the necessity of a joint management of common issues in critical areas, such as wildlife in mountain zones. Over the past decade, it has evolved into a shared vision of sustainable development, accompanied by a novel juridical structure aimed at establishing joint strategies within specific territories to harmonise policies. For instance, the EGTC is currently the most advanced transboundary European Protected Areas Network strategy (ESPON, 2018a). It is responsible for decision-making processes pertaining to the politics directly associated with macroregions as defined in the legal document. It has the capacity to establish a correlation between general addresses and local politics in the decisions about the transboundary actions of the SEZ. Despite the fact that territorial decisions of a country remain the prerogative of individual region, all transboundary decisions are the responsibility of the EGTC.

The EGTC has been demonstrated to have a number of significant consequences, including its ability to facilitate the resolution of existing tensions between national, regional and municipal levels, with regard to sustainable tourism management, Climate Change adaptation and Biodiversity. In all of case studies that were investigated, EGTC is also responsible of the TIA related to the strategic plan.

5. Discussion and remarks

The necessity of TIA as a fundamental prerequisite in cross-border initiatives is predicated on its capacity to assess territorial competitive capacity in sustainability on a cohesive basis. The present study establishes a correlation between 'policy and financing targeting and policy awareness of the expected effects'.

The application of the STeMA-TIA process has been demonstrated to be a valuable tool for analysing the ex-post territorialised results, thereby highlighting the necessity for effective territorial planning. For instance, in the Abruzzo region, the disparity between the coastal and the inner peripheries has engendered a considerable reliance on Rome; in the Molise region, the limited accessibility, both physical and digital, constitutes a significant constraint; in Basilicata, the ongoing deindustrialisation has promoted the development of coastal tourism; and in Sicily, the proliferation of tourism has exacerbated the consumption of water resources. By contrast,

Campania, Calabria and Apulia exhibit a more balanced framework. In the context of the revitalisation of entrepreneurship in the manufacturing sector in the Southern Regions, the establishment of a unique Special Economic Zone (SEZ) is anticipated to engender favourable outcomes in select provinces, namely Pescara, Teramo, Lecce, and Olbia, in addition to specific regions within the Campania, Apulia, Sicily, and Sardinia. It is anticipated that this initiative will serve as catalyst for the dissemination of growth. The technological clustering of specific policy sectors (agrifood, aerospace, green chemistry, the sciences of life, etc.) and the involvement of all relevant public and private entities in research and innovation processes would generate significant increases and decreases in school dropout rates, particularly in the Calabria and Sicily regions and in peripheral areas. The pivotal issue for the future of the Unique SEZ is accessibility, along with employment and entrepreneurship oriented towards global markets. In the context of the implementation of the RRFP, large-scale infrastructure projects may offer a potential avenue for overcoming these limitations. Nevertheless, the implementation of socio-cultural integration and policies for equal opportunity is imperative.

The involvement of Italian Southern regions in the establishment and execution of a European Special Economic Zone (SEZ) within the Mediterranean macro-region gives rise to a number of scientific and practical inquiries, as outlined below:

The absence of a unified vision is evident in the discrepancy between macroregional policy strategies and local political practices.

- The absence of a harmonised multilevel vision is evidenced by the top-down organisation of macroregional bodies through territorial diversity.
- The implementation of homologated public policies within the domains of spatial planning and regional governance is of particular significance.
- The country has adopted an ideological stance that emphasises the promotion of a cohesive and sustainable growth. However, this commitment is not accompanied by a comprehensive understanding of the practical implementation of such growth through the elaboration of a clear spatial strategic plan.

Within a global context, the Italian Special Economic Zone (SEZ) macroregion

is a prominent feature in geo-economic and geopolitical discourse, as evidenced by the "Piano Mattei" initiative targeting the African continent. This theoretical framework underscores the Southern macroregional initiatives as a paradigm of elevated and autonomous, democratic, and voluntary cooperation towards competitive objectives, despite their initial top-down conception. Polycentric and integration forms have been demonstrated to be capable of sustaining them. The evolution of this regional paradigm is characterised by the establishment of close, complementary relationships between cities and places within flexible boundaries, initially through the establishment of common, rigid rules for consensus management. This dynamic system is characterised by its ability to innovate and respect the unique characteristics of each region, while also fostering collaboration across different competencies.

Evidence has proven that macroregions frequently exhibit resilience in the face of crises, thus emphasising the importance of the implementation of Cohesion Policy. The policy is centred on the implementation of projects that are balanced and sustainable (i.e. high capacity building, integrated spatial planning, multilevel governance, etc.). Furthermore, the adoption of common tools, instruments and processes (TIA, social inclusion, migration, digital transition, climate change, infrastructure, accessibility, etc.) has enabled the management of integrated actions, thereby functioning as a cohesive entity within the EU political landscape to secure funding and investments. However, the macroregional body appears to be in conflict with the artificially delineated macroregion, which is bound to fail in achieving its objectives.

References

Bradley, J., Zaucha, J., 2017, *Territorial Cohesion: A missing link between economic growth and welfare. Lessons from the Baltic Tiger*, Uniwersytet Gdański, Gdański.

Coletti, R., Chilla, T., Salerno, G.M., 2024, "Cross-border living areas as popularisation of cross-border integration?", *J. of Spatial Development*, 21, 4, 24-36. https://doi.org/10.5281/zenodo.13836891.

Competitive Industries and Innovation Program – CIIP, 2017, *Special Economic Zones. An Operational Review of their Impacts*. The World Bank Group, Washington.

Council of Europe Conference of Ministers responsible for Spatial Planning – CEMAT, 2017, *Functional Areas – Capitalisation of Local Potential in Territorial Development Policies over the European Continent*. Resolution n. 1. Bucharest. https://rm.coe.int/the-17th-session-of-the-council-of-europe-conference-of-ministers-resp/16807670ac.

ESPON2020, 2018, *COMPASS - Comparative Analysis of Territorial Governance and Spatial Planning Systems in Europe - Final Report*, ESPON, Luxembourg.

ESPON2020, 2018a, *LinkPAs – Linking networks of protected areas to territorial development, Scientific report*, ESPON, Luxembourg.

ESPON2020, 2019, *New thinking in spatial planning: From methodology to implementation. Transnational Brief*, ESPON, Luxembourg.

ESPON2020, 2021, *Cross-fertilisation of Cohesion Policy and spatial planning*, Policy Brief, ESPON, Luxembourg.

ESPON2030, 2023, *Territorial Impact Assessment. A Drone Strategy 2.0. Staff working doc. Luxembourg*, ESPON, Luxembourg.

ESPON2030, 2024, *Stocktaking Review of the Territorial Agenda 2030*, ESPON, Luxembourg.

European Commission – EC, 2020, *Guidance to Member States Recovery and Resilience Plans*, SWD 205 final, Bruxelles.

European Commission – EC, 2020a, *Handbook of Sustainable Urban*

Development Strategies, Luxembourg.

European Commission – EC, 2022, *The RHOMOLO impact assessment of the 2014–2020 cohesion policy in the EU regions*. https://ec.europa.eu/regional_policy/en/information/publications/working-papers/2022/the-rhomolo-impact-assessment-of-the-2014-2020-cohesion-policy-in-the-eu-regions.

European Committee of Regions – ECoR, 2022, *Territorial Impact Assessment. Impact of RePowerEU on Europe's regions*, CoR, Brussels. [accessed 2025 February 1]. https://cor.europa.eu/en/engage/studies/Documents/Territorial%20Impact%20Assessment%20-%20Impact%20of%20RePowerEU%20%20on%20Europe%E2%80%99s%20regions/4789%20TIA%20Impact%20of%20RePowerEU%202022.pdf.

European Commission – EC, 2025, *Annual impact report. Achievements 2024*, January. https://op.europa.eu/en/publication-detail/-/publication/299bafa4-e38c-11ef-be2a-01aa75ed71a1/language-en?WT.mc_id=Searchresult&WT.ria_c=125603&WT.ria_f=8103&WT.ria_ev=search&WT.URL=https%3A%2F%2Fcor.europa.eu%2F.

European Parliament, 2006, *Regulation (EC) No 1082/2006 of the European Parliament and of the Council on a European grouping of territorial cooperation (EGTC)*. https://eur-lex.europa.eu/eli/reg/2006/1082/oj. [accessed 2025 February 1].

Farinós-Dasí, J., 2023, Spatial Planning for Territorial Cohesion. In: Medeiros, E. (Ed), *Public Policies for Territorial Cohesion*, Springer, Cham. https://doi.org/10.1007/978-3-031-26228-9_8.

Hanse, S., Spatial Foresigth, 2021, *Rapport final du projet de soutien à la mise en œuvre de la stratégie opérationnelle du SDTGR par l'élaboration de cartes et de recommandations pour la mise en œuvre du SDTGR dans les documents de planification des différents versants de la Grande Région*. Luxembourg.

Hesse, M., 2024, Planning for the Spatial Equilibrium. In: ARL Conference, *Spatial Planning and Spatial Research from 1975 to the Present*, Rome, 10-11 October.

Hoch, C., 2023, "Places need better planning not less", *European Planning Studies*, 31, 11, 2385–2398. https://doi.org/10.1080/09654313.2023.2218414.

Informal Meeting of Ministers responsible for Spatial Planning and Territorial Development and/or Territorial Cohesion, 2020, *Territorial Agenda 2030. A*

future for all places. EU, Berlin-Brussel.

Italian Ministry of Infrastructures - MIT, 2021, *Guidelines for the elaboration of the Technical-Economic Feasibility Project to be based on the award of public works contracts of the NRRP and CNP*, Law 108/2021, MIMS, Rome.

Medeiros, E., 2020, Bringing more territoriality to Interreg CBC programmes via a 10-factor proposal to delimit their area. In: INTRERACT Seminar, *Territoriality and functional areas*, 22 April. Leuven.

Ministero per gli Affari europei, il Sud, le Politiche di coesione e il PNRR (2024). *Piano Strategico della ZES Unica*. Roma.

Olesen, K. (2023). "Reviving strategic spatial planning for the challenges ahead", *European Planning Studies*, 31, 11, 2318–2326. https://doi.org/10.1080/09654313.2023.2231500.

Peyrony, J., 2020, The scales of cooperation in a cross-border area. In: INTRERACT Seminar, *Territoriality and functional areas*, 22 April. Leuven.

Prezioso, M. (ed), 2020, *Territorial Impact Assessment of national and regional territorial cohesion in Italy. Place evidence and policy orientations towards European Green Deal*, Pàtron, Bologna.

Prezioso, M., 2017, Territorial cooperation in Europe and Italy: risks and opportunities of macro-regions, In: Ferlaino, F., Iacobucci, D., Tesauro, C. (Eds), *Quali confini? Territori tra identità e integrazione internazionale*, XXXVII Conferenza scientifica annuale AISRe, FrancoAngeli, Milano, 57-73.

Prezioso, M., 2018, Quale TIA per una politica di coesione territoriale 2020 e post. In: Prezioso, M., (ed), *Quale territorial impact assessment della coesione territoriale nelle regioni italiane. La concettualizzazione del problema*, Pátron, Bologna, 29-72.

Prezioso, M., 2019, Measuring the progress towards Territorial Cohesion: a TIA application to the regional development programs. In: ESPON2020 (Ed), *Building the next generation of research on territorial development*, ESPON, Luxembourg, 62-68.

Prezioso, M., 2020a, STeMA: a Sustainable Territorial economic/environmental Management Approach. In: Medeiros, E, (Ed), *Territorial Impact Assessment*, Springer, Cham, 62-85.

Prezioso, M., 2024, "Innovation in the Territorial Impact Assessment: an

application to Large Infrastructure Projects of the Italian Recovery and Resilience Facility", *Impact Assessment and Project Appraisal Journal*, 1-15. https://doi.org/10.1080/14615517.2024.2400459.

Prezioso, M., 2024a, "Territorial Impact Assessment, Cost Benefit Analysis and Do Not Significant Harms principle. Multiple combination is possible for sustainable works design", *Revista de Estudios Andaluces*, 48, 221-238. https://dx.doi.org/10.12795/rea.2024.i48.

Solduga, G.A., 2024, "Cooperative governance in the Mediterranean: developing a macro-regional application model", *Belgeo*, 24, 1-17. https://doi.org/10.4000/127om.

Świąder, M., 2021, Wrocław case: Biskupice Podgórne Special Economic Zone. In: *EYS Horizon 2020 project*. MIMEO. 1 July, Wroclaw.

VASAB, 2023, Vision and strategies around the Baltic Sea. In: *Expert's Conference on the VASAB Vision 2040*. 1 June, Wismar. https://vasab.org/.

Wobben, Th., 2016, Territorial Impact Assessment of European Policies. In: *VASAB Conference,* 7 June, Warzaw.

Zeng, D.Z., 2021, "The Past, Present, and Future of Special Economic Zones and Their Impact", *Journal of International Economic Law*, 24, 259–275. https://doi.org/10.1093/jiel/jgab014.

10. Special Economic Zones and Territorial Cohesion: a TIA-Based Approach to Sustainable Development

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Abstract

This chapter investigates how Territorial Impact Assessment (TIA) can be operationalized as a governance tool for sustainable development in Special Economic Zones (SEZs). It conceptualizes SEZs not merely as economic enclaves but as dynamic territorial ecosystems, requiring integrated and adaptive governance. Drawing on comparative case studies from Southern Italy and the Global South, the chapter analyses how different types and methodologies of TIA (e.g., ex-ante, ex-post, strategic, and tools like Territorial Efficiency, Quality, and Identity Layered Assessment, (TEQUILA), Strategic Territorial Multidimensional Assessment (STeMA), TARGET_TIA) can be employed to align SEZ development with spatial justice, ecological sustainability, and stakeholder engagement. The chapter concludes by proposing a structured TIA-SEZ governance model, including an indicator-based monitoring system aligned with the EU Green Deal, OECD cohesion strategies, and the UN SDGs (Sustainable Development Goals).

Keywords

Special Economic Zones, Territorial Impact Assessment, Sustainable Development, Urban Planning.

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1. Introduction and scope of the chapter

This chapter contributes to the literature on Special Economic Zones (SEZs) by proposing Territorial Impact Assessment (TIA) as a key governance tool for fostering sustainable, inclusive, and resilient development. While existing literature has examined the economic performance and spatial impacts of SEZs (Arbolino et al., 2022), limited attention has been paid to systematic, multi-scalar assessments that guide their lifecycle from planning to long-term monitoring.

By reconceptualizing SEZ governance as essential infrastructure (Di Ruocco, 2024), this chapter distinguishes between types of TIA, operational methods, and tools, proposing a structured set of territorial indicators for adaptive management. By developing a transferable governance model, it reframes SEZs not merely as economic tools but as integrated frameworks for achieving balanced and sustainable territorial development.

Adaptive governance in SEZs refers to the capacity to respond flexibly to territorial changes through continuous monitoring, stakeholder feedback, and evidence-based adjustment of policies. Rather than being static or reactive, SEZ governance should embed adaptive mechanisms—such as ex-ante and ex-post assessments—to ensure long-term alignment with social, environmental, and economic goals.

Through a comparative analysis of case studies from Italy, e.g., Southern Italy—specifically Campania, Puglia, Calabria, and Sicilia (Carlucci et al., 2021; Fazia, 2018; Rindone et al., 2022) —and also from regions across the world, with a particular emphasis on the Global South, the chapter examines how TIA can help tackle common challenges, including governance fragmentation, socio-spatial inequalities, and ecological vulnerabilities. In doing so, the chapter aims to align SEZ governance with international sustainability agendas, including the EU Fit for 55, the OECD's territorial cohesion strategies, and the WHO's health equity frameworks, proposing a new paradigm in which SEZs function as platforms for territorially balanced, socially just, and climate-resilient development. Recent European initiatives, such as the Territorial Agenda 2030 pilot action on Region-focused Territorial Impact Assessment, have reinforced the importance of integrating territorial impact considerations into decision-making. This initiative underscores

how sectoral policies shape spatial cohesion and serves as a reference model for integrating TIA into SEZ governance (Territorial Agenda, 2021).

While extensive literature on SEZs (e.g., Pigliucci, 2019) has explored economic impacts, land-use dynamics, and socio-environmental externalities, this chapter introduces a novel approach by embedding TIA as an adaptive governance framework that evolves with SEZ development. Rather than being merely a retrospective evaluative tool, TIA serves as a strategic framework for managing SEZ-driven territorial dynamics, ensuring alignment with principles of territorial cohesion (Tranquilli, 2020), social equity, environmental sustainability, and public health.

This chapter's contribution is threefold. First, it redefines TIA as an integral component of SEZ governance, allowing for dynamic adaptation to territorial challenges. Second, it clarifies the distinction between the types of TIA—addressing when and why assessments are conducted—and the methods and tools that determine how impacts are measured and analysed, filling a critical methodological gap and structuring SEZ governance throughout its lifecycle. Third, through a comparative analysis of SEZs in Southern Italy, Europe, and the Global South, it identifies common vulnerabilities such as governance fragmentation, territorial inequalities, and ecological risks. SEZs operate across varied economic landscapes. In the Global South, however, weaker institutions, regulatory deficiencies, and elevated socio-environmental risks render TIA an essential governance tool. Unlike European SEZs, which benefit from robust regulatory frameworks (e.g., the EU Territorial Agenda 2030), SEZs in emerging economies often lack coordinated governance and strategic territorial planning. In these settings, TIA serves as a crucial tool for mitigating inequalities, enhancing resilience, and embedding sustainability into SEZ policies.

This chapter addresses the following research questions:

1. How can Territorial Impact Assessment (TIA) methodologies be effectively integrated into Special Economic Zones (SEZ) governance frameworks to promote sustainable, inclusive, and adaptive territorial development?

2. What are the key differences in TIA implementation across varying institutional contexts—specifically between Southern Italy and the Global South—and how do these affect SEZ planning, monitoring, and outcomes?

3. Which typologies of TIA (ex-ante, ex-post, strategic, cross-border) and methodological tools (e.g., TEQUILA, STeMA, TARGET_TIA) best support adaptive governance, stakeholder engagement, and policy coherence in SEZ contexts?.

Additionally, the chapter advances the operationalization of TIA by developing a system of territorial indicators covering dimensions such as cohesion, circular economy, and social inclusion. This toolkit provides policymakers with a practical means to integrate sustainability, health, and equity objectives into SEZ governance. By aligning the TIA-SEZ model with global policy frameworks—including the EU Fit for 55, OECD territorial cohesion strategies, and WHO health equity guidelines (WHO, 2021)—this work positions SEZs as laboratories for integrated policy innovation, where economic development aligns with climate goals, public health, and social justice.

The chapter is structured as follows: Section 2 reviews the evolution and methodologies of TIA, highlighting its relevance for spatial governance and sustainable development. Section 3 examines the interrelations between SEZs and TIA, analysing the territorial challenges posed by SEZs and the opportunities TIA offers for managing these dynamics. Section 4 presents a comparative exploration of SEZ practices in Southern Italy and the other Countries, with focus on the Global South, identifying shared vulnerabilities and innovative governance responses. Section 5 proposes a set of territorial indicators and adaptive governance mechanisms, operationalising the TIA-SEZ model as a strategic tool for policymakers seeking to harmonise economic objectives with social and environmental responsibilities. The conclusions are described in the Section 6.

2. Evolution and methodologies of territorial impact assessment

2.1 From concept to global practice

This chapter builds on a structured theoretical framework that connects two distinct conceptual domains: (i) SEZs as instruments of spatial governance, and (ii) Territorial Impact Assessment (TIA) as a multi-scalar and adaptive evaluation tool. Moving beyond the conventional framing of SEZs as deregulated economic enclaves (Farole & Akinci, 2011), it adopts a more recent perspective that positions SEZs as territorial platforms for sustainable development, emphasizing social inclusion, environmental stewardship, and infrastructural integration (UNCTAD, 2023; Dunning & Lundan, 2008). The TIA framework—developed within the EU to assess the territorial effects of policies and investments (ESPON, 2014; Medeiros, 2014)—is employed here to evaluate the broader socio-territorial impacts of SEZs. By incorporating concepts of adaptive governance (Chaffin et al., 2014), territorial capability (Pecqueur, 2005), and spatial justice (Soja, 2010), the chapter proposes an integrated model for SEZ assessment. Case studies from Southern Italy and the Global South demonstrate how this approach can support more inclusive and territorially responsive planning and governance practices.

SEZs have emerged as key instruments for economic development across diverse global contexts, ranging from high-income economies with strong regulatory frameworks to emerging markets where institutional capacity and governance structures vary widely. While SEZs are primarily designed to attract investment, promote industrialization, and enhance regional competitiveness, their long-term success depends on integration into broader territorial governance frameworks. In many cases, SEZs generate significant spatial, social, and environmental externalities, which requires comprehensive assessment methodologies to effectively manage their impact. Throughout this chapter, territorial cohesion is understood as the strategic integration of SEZs into the broader spatial, economic, and infrastructural fabric of their surrounding regions. It entails equitable access to infrastructure, land-use balance, and alignment with regional development goals. Territorial cohesion serves as both a normative objective and a planning framework within SEZ governance.

Territorial Impact Assessment has gained prominence as a multidimensional analytical framework designed to evaluate the spatial effects of public policies, programs, and projects at multiple scales—local, regional, national, and transnational. Unlike sector-specific tools such as Environmental Impact Assessment (EIA) or Social Impact Assessment (SIA), TIA adopts a holistic spatial perspective, examining how interventions shape economic development, social cohesion, environmental sustainability, and governance structures (ESPON, 2013).

Originally developed in the context of EU spatial planning, TIA was conceived as a tool to promote territorial cohesion by identifying regional disparities and informing evidence-based policymaking. Its role has become increasingly critical in response to widening spatial inequalities across Europe, highlighting the need for coordinated governance to address territorial disparities (Medeiros, 2015). As Camagni (2017) highlights, embedding the territorial dimension in development strategies is essential for balancing economic, social, environmental, and cultural objectives.

In Italy, Di Ruocco & D'Auria (2023) applied an ESPON-inspired TIA framework to assess the territorial impacts of the National Recovery and Resilience Plan (PNRR) in Campania. Their study illustrates how TIA facilitates the strategic alignment of regional development goals within complex, multi-level funding environments, mitigating spatial inequalities, directing infrastructural investments, and fostering long-term territorial cohesion. In Campania's SEZ areas, particularly those linked to port and logistics platforms, TIA has addressed governance fragmentation, a major challenge affecting spatial integration and socio-economic development.

Other regions in Southern Italy have integrated TIA into their SEZ strategies, further demonstrating the adaptability of the TIA model. In Puglia, TIA has supported industrial reconversion and ecological transition, particularly in Taranto, to ensure alignment between industrial expansion and environmental safeguards for peri-urban ecosystems and vulnerable communities affected by decades of industrial pollution (Prezioso, 2024). In Sicilia, it has played a key role in safeguarding agricultural landscapes and historic rural settlements threatened by SEZ-induced urbanisation, fostering coordinated land-use planning around key port areas (Manti, 2019; Ferrara et al., 2022). Sardegna presents additional complexities due to its fragile environmental context and limited connectivity. Here, TIA has been used

to balance industrial growth with ecosystem protection while maintaining the economic viability of local tourism and agriculture (ESPON, 2013).

Beyond Italy, TIA methodologies have also been applied to SEZs across Europe, Asia, India, and Africa, where territorial challenges vary significantly. In Poland and Hungary, TIA has been incorporated into SEZ planning to mitigate urban sprawl (Cieślik, 2025) and ensure sustainable land use within post-socialist industrial zones (Medda & Modelewska, 2020; Guagliano & Riela, 2005). In China and Vietnam, where SEZs have spurred rapid urban growth, TIA has played a role in monitoring environmental degradation and ensuring spatial integration with surrounding territories (Li et al., 2021; Wang et al., 2020). In India, where SEZs have been criticized for land displacement and governance inefficiencies, the framework has been proposed as a tool to enhance stakeholder participation and equitable resource distribution (Aggarwal, 2017). Across Africa, SEZs often face weak regulatory enforcement, leading to socio-environmental vulnerabilities; here, TIA has been increasingly recognized to align industrial growth with regional sustainability goals (Farole & Moberg 2017; Zeng, 2019).

These experiences across Southern Italy and international SEZ contexts highlight a shared commitment to territorial justice, environmental sustainability, and participatory governance. Embedding TIA in SEZ planning has allowed these regions to proactively tackle marginalization, ecological vulnerabilities, and infrastructure deficits, transforming SEZs into laboratories for adaptive and inclusive development.

2.2 Methodological advancements

Building on its conceptual foundation, TIA has evolved into a versatile methodological field, integrating qualitative and quantitative approaches to address complex territorial dynamics. Recent innovations have enhanced its operational tools, improving the capacity to measure both direct impacts and the diffusion of effects across territories. While different types of TIA establish when and why assessments are conducted (e.g., ex-ante, ex-post), specific methodologies such as Territorial Evaluation for Quality-of-Life Improvement Assessment (TEQUILA), Territorial Assessment for Regional Growth and European Territorial Cohesion (TARGET_TIA), and Sustainable Territorial Environmental/Economic Management Approach (STeMA) define how these

evaluations are carried out. This distinction ensures a structured approach to assessing SEZ impacts throughout their lifecycle, allowing for more precise and adaptive governance.

Among the most advanced methodologies, STeMA facilitates multidimensional assessments, SPA(TIA) captures territorial diffusion effects, and TARGET_TIA strengthens counterfactual analysis, each addressing specific gaps in SEZ governance. STeMA (Sustainable Territorial Environmental/Economic Management Approach) (Prezioso, 2020) integrates TIA into strategic planning through interactive indicator matrices, supporting ex-ante and ex-post evaluations while aligning with the EU Green Deal and the Territorial Agenda 2030. Its strength lies in managing multidimensional assessments—including economic, social, environmental, cultural, and organizational factors—while addressing challenges such as balancing dominant and secondary indicators. SPA(TIA) (Herbst et al., 2024) incorporates spatial proximity matrices to evaluate how policy impacts diffuse across regions, enhancing traditional assessments, as demonstrated in its application to the European Funds for the Western Pomerania programme. TARGET_TIA (Medeiros, 2015) offers a flexible, cost-effective model that integrates counterfactual analysis to improve the credibility of both ex-ante and ex-post evaluations, proving particularly effective in assessing EU cohesion policy impacts.

To clarify these methodological distinctions, a schematic Figure 1 illustrates the four main types of TIA (ex-ante, ex-post, strategic, cross-border) alongside key methodologies (TEQUILA, TARGET_TIA, STeMA) would provide a visual representation of how these tools are applied within SEZ governance.

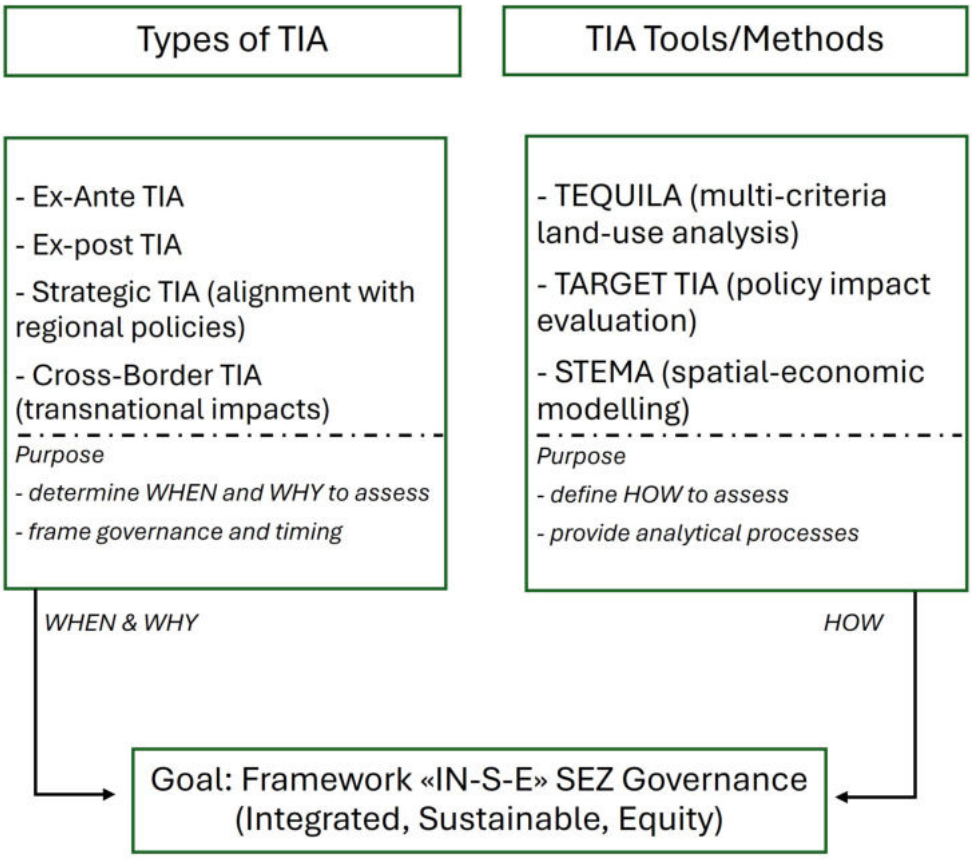

Figure 1 – Proposal of TIA-SEZ Model.
Source: Elaboration of author

Building on these methodological advancements, TIA has become an essential tool for managing the territorial dynamics of complex projects like Special Economic Zones, where economic priorities intersect with social equity and environmental sustainability. Applied to SEZ governance, TIA helps identify territorial sensitivities and potential conflicts, model land-use changes and socio-economic impacts, and monitor long-term effects through adaptive indicator systems. As TIA has expanded beyond its European origins, it has been increasingly recognized as a multidimensional governance instrument in regions worldwide facing challenges of fragmentation, inequality, and ecological risk. Its application to SEZs provides a framework that ensures

these zones contribute not only to economic growth but also to territorial cohesion, social inclusion, and environmental resilience.

This foundation sets the stage for the following sections, which explore the interplay between SEZs and territorial governance, the operationalization of TIA within SEZ frameworks, and comparative insights from case studies in Southern Italy and the Global South (Kiesel & Dannenberg, 2023). Building on these conceptual insights, the following sections empirically explore how TIA frameworks are applied across different territorial and governance contexts, revealing both shared patterns and region-specific challenges.

3. The application of TIA methodologies to Special Economic Zones

Building on the rationale outlined in the previous section, this part examines how TIA can be effectively applied to SEZs (see Fig. 2). Moving from theory to practice, it demonstrates how TIA offers a structured framework to manage the complex territorial dynamics of SEZs through established methodologies, adaptive governance models, and integrated indicator systems. This section is organised around three key components:

1. A comparative analysis of international experiences, highlighting how TIA has been applied to address SEZ challenges in different global contexts.

2. An overview of TIA models and methods, clarifying the distinction between types of TIA and the tools used, with a focus on their practical integration within SEZ governance.

3. The development of governance frameworks and indicator systems to support continuous monitoring and adaptive management of SEZ impacts.

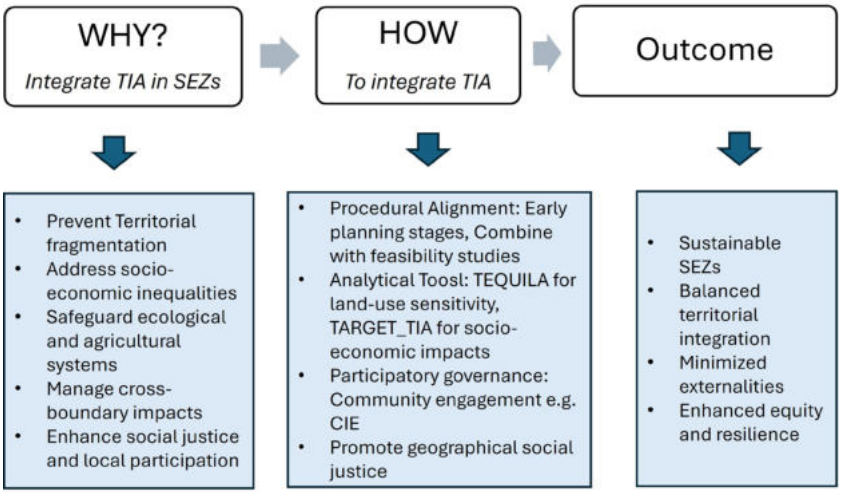

Figure 2 – Integration of TIA and SEZs: main steps.
Source: Elaboration of author

3.1 International experiences: lessons from Global SEZs

Around the world, SEZs encounter recurring territorial challenges such as land-use conflicts, environmental degradation, social exclusion, and fragmented governance. In response, context-specific adaptations of TIA have emerged, offering valuable insights into how these zones can be more effectively integrated within their territorial settings.

In Europe, the Territorial Agenda 2030 has recognized the importance of territorial impact assessments for economic zones. The Region-focused TIA pilot action provides a strategic framework to evaluate spatial inequalities and guide SEZ governance, ensuring policy coherence across multiple levels of decision-making (Territorial Agenda, 2021).

A comparative analysis of SEZs worldwide reveals common challenges related to governance fragmentation, socio-spatial inequalities, and environmental risks. By integrating Territorial Impact Assessment (TIA), policymakers can better anticipate conflicts, align infrastructure with local needs, and promote balanced economic growth. The following cases highlight key lessons from different regions, demonstrating how TIA

enhances SEZ governance and fosters sustainable territorial development.

• Italy (Campania, Puglia, Sicilia, Sardegna): In Southern Italy, TIA has played a critical role in mitigating structural fragilities such as governance gaps, environmental vulnerabilities, and spatial inequalities. In Campania, Di Ruocco & D'Auria (2025) applied Community Impact Evaluation (CIE) to promote participatory governance, while Puglia has integrated circular economy principles into SEZs like Taranto (Favale, 2016). Sicilia focuses on managing rural-urban transitions and preserving agricultural land, whereas Sardegna balances industrial expansion with environmental sustainability in its fragile insular context (Brundu, 2017; Borruso, 2020).

• Europe (Poland, Hungary): In Poland, TIA can facilitate post-industrial SEZ remediation, aligning economic regeneration with urban planning strategies (Cieślik, 2025; Medda & Modelewska, 2020). In Hungary, participatory TIA approaches have strengthened local governance and addressed the marginalization of peripheral areas, fostering more inclusive SEZ development (Guagliano & Riela, 2005).

• South Asia (India, Vietnam): India's lack of formal TIA frameworks has left SEZs vulnerable to land displacement and socio-spatial inequalities, particularly due to land acquisition conflicts and rural displacement (Frick et al., 2019; Parwez & Sen, 2016). However, territorial assessment tools are gaining recognition as essential mitigation mechanisms (Gallé et al., 2024). In Vietnam, advanced land-use sensitivity analyses in SEZs such as Dung Quat have been employed to monitor peri-urban sprawl (Hiền & Oanh, 2019) and protect ecological corridors (Aijaz et al., 2022).

• East Asia (China): In China, SEZs and Free Trade Zones (FTZs) have significantly impacted urban land use efficiency, reshaping spatial dynamics in host cities. Research indicates that FTZs have increased land-use intensity while raising concerns about urban sprawl and the displacement of traditional industries (Xia et al., 2024). TIA frameworks have been proposed to ensure that SEZ-driven urban expansion aligns with sustainable land management and spatial planning objectives.

• Southeast Asia (Cambodia): In Cambodia, Brussevich (2024) analyses the socioeconomic impacts of SEZs, showing that they have increased employment, particularly among women, and reduced income inequality at

the district level. However, the study also highlights rising land values in SEZ areas, with relatively stagnant wage levels compared to non-SEZ districts.

• Africa (Kenya, Ethiopia, Ghana): SEZs in Africa frequently face land speculation and community displacement risks, particularly in Kenya and Ghana (Giese & Thiel, 2015). While formal TIA adoption remains limited, emerging participatory governance models and territorial diagnostics are increasingly used to manage land tenure conflicts and support balanced regional development (Danja & Wang, 2024).

• Latin America (Colombia, Cambodia, Costa Rica): In Colombia, weak SEZ governance structures have exacerbated spatial inequalities (Dumont, 2024), while in Costa Rica, territorial resource management has helped resolve water conflicts and safeguard ecological integrity within SEZs. Costa Rica's SEZ governance model showcases how knowledge networks and industrial clustering can foster economic integration (Ugalde-Hernández (2019).

• Mexico: Mexico's approach to SEZs emerged as a strategy to stimulate industrialization in its southern states, marking a shift from its earlier Maquiladoras program, which primarily supported assembly-based manufacturing. The SEZ policy aimed to foster a more diversified industrial base, integrating value chains and local clusters, thus increasing the complexity of industrial policy and the need for stronger governance structures (Gómez-Zaldívar & Molina-Perez, 2021, p. 5). However, the program was discontinued in 2019, highlighting the difficulties of maintaining long-term SEZ initiatives in the face of institutional instability and shifting economic policies.

• Middle East (UAE): In the United Arab Emirates, SEZs have significantly altered land-use patterns, boosting commercial and industrial development while reducing agricultural and undeveloped spaces (Alhosani, 2015). While these zones have enhanced connectivity and investment, they have also contributed to spatial fragmentation and environmental pressures, underscoring the need for TIA-based urban planning to balance economic growth with sustainability.

• USA: Unlike China or the EU, the USA does not have traditional SEZs. Instead, it uses Foreign Trade Zones (FTZs), which focus on customs benefits and fiscal incentives rather than spatial planning or governance integration.

Since FTZs lack the territorial governance focus central to our discussion, their inclusion may not be fully relevant. However, they remain an important policy tool, as they exempt select companies from federal customs duties and excise taxes, as well as state and local ad valorem taxes, positioning them as a limited but influential variant of SEZs in the global economic landscape (Bell, 2016).

These cases illustrate that, despite varying territorial contexts, TIA provides a flexible governance toolkit, enabling SEZs to anticipate conflicts, align infrastructure with social needs, and balance economic growth with environmental protection. Table 1 summarises key global cases, illustrating why TIA is necessary and how it supports more balanced and sustainable SEZ outcomes.

Country	Case Study	Why TIA Is Needed	How TIA Helps	Source
Africa	Ethiopia, Kenya	Labor market precarity, weak local integration	Assess employment impacts and equity	Zeng (2019), Farole & Moberg (2017)
	Ghana	Land speculation, displacement risks	Participatory governance and land tenure management	Giese & Thiel (2015)
Asia	Dung Quat (Vietnam)	Peri-urban sprawl, ecological fragmentation	Land-use sensitivity analysis via TEQUILA	Hiền & Oanh (2019)
	Pearl River Delta (China)	Agricultural land loss, rural-urban divide	Spatial simulations to prevent sprawl	Hu et al. (2020)
	Free Trade Zones (China)	Urban land-use inefficiency, displacement risks	Land-use efficiency assessment and sustainable urban planning	Xia et al. (2024)
South-East Asia	Cambodia	Socioeconomic disparities, land value inflation	Assess employment impact, income inequality, and SEZ spillovers	Brussevich (2024)
Latin America	Colombia	Fragmentation, bypassing local economies	Territorial cohesion assessment	Dumont (2024)
	Costa Rica	Socioeconomic impacts of SEZs on cognitive and economic network formation	Analysis of interactions between local universities and multinational biomedical firms	Ugalde-Hernández (2019)
	Mexico	SEZ program failure, lack of governance continuity	Institutional capacity-building and long-term monitoring of SEZ policies	Gómez-Zaldívar & Molina-Perez (2021)

Europe	Campania (Italy)	Socio-spatial inequalities, governance gaps	Community Impact Evaluation (CIE)	D'Auria et al. (2019); Di Ruocco & D'Auria (2024); Di Ruocco & D'Auria (2025)
	Puglia (Italy)	Industrial reconversion, environmental risks	Circular economy integration and land-use planning	Favale (2016)
	Sicily (Italy)	Rural-urban transitions, agricultural land loss	Preservation of agricultural landscapes and historic rural settlements	Brundu (2017)
	Sardinia (Italy)	Insular constraints, limited connectivity	Industrial growth balancing with environmental sustainability	Borruso (2020)
	Taranto (Italy)	Heavy industrialization, environmental degradation	TIA-based ecological transition planning	Favale (2016)
	Naples Port (Italy)	Port logistics congestion, socio-economic inequalities	Territorial assessment for multimodal transport and governance	Di Ruocco & D'Auria (2024)
	Poland	Incomplete remediation, urban regeneration	Integration into urban planning frameworks	Medda & Modelewska (2020)
	Hungary	Neglected local participation, uneven benefits	Participatory territorial governance	Guagliano & Riela (2005)
Middle East	UAE	Land-use transformation, urban expansion	GIS-based land-use monitoring and sustainable urban planning	Alhosani (2015)
South Asia	India	Land displacement, socio-spatial inequalities	Territorial assessment to mitigate acquisition conflicts	Parwez & Sen (2016)
		Weak labor protections, economic fragmentation	SEZ labor policy evaluation and stakeholder engagement	Jenkins et al. (2015)
USA	Unites States Foreign Trade Zones (FTZs)	Lack of spatial governance, focus on fiscal incentives	Integration of territorial planning with trade and customs policies	Bell (2016)

Table 1 - Application of Territorial Impact Assessment (TIA) in Special Economic Zones (SEZs) across different Regions.

Source: Elaboration of author

The growing body of research on SEZs reveals their profound territorial implications, not only as catalysts for economic growth but also as drivers of complex spatial, social, and environmental transformations. While SEZs are often designed to enhance regional competitiveness, their long-term impacts extend beyond economic outputs, reshaping land-use patterns, governance structures, and social dynamics. Despite substantial analysis of SEZ economic outcomes, the literature consistently identifies a critical gap in understanding how these zones interact with the territorial systems in which they are embedded.

As illustrated in Table 1, SEZs across different regions face recurring governance and territorial challenges, such as land-use inefficiencies in China, the impact of SEZ-driven industrial clustering on local economic and cognitive networks in Costa Rica, and socio-spatial inequalities in Campania, Italy. These cases highlight the necessity of integrating TIA to anticipate, mitigate, and manage these effects. Without a structured territorial governance approach, SEZs often amplify existing inequalities, leading to land-use conflicts, socio-economic fragmentation, and environmental degradation. The variation in SEZ impacts—ranging from peri-urban sprawl in Vietnam to participatory governance challenges in Hungary—reinforces the need for context-specific TIA frameworks that can adapt to different territorial and policy environments.

These findings emphasize the need for systematic tools to evaluate and manage the territorial dimension of SEZs, a role that TIA methodologies are uniquely positioned to fulfil. However, a key conceptual gap in current practice concerns the frequent conflation of types of TIA with the methods or tools used to apply these assessments. Clarifying this distinction is essential for building a coherent and operational framework for SEZ evaluation. Types of TIA refer to the timing, purpose, and scope of territorial assessments, answering the fundamental questions of when and why SEZ impacts should be evaluated. These include ex-ante assessments that guide SEZ planning before implementation, ex-post evaluations that monitor long-term socio-economic and environmental effects, strategic assessments that ensure alignment with broader policy objectives, and cross-border evaluations that address transnational externalities. These different approaches provide the structural logic of territorial evaluation, helping policymakers determine at which stages SEZ impacts must be analysed and what aspects require continuous monitoring.

However, understanding when to apply TIA is insufficient without clear

methodologies for implementation. The effectiveness of TIA depends on the integration of robust analytical tools that define how territorial data are collected and processed, how spatial and socio-economic scenarios are simulated, and how impact sensitivities are quantified to support decision-making. Methodologies such as TEQUILA, TARGET_TIA, and STeMA serve as the technical backbone of territorial assessments. TEQUILA employs multi-criteria analysis to evaluate policy trade-offs, while TARGET_TIA applies counterfactual models to assess policy effectiveness over time. Meanwhile, STeMA integrates TIA within strategic planning by linking environmental, economic, and social indicators.

As reflected in Table 1, SEZ case studies show that while many regions recognize the value of TIA, its application often remains fragmented. Some SEZs focus exclusively on governance structures without integrating methodological tools, while others employ technical tools but fail to incorporate them into policy and decision-making processes. The UAE case (Alhosani, 2015), for example, uses GIS-based monitoring for land use but lacks a broader territorial governance framework to ensure SEZ sustainability. Conversely, Campania's SEZs in Italy integrate CIE into policy decisions but require stronger methodological standardization. The China Free Trade Zones case demonstrates how TIA could be used to enhance land-use efficiency, while cases in India and Ghana underscore the importance of participatory governance in preventing land speculation and displacement.

To address this gap, SEZ governance must integrate both the structural rationale behind the different types of TIA and the practical application of appropriate assessment tools. This means embedding territorial evaluations throughout all phases of SEZ development—planning, implementation, and monitoring—by aligning procedural governance approaches with rigorous analytical methodologies. Crucially, the distinction between *types* of TIA (which define *when* and *why* assessments are conducted) and *methods* of TIA (which determine *how* impacts are measured and interpreted) is not merely academic. It has direct consequences for the effectiveness and coherence of SEZ planning. In many cases, governance frameworks rely on institutional procedures without sufficient methodological depth, or conversely, deploy advanced analytical tools without grounding them in a strategic territorial vision. Bridging this disconnect is essential to ensure that SEZs evolve in a way that is both evidence-based and territorially integrated..

3.2 TIA models and methods for sez assessment

SEZs function as dynamic territorial entities that reshape economic structures, governance models, and land-use patterns. However, as evidenced in Table 1, their impact varies significantly across regions, with governance fragmentation, socio-spatial inequalities, and environmental risks frequently emerging as critical challenges. The role of TIA in SEZs is therefore not only to evaluate direct economic benefits but to ensure that development is aligned with sustainable territorial governance. Despite increasing recognition of TIA's role, its application remains fragmented, largely due to a lack of clarity between the timing and purpose of assessments (types of TIA) and the methods and tools used to conduct them. Addressing this conceptual gap is fundamental to establishing an integrated and operational evaluation framework for SEZ governance.

A structured approach to TIA requires distinguishing when and why territorial assessments are conducted from how they are implemented. As outlined in Table 2, the types of TIA define the moments in an SEZ's lifecycle when assessments should be applied. Ex-ante TIA is conducted during the planning phase to anticipate potential impacts, ex-post TIA evaluates long-term outcomes and informs necessary adjustments, strategic TIA ensures that SEZs align with broader territorial development and policy goals, and cross-border TIA accounts for transnational effects requiring coordinated governance. These structured assessments allow decision-makers to determine the appropriate timing and scope for evaluating an SEZ's territorial impacts.

However, timing alone is insufficient to produce meaningful evaluations. The technical foundation of TIA relies on analytical tools that quantify, model, and interpret territorial effects, ensuring that SEZ development is assessed with methodological precision. Table 2 also highlights the key methods used in SEZ evaluation. TEQUILA applies a multi-criteria analysis to assess territorial sensitivity, TARGET_TIA employs counterfactual analysis to evaluate the long-term impact of policies, while STeMA integrates economic, environmental, social, and cultural factors into a strategic planning framework through interactive indicator matrices. The combination of structured timing (types of TIA) and rigorous analytical tools (methods of TIA) ensures that SEZ governance is supported by evidence-based territorial assessments rather than fragmented or ad hoc evaluations.

Category	TIA Assessment Stages	TIA Methods/Tools
Definition	Categories of TIA based on timing, scope, and territorial scale.	Analytical models and instruments used to quantify and evaluate territorial impacts.
Purpose	Defines when and why territorial assessments should be conducted (e.g., planning, monitoring, strategic adaptation).	Provides methodological techniques to quantify, model, and analyse SEZ impacts.
Examples	Ex-ante TIA, Ex-post TIA, Strategic TIA, Cross-border TIA.	TEQUILA (multi-criteria analysis), TARGET_TIA (policy impact evaluation), STeMA (spatial-economic analysis).
Focus	Structures the governance process, ensuring assessments occur at key decision-making moments.	Supplies data-driven methodologies for assessing land-use change, socio-economic shifts, and environmental effects.
Application in SEZs	Determines at what stage and for what purpose the SEZ is evaluated territorially (e.g., before implementation, after completion, for policy alignment).	Equips SEZ governance with tools to measure land-use transformations, social impacts, economic spillovers, and environmental risks, ensuring sustainable decision-making.

Table 2 - TIA Assessment Stages and Methods: A Comparative Overview.
Source: Elaboration of author.

An integrated approach to TIA is particularly relevant given the knowledge transfer potential of SEZs, which varies significantly between regions. In China, SEZs have functioned as knowledge hubs, embedding foreign direct investment within localized capacity-building structures. Research by Alves & Lee (2022) demonstrates that the Chinese SEZ model has influenced SEZ development in Ethiopia and Cambodia, underscoring the role of institutional learning and cross-border knowledge exchange. The application of strategic TIA in such cases is crucial, ensuring that SEZ models adapted from

other regions are contextualized and aligned with local governance needs.

The importance of embedding a methodologically coherent TIA framework in SEZ governance is further demonstrated by real-world applications. In Campania, Italy, a combination of Territorial Impact Assessment and CIE has been used to strengthen participatory governance, allowing both ex-ante and ex-post evaluations to be integrated into SEZ decision-making (D'Auria et al., 2019; Di Ruocco & D'Auria, 2025). In China and Vietnam, simulation tools embedded within strategic TIA models have been instrumental in mitigating the risks of unchecked urban sprawl, demonstrating how land-use assessments can directly inform SEZ planning (Li et al., 2021; Yang et al., 2023). These cases illustrate that when types and methods of TIA are applied in a structured and complementary manner, SEZs transition from isolated economic enclaves to integrated territorial systems that support long-term sustainability.

Beyond economic planning, SEZs profoundly impact social equity, governance dynamics, and environmental sustainability, making continuous monitoring essential. However, as noted in Table 3, existing studies on SEZ performance tend to focus primarily on economic indicators, often overlooking broader territorial transformations. A comprehensive TIA approach necessitates the integration of Key Performance Indicators (KPIs) that extend beyond financial metrics to assess the full spectrum of SEZ effects, including land-use efficiency, environmental sustainability, social inclusion, and governance quality.

As part of this chapter's focus on advancing new sustainability objectives, TIA plays a critical role in supporting equitable development, territorial balance, and improved quality of life. Rather than treating sustainability as a secondary consideration, SEZ governance should embed ex-ante indicators that proactively anticipate risks and optimize resources, alongside ex-post evaluations that ensure policy adaptation and accountability. Table 3 presents an integrated monitoring framework that allows policymakers to track accessibility improvements, land-use changes, emission reductions, labour market inclusivity, and governance participation, ensuring that SEZ performance is evaluated holistically rather than through isolated economic metrics.

Dimension	Ex-Ante TIA Indicators (Planning Phase)	Ex-Post TIA Indicators (Monitoring Phase)	Sustainability Relevance
Governance Quality	Stakeholder mapping, multi-level governance coordination, policy alignment frameworks	Stakeholder participation frequency, policy adaptation cycles, conflict resolution outcomes	Ensures participatory, accountable, and adaptive governance, aligning SEZs with territorial cohesion objectives.
Territorial Cohesion	Accessibility potential of the SEZ to regional transport, projected service coverage	Measured changes in regional connectivity, service accessibility improvements	Promotes balanced spatial integration and equitable regional access to infrastructure and services.
Land Use and Equity	Land suitability analysis, zoning regulations, displacement risk assessment	Land consumption rate, actual displacement levels, land price variation	Preserves fair land distribution, prevents uncontrolled speculation, and minimizes social disruption.
Environmental Impact	Baseline environmental sensitivity (air quality, water, biodiversity), carbon footprint projections	Emission levels; waste production, resource efficiency	Supports decarbonization, pollution reduction, and long-term ecological resilience.
Circular Economy	Resource efficiency potential, material flows, industrial waste reduction strategies	Material reuse rates, circular production share, industrial symbiosis effectiveness	Reinforces sustainable production, resource efficiency, and waste minimization.
Social Inclusion	Employment diversity forecasts, stakeholder engagement in labour policy, skills development potential	Actual employment diversity, wage distribution, labour rights enforcement	Ensures inclusive and fair labour markets, fostering equitable labour participation.
Economic Integration	Supply chain integration, SME participation, sector diversification forecasts	Share of local suppliers, innovation adoption, economic spillover effects	Strengthens local economies and enhances business resilience by promoting regional economic participation.
Urbanisation Pressure	Projected urban expansion, infrastructure capacity stress, speculative real estate risk	Actual urban growth rates, infrastructure congestion, housing cost trends	Ensures controlled, sustainable urban development, preventing unplanned sprawl and real estate market distortions.

Table 3 - Integrated system of ex-ante and ex-post indicators, structured around key territorial dimensions.

Source: Elaboration of author

By embedding these indicators into governance frameworks, SEZs can transition from growth-driven models to sustainable ecosystems where economic expansion aligns with social and environmental priorities. Their effectiveness depends on structured governance that integrates stakeholder engagement and ensures coordination across national, regional, and local levels. However, many existing SEZs operate without a comprehensive TIA framework, often neglecting critical dimensions such as social equity, environmental sustainability, and long-term governance adaptability. Without a multi-dimensional assessment approach, SEZ policies risk being overly focused on economic outputs while failing to mitigate land-use conflicts, socio-spatial inequalities, and ecological pressures.

TIA supports this by embedding ex-ante assessments to incorporate stakeholder input from the outset and ex-post evaluations to ensure continuous policy adaptation. Unlike conventional SEZ planning, which often considers economic and regulatory factors in isolation, TIA integrates multiple territorial dimensions—spatial planning, economic integration, environmental management, and governance quality—into a cohesive decision-making framework. In China's Free Trade Zones, land-use efficiency assessments have helped prevent urban sprawl while maintaining investment appeal (Xia et al., 2024). Conversely, the UAE SEZ experience shows how weak governance leads to spatial fragmentation and environmental degradation (Alhosani, 2015), underscoring the risks of an uncoordinated approach. Through a structured, TIA-supported governance model, SEZs can evolve beyond economic enclaves to become integrated and sustainable territorial hubs.

4. Governance and indicators: building an integrated TIA-SEZ framework

Despite their economic success, many SEZs operate within fragmented governance structures that fail to integrate territorial, social, and environmental concerns. This chapter highlights how TIA, through structured governance and real-time monitoring, enables SEZs to incorporate multiple dimensions into decision-making, ensuring they contribute to balanced and resilient territorial development. This section presents the empirical evidence drawn from case studies in Southern Italy and selected Global South regions, analysing how

theoretical TIA models are translated into practice under diverse governance conditions

4.1 The Role of Governance in TIA-SEZ Integration

Governance challenges in SEZs align with broader concerns in European territorial cohesion policies, particularly the Territorial Agenda 2030, which emphasizes region-focused TIA methodologies for policy alignment and participatory decision-making. Without a cohesive, multi-level governance approach, SEZs risk operating in isolation, leading to land-use conflicts, marginalization, and environmental degradation.

Governance ensures that TIA is not a one-off technical exercise but an adaptive, participatory tool that continuously shapes SEZ policies. The absence of integrated territorial coordination often results in disconnected development policies, as seen in the UAE SEZ experience, where rapid urban expansion led to spatial fragmentation and environmental degradation (Alhosani, 2015). Conversely, structured governance mechanisms such as land-use efficiency assessments in China's Free Trade Zones (Xia et al., 2024) demonstrate how TIA can prevent urban sprawl while maintaining investment appeal.

A key sustainability objective of the TIA-SEZ framework is fostering long-term collaboration among public and private stakeholders. By embedding ex-ante assessments, SEZ governance can ensure stakeholder engagement from the outset, while ex-post evaluations enable continuous policy adjustments and the equitable distribution of benefits.

4.2 Indicator Systems for Territorial Monitoring

To operationalize adaptive governance, SEZs require a performance monitoring system that extends beyond conventional economic metrics to comprehensively assess their territorial, social, and environmental impacts. The integration of TIA within SEZs provides a structured framework for ex-ante and ex-post assessments, ensuring governance remains responsive, inclusive, and sustainability-driven (UNCTAD, 2023) as exposed in Figure 3.

Table 4 presents a multi-dimensional indicator system that evaluates how

SEZs contribute to territorial cohesion, environmental sustainability, and stakeholder participation, reinforcing their role as integrated development platforms rather than isolated economic enclaves (Medeiros, 2015; ESPON, 2013; Farole & Moberg, 2017). To strengthen alignment with global policy frameworks, the TIA-SEZ indicator system is refined according to EU Fit for 55, OECD Rethinking Regional Attractiveness in the New Global Environment Report (OECD, 2023), and UN-Habitat SDGs, which emphasize governance transparency, environmental responsibility, socio-economic equity, and digital transformation, all of which are essential for SEZ territorial integration.

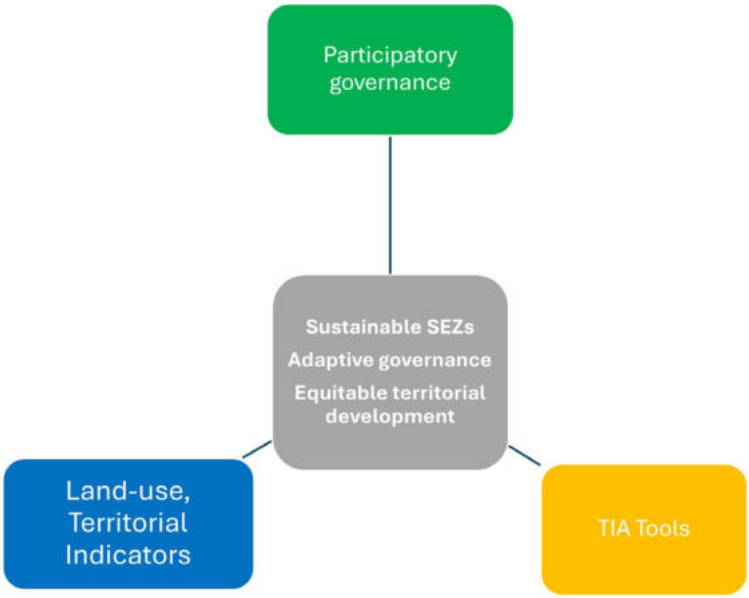

Figure 3 – Integrated framework TIA-SEZ.
Source: Elaboration of author

Figure 3 visually represents the core components necessary for achieving sustainable SEZ governance through Territorial Impact Assessment (TIA). At the centre, SEZs must embrace adaptive governance and equitable territorial development, ensuring that economic growth aligns with broader social and environmental goals.

This framework highlights three interconnected pillars essential for the

successful integration of TIA into SEZ governance:

• Participatory governance—ensuring that stakeholders, including local communities and policymakers, are actively involved in decision-making processes.

• Land-use and territorial indicators—providing measurable criteria to assess spatial planning, resource allocation, and socio-economic impacts.

• TIA tools—offering methodological approaches to evaluate SEZs' territorial transformations, guiding policies toward sustainability.

Key Dimensions of the TIA-SEZ Indicator System

1. Regional connectivity and spatial integration: SEZs serve as territorial hubs that enhance accessibility and infrastructure networks. However, without strategic spatial planning, they risk becoming isolated economic enclaves disconnected from urban cores and transit systems. TIA identifies accessibility gaps, ensuring that SEZs strengthen regional integration rather than contribute to fragmented development (Di Ruocco & D'Auria, 2025; Farole & Akinci, 2011).

2. Land equity and displacement prevention: rapid SEZ expansion often triggers land speculation, forced relocations, and socio-spatial inequalities. TIA integrates land-use suitability analysis and displacement risk assessments to prevent uncontrolled land appropriation, ensuring that development benefits are equitably distributed across affected communities (Frick et al., 2019; Giese & Thiel, 2015).

3. Carbon emissions reduction and resource efficiency – Industrial growth within SEZs increases energy consumption, emissions, and pollution risks. TIA enables ex-ante environmental sensitivity assessments and ex-post tracking of emissions and resource use, supporting climate resilience strategies and decarbonization objectives (Medeiros, 2015; UNCTAD, 2023).

4. Circular economy and sustainable production – SEZs often emphasize short-term economic growth over long-term resource efficiency. TIA incorporates material flow analysis and waste reduction strategies, ensuring SEZs adopt circular economy models that reduce environmental degradation (Xia et al., 2024; Wang et al., 2020; Ugalde-Hernández, 2019).

5. Inclusive labour markets: while SEZs generate employment, they frequently perpetuate informal labour structures with weak protections. TIA assesses employment diversity, labour rights enforcement, and skills development programs, ensuring that job creation fosters equity rather than exacerbating precarious employment conditions (Frick et al., 2019; Parwez & Sen, 2016).

6. Local economic resilience and SME integration: SEZs are often criticized for prioritizing foreign direct investment (FDI) while neglecting local SMEs and supply chains. TIA integrates supply chain impact assessments, ensuring that SEZs support regional business ecosystems and extend economic benefits beyond large corporations (Medda & Modelewska, 2020).

7. Urban expansion management and sprawl prevention: unregulated SEZ growth contributes to urban congestion, infrastructure stress, and housing affordability crises. TIA monitors urban expansion trends, infrastructure capacity stress, and real estate market dynamics, allowing policymakers to anticipate development pressures and implement land-use controls (Frick et al., 2019; Zeng, 2019).

8. Governance transparency and stakeholder participation: weak governance frameworks result in limited stakeholder engagement and non-transparent decision-making. TIA strengthens multi-level governance coordination, participatory planning, and conflict resolution mechanisms, ensuring that SEZ governance is inclusive and responsive to territorial needs (Di Ruocco & D'Auria, 2024).

Table 4 below presents a structured system of ex-ante and ex-post indicators, reinforcing SEZ governance as a proactive tool for territorial management. These

indicators provide a holistic framework for evaluating whether SEZs enhance connectivity, protect land equity, mitigate environmental risks, promote circular economies, support inclusive labour markets, and ensure governance transparency.

Dimension	Role of TIA in SEZ Integration (How TIA Aligns with Global Policy Goals)	Ex-Ante TIA Indicators (Strategic Planning & Prevention)	Ex-Post TIA Indicators (Monitoring & Adjustment)	Policy Alignment
Governance Transparency	Ensures multi-level coordination, regulatory alignment, and stakeholder participation in SEZ governance.	Stakeholder mapping; inter-agency coordination frameworks, compliance with Fit for 55 & SDG 16 (Peace, Justice, and Strong Institutions).	Measured policy adaptation rates, stakeholder engagement frequency, transparency and anti-corruption index for SEZ governance.	OECD (2023), UN SDG 16 (Institutional Strengthening) (UN-Habitat, 2022)
Territorial Cohesion	Connects SEZs to regional infrastructure and transport networks, ensuring spatial and economic integration.	Accessibility potential, projected SEZ impact on regional transport and logistics.	Measured improvements in connectivity, enhanced regional economic linkages.	OECD Regional Development Strategies (2025), EU TEN-T Infrastructure Policy
Land Use and Equity	Aligns SEZ expansion with zoning laws, fair land distribution, and prevention of forced displacement.	Land suitability analysis, risk assessment of gentrification and land speculation.	Land use efficiency rates; actual displacement trends, changes in real estate price indices.	UN SDG 11 (Sustainable Cities) (UN-Habitat, 2022), OECD Urban Land Use Policies (2022)
Environmental Sustainability	Supports SEZ compliance with carbon neutrality, climate resilience, and emission reduction targets.	Projected SEZ carbon footprint, energy consumption planning, circular economy potential.	Measured carbon reductions, renewable energy adoption rates in SEZ industries.	EU Fit for 55, UN SDG 13 (Climate Action) (UN-Habitat, 2022)

Circular Economy	Encourages SEZ transition toward resource-efficient and circular production models.	Industrial symbiosis potential, waste recovery targets, circular economy strategies.	Industrial waste reduction rates, material reuse efficiency, green supply chain adoption.	EU Circular Economy Action Plan (EU, 2020), UN SDG 12 (Sustainable Consumption and Production) (UN-Habitat, 2022)
Social Inclusion	Strengthens fair labour practices, workforce diversity, and equitable job creation in SEZs.	Employment diversity forecasts, SEZ labour rights audits, wage equity plans.	Actual labour market participation rates, changes in wage structures, labour protection enforcement.	UN SDG 8 (Decent Work) (UN-Habitat, 2022), OECD Inclusive Growth Framework (2015)
Economic Integration	Enhances SME participation, local business resilience, and FDI spillover effects.	Forecasts for SME and local supplier participation, digital innovation hubs in SEZs.	SME integration rate, SEZ impact on regional industrial diversification.	OECD (2023), UN SDG 9 (Industry, Innovation, and Infrastructure) (UN-Habitat, 2022)
Urbanisation & Infrastructure	Prevents SEZ-induced congestion, real estate speculation, and unregulated urban sprawl.	Housing affordability stress test, infrastructure capacity modelling, projected SEZ impact on real estate.	Urban density monitoring, SEZ impact on affordable housing access, congestion mitigation policies.	UN SDG 11 (Sustainable Cities) (UN-Habitat, 2022), OECD Urban Planning Guidelines (2022)

Table 4 - System of ex-ante and ex-post indicators.
Source: Elaboration of author

Following Table 3, which provides a general framework of ex-ante and ex-post indicators for SEZs, Table 4 specifically focuses on the role of TIA in integrating governance transparency, environmental sustainability, and socio-economic inclusivity into SEZ development. Unlike traditional SEZ performance assessments that focus primarily on economic metrics, this system ensures that SEZs contribute to territorial resilience, policy coherence, and equitable growth.

The core objective of this framework is to operationalize TIA methodologies by embedding a structured system of territorial indicators that facilitate the transition

from isolated economic enclaves to sustainable, integrated development platforms. Governance transparency is central to this transformation, ensuring that multi-level coordination, stakeholder engagement, and regulatory oversight align SEZ strategies with long-term territorial objectives.

The EU Fit for 55 framework ensures that SEZ operations align with carbon neutrality, renewable energy integration, and emission reduction strategies, reinforcing climate resilience and energy efficiency in industrial zones. The OECD Smart SEZs initiative focuses on digitalization, innovation-driven economic models, and regulatory coordination, supporting SEZs in transitioning toward technology-enabled and sustainable growth hubs. Meanwhile, the UN-Habitat Sustainable Development Goals (SDGs) connect SEZ development to social equity (Goal 8: Decent Work), climate action (Goal 13), sustainable industrialization (Goal 9), and responsible production and consumption (Goal 12).

5. Comparative applications of TIA in SEZ Governance: insights from Italy and the Global South

The effectiveness of the TIA-SEZ framework is particularly evident in fragile territories, where adaptive governance plays a critical role in addressing structural vulnerabilities. The experiences of Southern Italy and the Global South illustrate how TIA fosters sustainability, equity, and resilience, shifting SEZs from isolated economic enclaves to integrated territorial systems.

5.1 SEZs in Southern Italy: Implementing the TIA-SEZ Model

In Southern Italy, SEZs in Campania, Puglia, Calabria, and Sicilia have incorporated TIA principles to address persistent socio-economic marginalization, environmental degradation, and infrastructural deficits. By embedding territorial assessments from the outset, these regions have adopted adaptive strategies that ensure SEZ development aligns with broader sustainability and territorial justice objectives.

In Campania, the application of CIE has enhanced stakeholder participation,

reducing socio-spatial inequalities and strengthening territorial cohesion. Puglia's SEZ in Taranto has integrated circular economy principles, ensuring that industrial development aligns with ecological transition goals. Meanwhile, Calabria and Sicilia have leveraged TIA-based land-use planning to mitigate peri-urban sprawl and prevent speculative urbanization, promoting more equitable and sustainable land use.

These cases demonstrate that the successful implementation of SEZs in Southern Italy relies on continuous territorial monitoring and adaptive governance mechanisms. By ensuring that policies evolve in response to socio-environmental dynamics, TIA allows governance structures to remain responsive to emerging challenges.

5.2 SEZs in the Global South: operationalising TIA under Governance constraints

In the Global South, SEZs in Kenya, Ethiopia, India, Vietnam, and Mexico often operate in institutionally weaker environments, where fragmented governance and regulatory inconsistencies pose challenges to long-term sustainability. Despite these constraints, TIA-inspired approaches have been introduced to mitigate the negative externalities of SEZ development.

The experience of knowledge transfer in China's SEZs highlights the importance of tailored policies, capacity-building initiatives, and institutional collaboration to ensure SEZs function as engines of sustainable industrial development (Alves & Lee, 2022). In India and Ghana, territorial assessments have been applied to map and mitigate displacement risks, informing compensation strategies and guiding spatial planning to minimize forced relocations. Similarly, in Costa Rica and Vietnam, TIA practices have supported SEZ governance, particularly by addressing land-use planning and industrial clustering, integrating economic sustainability into territorial strategies. While formal TIA adoption remains limited in many of these contexts, participatory land-use diagnostics and governance mechanisms are progressively strengthening stakeholder engagement, conflict prevention, and sustainability integration in SEZ planning.

5.3 Further reflections and lessons-learned for sustainable development

The comparative application of the TIA-SEZ framework highlights its relevance in fragile territories, where adaptive governance is crucial for addressing structural vulnerabilities and ensuring sustainable development. By analysing the experiences of Southern Italy, the Global South, and other international SEZ models, it becomes evident that territorial impact assessments can transform SEZs from isolated economic enclaves into integrated territorial systems.

A comparison between these regions reveals shared challenges such as land-use conflicts, socio-economic disparities, and environmental pressures, but also key differences in institutional capacity, policy frameworks, and governance models. Table 5 provides a structured overview of how governance conditions shape SEZ implementation, adaptive planning, environmental management, and social equity across these different contexts.

In Southern Italy, SEZs have benefited from stronger institutional coordination and EU policy support, which have facilitated the structured integration of TIA methodologies. The use of ex-ante and ex-post impact assessments, particularly through Community Impact Evaluation (CIE), has helped address socio-spatial inequalities while promoting participatory governance. Furthermore, land-use planning frameworks and circular economy initiatives, particularly in Taranto and Campania, have enabled environmentally sustainable SEZ development.

Conversely, in the Global South, SEZs often operate in fragmented regulatory environments with weaker enforcement mechanisms. While territorial assessments have been used in India and Ghana to mitigate land displacement risks, and in Vietnam to manage resource conflicts, Costa Rica has leveraged SEZ governance strategies to foster economic and cognitive networks, particularly in the medical device sector. However, the long-term institutionalization of these assessments remains a challenge. In China and the UAE, SEZs operate under centralized, state-driven planning models, allowing for large-scale economic transformation. China's SEZs, particularly in the Pearl River Delta, have introduced flexible experimentation, adapting SEZ policies based on regional development priorities. The UAE prioritizes foreign investment attraction but has selectively incorporated sustainability policies into SEZ frameworks. Meanwhile, in the United States, SEZs operate under tax-incentive-driven models, where land-use governance varies by state. Table 5 below illustrates the comparative

governance challenges and policy responses across these SEZ contexts.

Dimension	Southern Italy (Mezzogiorno)	Global South (e.g., Kenya, India, Vietnam, Mexico)	Rest of the World (China, UAE, USA)	Transferability and Policy Implications
Governance	Stronger institutional frameworks with EU and regional support, enabling structured TIA implementation and regulatory oversight.	Weaker or informal governance structures, often project-based, with fragmented regulatory enforcement and inconsistent policy implementation.	Highly centralized in China and the UAE, with state-driven planning. USA SEZs rely more on fiscal incentives and local governance autonomy.	Strengthen participatory governance where formal institutions are weak. Encourage multi-level governance coordination to align SEZ strategies with national policies.
Social Equity	Improving through structured monitoring, labour protections, and stakeholder engagement mechanisms such as CIE.	Persistent marginalization of vulnerable groups, displacement risks, and weak enforcement of labour rights, often due to informal employment structures.	China has introduced targeted social policies in newer SEZs, but labour conditions remain uneven. UAE prioritizes foreign investment over labour protections. USA SEZs emphasize tax incentives over social policies.	Promote land rights protections, worker inclusion programs, and local employment guarantees to ensure equitable SEZ development.
Environmental Management	Strong circular economy strategies, remediation plans, and EU-aligned green standards. Environmental considerations are integrated into SEZ planning.	Limited regulatory capacity to enforce environmental protections. High ecological vulnerability due to rapid industrialization and weak enforcement of sustainability policies.	China is increasing investment in "Green SEZs," while UAE applies sustainability principles selectively. The USA has varied environmental regulations depending on state policies.	Introduce adaptive resource management, promote climate resilience, and integrate sustainability indicators into SEZ frameworks, particularly in regions with high ecological risks.

Land-Use Control	Managed through urban planning policies to prevent speculative development and urban sprawl.	Frequent land dispossession, speculative development, and tenure conflicts due to weak planning enforcement.	China integrates SEZ expansion into national urbanization plans, while UAE prioritizes large-scale development. In the USA, land use is determined by local zoning policies.	Prioritize land conflict prevention, secure tenure systems, and enforce sustainable spatial planning to reduce SEZ-driven displacement.
Adaptive Planning	Supported by ex-ante/ex-post TIA cycles, EU policy frameworks, and continuous policy refinement.	Emerging but often fragmented planning approaches, with limited long-term assessments and policy continuity.	China's SEZs use flexible experimentation, adjusting policies regionally. The UAE adapts regulations to maintain investment appeal. USA SEZ policies are tax-driven rather than spatially adaptive.	Pilot territorial assessments to build legitimacy, introduce iterative planning, and establish flexible SEZ regulations responsive to socio-environmental changes.
Multi-Scalar Integration	Operational across municipalities, industrial sectors, and regional development plans. Coordination is reinforced by EU policy frameworks.	Often absent or weakly articulated, leading to governance silos and inefficient policy alignment.	China has strong vertical integration but limited local decision-making. The UAE centralizes planning, while the USA allows SEZ governance to be locally managed.	Encourage interregional cooperation, establish cross-sectoral governance mechanisms, and integrate SEZ planning into national development strategies.

Table 5 - Comparative Governance and policy challenges in SEZs: Southern Italy, Global South, and Other Regions.

Source: Elaboration of author

The experiences of Southern Italy and the Global South reveal a shared dependence on TIA for addressing structural vulnerabilities and guiding SEZs toward more resilient and inclusive development pathways. While governance conditions vary significantly—from EU-supported frameworks in

Italy to fragmented regulatory landscapes in many Global South nations—the core components of TIA, including stakeholder participation, environmental sustainability, and adaptive planning, have demonstrated broad applicability.

However, key differences emerge (Table 6). In Southern Italy, the EU policy framework provides financial mechanisms, institutional coordination, and structured territorial assessments that ensure SEZ policies remain adaptable and responsive. This enables ongoing monitoring, policy refinement, and sustainability-driven governance. To support policy usability, Table 6 presents a comparative overview of TIA types, tools, and applications across the case studies.

Region / Country	Governance Type	TIA Type Used	TIA Methodology	Main Territorial Focus	Key Benefit of TIA
Campania (Italy)	Structured (EU)	Ex-ante / Ex-post	CIE	Equity, multimodal logistics	Participatory governance
Vietnam	State-planned	Ex-ante	TEQUILA	Peri-urban land sprawl	Sustainable land planning
India	Fragmented	Strategic	Diagnostic tools	Land displacement, rural transitions	Stakeholder engagement
China (FTZ)	Centralized	Strategic	Simulation tools	Urban sprawl, land-use efficiency	Policy coherence
Kenya, Ghana	Weak governance	Emerging	Participatory	Community displacement, land tenure	Local conflict mitigation

Table 6 - Comparative Governance and policy challenges in SEZs: Southern Italy, Global South, and Other Regions.

Source: Elaboration of author

By contrast, in many Global South contexts, regulatory gaps, weak participatory mechanisms, and funding limitations hinder the systematic application of TIA.

While participatory land-use diagnostics and resource conflict management are being introduced, the absence of cohesive territorial cohesion policies and long-term financial strategies restricts their long-term impact. Institutionalizing the TIA-SEZ model in these regions requires customized approaches that accommodate limited governance capacity and scarce institutional resources.

Policy Implications and the Future of TIA in SEZ Governance

The comparative analysis suggests distinct policy priorities. In Southern Italy, efforts should focus on scaling successful practices, reinforcing regional coordination, and integrating TIA within key sectors such as logistics and energy. Meanwhile, in the Global South, the priority should be building foundational capacities for territorial governance by:

- Institutionalizing participatory decision-making at the local level.
- Developing land-use diagnostics to anticipate and mitigate displacement risks.
- Progressively integrating sustainability indicators into SEZ governance.

International cooperation and development agencies play a critical role in adapting TIA methodologies to these regions, funding pilot initiatives, and facilitating knowledge exchange between SEZs facing similar governance challenges. While the TIA-SEZ framework provides a structured model for managing SEZ impacts, its effective implementation requires flexible adaptation to local governance conditions. A one-size-fits-all approach is insufficient; rather, SEZ governance strategies must be tailored to the specific territorial, institutional, and socio-economic realities of different regions. Ultimately, transitioning from traditional growth-driven SEZ models to territorially integrated development frameworks is key to fostering spatial justice, ecological transition, and long-term adaptive planning. Future research should explore how TIA can be institutionalized within national and regional SEZ governance frameworks, with the EU Territorial Agenda 2030 serving as a reference for developing multi-scalar policy approaches that balance economic resilience with environmental sustainability and social inclusion.

6. Conclusion: towards sustainable and inclusive SEZs governance

The integration of TIA into SEZs governance is not merely a technical necessity but a strategic imperative for transforming SEZs into engines of balanced, inclusive, and sustainable development. The experiences of Southern Italy and the Global South demonstrate that the success of SEZs is not determined solely by fiscal incentives or investment attraction, but by governance models that foster equity, resilience, and territorial integration. When SEZs are planned within adaptive governance frameworks, they cease to function as isolated economic enclaves and instead become instruments for territorial cohesion, environmental responsibility, and social inclusion.

Aligning SEZ strategies with global policy frameworks—such as the EU Fit for 55, OECD territorial cohesion policies (OECD, 2015; 2022), and WHO health equity guidelines (WHO, 2021) redefines their role, positioning them as catalysts for climate transition, social justice, and inclusive urban transformation. The TIA-SEZ framework introduces a new governance paradigm, where impact assessments are not merely retrospective evaluations but embedded tools for continuous territorial monitoring, guiding SEZs to evolve in alignment with long-term sustainability objectives rather than serving as reactive, short-term interventions.

SEZs must no longer be conceived solely as engines of industrial expansion but as territorial ecosystems that balance economic ambition with ecological sustainability, spatial justice, and social well-being. Governance cannot remain static or transactional; it must be forward-looking, adaptive, and structurally integrated with TIA methodologies, ensuring that development is proactive rather than corrective. The emergence of a new generation of SEZs—designed as laboratories for sustainable and just territorial futures—is not an aspirational vision but an urgent necessity.

Future research should move beyond theoretical discussions to focus on operationalizing the TIA-SEZ model across diverse governance contexts. Strengthening participatory governance, refining territorial indicators, and ensuring that circular economy principles become standard practice in SEZ management are key priorities. The Territorial Agenda 2030 offers a valuable framework for this transition, but its effective implementation

demands more than political commitment—it requires a fundamental rethinking of how SEZs interact with their broader territorial systems.

Yet, significant governance challenges remain. The need to mitigate land-use conflicts, prevent displacement, and extend SEZ benefits beyond port-adjacent hubs to hinterland regions demands more than regulatory frameworks; it requires a shift in governance culture. Weak institutional capacity and fragmented decision-making structures risk undermining the effectiveness of territorial monitoring, particularly in regions where enforcement mechanisms remain weak. Southern Italy's experience illustrates that participatory governance and integrated assessment mechanisms can mitigate these risks, reinforcing territorial cohesion even in structurally fragile areas. In the Global South, where rapid industrialization often unfolds in the absence of strong regulatory oversight, these lessons become even more pressing.

The future of SEZ governance lies in its ability to transcend traditional growth-driven models and transition toward territorially integrated frameworks that support spatial justice, ecological transition, and adaptive planning. SEZs must be repositioned as drivers of sustainability, inclusion, and resilience, with governance strategies that ensure they are not only economically viable but socially and environmentally transformative. Success will no longer be measured simply in GDP contributions or investment flows but in their ability to redefine sustainable development for the regions they inhabit, proving that economic ambition and territorial equity can coexist and reinforce one another.

References

Aijaz, U., Hassan Daud Butt, D. S. B., Hayat, A., Raees, M. B., & Mazhar, M., 2022, "Dynamics of SEZs: A comparative analysis of incentive packages for special economic zones of Pakistan, Bangladesh & Vietnam", *Journal of Positive School Psychology*, 6, 11, 1247–1269. URL: http://184.168.115.16/index.php/jpsp/article/view/14147, last accessed: [14 June 2025].

Aggarwal, A., 2017, Towards an integrated framework for special economic zones (SEZs): A dynamic institutional approach, Asia Research Centre, Copenhagen Business School, Copenhagen Discussion Papers No. 64

Alhosani, N., 2015, Mapping spatial patterns and urban morphology changes due to special economic zones in the United Arab Emirates using Landsat archival data. In: *Proceedings of the 36th Asian Conference on Remote Sensing: Fostering Resilient Growth in Asia (ACRS 2015)*, Quezon City, Metro Manila, Philippines. URL: https://research.uaeu.ac.ae/en/publications/mapping-spatial-patterns-and-urban-morphology-changes-due-to-spec, last accessed: [14 June 2025].

Alves, A. C., & Lee, C., 2022, "Knowledge transfer in the Global South: Reusing or creating knowledge in China's special economic zones in Ethiopia and Cambodia?", *Global Policy*, 13, 45–57. URL: https://doi.org/10.1111/1758-5899.13060

Arbolino, R., Lantz, T. L., & Napolitano, O., 2022, "Assessing the impact of special economic zones on regional growth through a comparison among EU countries", *Regional Studies*, 1–15. URL: https://doi.org/10.1080/00343404.2022.2069745

Bell, T. W., 2016, "Special economic zones in the United States: From colonial charters, to foreign-trade zones, toward USSEZs", *Buffalo Law Review*, 64, 959–1000. URL: https://heinonline.org/HOL/Page?handle=hein.journals/buflr64&div=36

Borruso, G., 2020, Zone economiche speciali nel Mezzogiorno d'Italia di Michele Pigliucci, *Semestrale di studi e ricerche di geografia*. URL: https://doi.org/10.13133/1125-5218.16803

Brundu, B., 2017, *Zone franche: sviluppi e orientamenti geoeconomici: La Sardegna al centro del Mediterraneo*, FrancoAngeli, Milano.

Brussevich, M., 2024, "The socioeconomic impact of special economic zones: Evidence from Cambodia", *The World Economy*, 47, 1, 362–387. URL: https://doi.org/10.1111/twec.13526

Camagni, R., 2017, Territorial Impact Assessment (TIA): A methodological proposal. In: Capello, R. (Ed.), *Seminal Studies in Regional and Urban Economics*, Springer, 1–20. URL: https://doi.org/10.1007/978-3-319-57807-1_20

Carlucci, F., Ciciarelli, L., Coccorese, P., Cucini, C., Senatore, L., & Trincone, B., 2021, Le infrastrutture di trasporto: Analisi di accessibilità delle aree ZES in Campania. In: *Le politiche per lo sviluppo in Campania: ZES, piano per il lavoro, aree di crisi*, Vol. 1, UniorPress, 166–180. URL: https://www.regione.campania.it/assets/documents/09-zes-rev-31-08.pdf

Chaffin, B.C., Gosnell, H., Cosens, B.A., 2014, A decade of adaptive governance scholarship: synthesis and future directions, *Ecology and Society*, 19, 3, https://doi.org/10.5751/ES-06824-190356.

Cieślik, A., 2025, "Political economy of special economic zones location in Poland", *Journal of Economics and Management*, 47, 1–24. URL: https://doi.org/10.22367/jem.2025.47.01

Danja, I. I., & Wang, X., 2024, "Matching comparative advantages to special economic zones for sustainable industrialization", *Heliyon*, 10, 14, e34411. URL: https://doi.org/10.1016/j.heliyon.2024.e34411

Di Ruocco, I., 2024, Gli effetti delle ZES in Campania: Focus sugli impatti socio-economici e sulle infrastrutture, *Maritime Paper* (1), SRM. URL: https://www.sr-m.it/it-cat-prod-322836-zes-campania.htm

Di Ruocco, I., & D'Auria, A., 2024, "Are the SEZs a place of social and urban conflicts? A look under the perspective of geographical social justice and inclusion", *Contesti. Città, Territori, Progetti*, 1, 192–211. URL: https://doi.org/10.13128/contesti-15035

Di Ruocco, I., & D'Auria, A., 2025, "Implementing community impact evaluation (CIE) in special economic zones: Lessons from Campania (Italy) towards global practices", *Regional Science Policy & Practice*, 17, 3, 100169. URL: https://doi.org/10.1016/j.rspp.2024.100169

Di Ruocco, I., & D'Auria, A., 2023, "The multidimensional impact of Special Economic Zones in Campania Region. The TIA tool for land economic evaluation", *BDC. Bollettino Del Centro Calza Bini*, 23, 1, 133–155. URL:

https://doi.org/10.6093/2284-4732/10480

Dumont, D., 2024, *Evaluating the Economic Impact of Special Economic Zones in Colombia: Employment, Export Performance, and Spillover Effects (2008–2017)*, Master's thesis.

Dunning, J.H., Lundan, S.M., 2008, *Multinational enterprises and the global economy*, Edward Elgar Publishing, Cheltenham.

ESPON ARTS, 2012, *Assessment of Regional and Territorial Sensitivity: Applied Research 2013/1/17, Final Report*, Luxembourg. URL: https://archive.espon.eu/sites/default/files/attachments/ARTS-Draft-Final-Report-Part_AxB.pdf

ESPON EATIA, 2013, *ESPON and Territorial Impact Assessment: Targeted Analysis, Final Report*, Luxembourg. URL: https://archive.espon.eu/programme/projects/espon-2013/targeted-analyses/eatia-espon-and-territorial-impact-assessment

ESPON TIPTAP, 2010, *Territorial Impact Package for Transport and Agricultural Policies: Applied Research Project 2013/1/6, Final Report*, Luxembourg. URL: https://archive.espon.eu/sites/default/files/attachments/Final_Report_Part_C.pdf

ESPON, 2013, *Territorial Impact Assessment of Policies and EU Directives: A Practical Guidance*, Luxembourg: ESPON. URL: https://archive.espon.eu/topics-policy/publications/guidance/territorial-impact-assessment-policies-and-eu-directives

European Union, 2020, *Circular economy action plan*. URL: https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en, last accessed: [14 June 2025].

Farole, T., & Akinci, G. (Eds.), 2011, *Special economic zones: Progress, emerging challenges, and future directions*, World Bank Publications, Washington DC.

Farole, T., & Moberg, L., 2017, "Special economic zones in Africa: Political economy challenges and solutions", *Journal of African Economies*, 26, 1, 14–36. URL: https://doi.org/10.1093/acprof:oso/9780198796954.003.0012

Favale, A. E., 2016, The port of Taranto: Its logistic development, *Sistemi di Logistica Review*, 4, Giordano Editore.

Fazia, C., 2018, La ZES di Gioia Tauro e le opportunità di sviluppo del territorio, *Urbanistica*, 278, 56. URL: http://urbanisticainformazioni.it/IMG/pdf/ui278-279.pdf

Ferrara, A. R., Nisticò, R., & Prota, F., 2022, "Zone economiche speciali: Potenzialità e limiti dello strumento", *Rivista economica del Mezzogiorno*, 36, 4, 875–902. URL: https://doi.org/10.1432/107769

Frick, S. A., Rodríguez-Pose, A., & Wong, M. D., 2019, "Toward economically dynamic special economic zones in emerging countries", *Economic Geography*, 95, 1, 30–64. URL: https://doi.org/10.1080/00130095.2018.1467732

Gallé, J., Overbeck, D., Riedel, N., & Seidel, T., 2024, "Place-based policies, structural change and female labor: Evidence from India's special economic zones", *Journal of Public Economics*, 240, 105259. URL: https://doi.org/10.1016/j.jpubeco.2024.105259

Giese, K., Thiel, A., 2015, "Chinese factor in the space, place and agency of female head porters in urban Ghana", Social & Cultural Geography, 16, 4, 444-464. https://doi.org/10.1080/14649365.2014.998266

Gómez-Zaldívar, F., & Molina-Perez, E., 2021, "Evolution of the productive capabilities of Mexico: Economic complexity analysis for the development of special economic zones (SEZ)", *The International Trade Journal*, 35, 1, 4–18. URL: http://dx.doi.org/10.1080/08853908.2020.1851328

Guagliano, C., & Riela, S., 2005, Do special economic areas matter in attracting FDI? Evidence from Poland, Hungary, and Czech Republic, *ISLA Working Paper*, Milan: Centre for Research on Latin American Studies and Transition Economies, Bocconi University.

Herbst, M., Pechcińska, A., Hagemejer, J., & Artymowska, P., 2024, "Spa (TIA) – A diffusion-oriented method of territorial impact assessment", *Impact Assessment and Project Appraisal*, 1, 1–12. URL: https://doi.org/10.1080/14615517.2024.2321547

Hiền, P. T., & Oanh, H. T. T., 2019, An overview of various economic models in Vietnam and the experimental steps approaching special economic zones, *Vietnam Journal of Economic Research*. URL: http://tapchikhdt.lhu.edu.vn

Hu, M., Wang, Y., Xia, B., Jiao, M., & Huang, G., 2020, "How to balance ecosystem services and economic benefits? A case study in the Pearl River Delta, China", *Journal of Environmental Management*, 271, 110917. URL:

https://doi.org/10.1016/j.jenvman.2020.110917

Jenkins, R., Kennedy, L., Mukhopadhyay, P., & Pradhan, K. C., 2015, "Special economic zones in India: Interrogating the nexus of land, development and urbanization", *Environment and Urbanization ASIA*, 6, 1, 1–17. URL: http://dx.doi.org/10.1177/0975425315585426

Kiesel, C., & Dannenberg, P., 2023, "Special Economic Zones in the Global South: Between integrated spaces and enclaves – a literature review", *DIE ERDE – Journal of the Geographical Society of Berlin*, 154, 1–2, 5–19. URL: https://doi.org/10.12854/erde-2023-606

Li, H., Chen, P., & Grant, R., 2021, "Built environment, special economic zone, and housing prices in Shenzhen, China", *Applied Geography*, 129, 102429. URL: https://doi.org/10.1016/j.apgeog.2021.102429

Manti, E., 2019, "Zone economiche speciali. Settori di intervento, aree produttive e poli logistici per una politica industriale nel Mezzogiorno", *Rivista economica del Mezzogiorno*, 33, 3–4, 921–962. URL: https://doi.org/10.1432/96264

Medda, F., & Modelewska, M., 2020, "Sustainability of special economic zones in Poland: Between industrial heritage and regional planning", *Sustainability*, 12, 5, 1872. URL: https://doi.org/10.3390/su12051872

Medeiros, E., 2015, "Territorial impact assessment and cross-border cooperation", *Regional Studies, Regional Science*, 2, 1, 97–115. URL: https://doi.org/10.1080/21681376.2014.999108

OECD, 2015, *All on board: Making inclusive growth happen*, OECD Publishing, Paris. URL: http://dx.doi.org/10.1787/9789264218512-en

OECD, 2022, *OECD principles on urban policy*. URL: https://www.oecd.org/en/about/programmes/oecd-programme-on-national-urban-policy/oecd-principles-on-urban-policy.html

OECD, 2023, *Rethinking regional attractiveness in the new global environment*. URL: https://www.oecd.org/content/dam/oecd/en/publications/reports/2023/07/rethinking-regional-attractiveness-in-the-new-global-environment_ce30b383/a9448db4-en.pdf

Parwez, S., & Sen, V., 2016, "Special economic zone, land acquisition, and impact on rural India", *Emerging Economy Studies*, 2, 2, 223–239. URL:

https://doi.org/10.1177/2394901516661104

Pecqueur, B., 2005, Le développement territorial : une nouvelle approche des processus de développement pour les économies du Sud. In: Antheaume, B., Giraut, F. (Eds.), *Le territoire est mort, vive les territoires !*, IRD Éditions, Marseille, 295–316. https://doi.org/10.4000/books.irdeditions.3369.

Pigliucci, M., 2019, *Le Zone Economiche Speciali nel Mezzogiorno d'Italia*, Edizioni Nuova Cultura, Roma.

Prezioso, M., 2020, "STeMA: A sustainable territorial economic/environmental management approach", in *Territorial Impact Assessment*, 55–76. URL: https://doi.org/10.1007/978-3-030-54502-4_4

Prezioso, M., 2024, "Territorial Impact Assessment, Cost Benefit Analysis and Do Not Significant Harms principle for sustainable works and plans design", *Revista de Estudios Andaluces*, 48, 221–238. URL: https://dx.doi.org/10.12795/rea.2024.i48.11

Rindone, C., Cirianni, F. M., Delfino, G., & Croce, A. I., 2022, Special economic zones planning for sustainable ports: The role of research and training in the Calabria Region. In: *International Conference on Computational Science and Its Applications*, Springer, Cham, 85–97. URL: https://doi.org/10.1007/978-3-031-10548-7_7

Soja, E., 2013, *Seeking spatial justice*, University of Minnesota Press, Minneapolis.

Territorial Agenda, 2021, *Online survey: Territorial impact assessment*. URL: https://territorialagenda.eu/news-articles/online-survey-territorial-impact-assessment/

Tranquilli, S., 2020, "Le 'zone economiche speciali' e la coesione territoriale: Indagine comparata nell'Unione Europea e analisi del tentativo italiano", *Il Diritto dell'Economia*, 102, 2, 427–463. URL: https://www.ildirittodelleconomia.it/wp-content/uploads/2020/09/16Tranquilli.pdf

Ugalde-Hernández, O., 2019, "Study of a relational-cognitive network in Costa Rica: The case of the special economic zone for medical devices in El Coyol, Costa Rica", *Review of Socio-Economic Perspectives*, 4, 1, 71–89. URL: https://doi.org/10.19275/RSEP064

UNCTAD, 2023, *Trade and Development Report 2023*. URL: https://unctad.

org/system/files/official-document/tdr2023_en.pdf

UN-Habitat, 2022, *Integrating the SDGs in Urban Project Design – Recommendations from the Global Future Cities Programme*, United Nations Human Settlements Programme (UN-Habitat), Nairobi. Available at: https://unhabitat.org/integrating-the-sdgs-in-urban-project-design-global-future-cities-programme [Accessed 20 June 2025]

World Health Organization (WHO), 2021, *Health equity and its determinants*. URL: https://cdn.who.int/media/docs/default-source/world-health-day-2021/health-equity-and-its-determinants.pdf?sfvrsn=6c36f0a5_1&download=true

Yang, D., Luan, W., Li, Y., Zhang, Z., & Tian, C., 2023, "Multi-scenario simulation of land use and land cover based on shared socioeconomic pathways: The case of coastal special economic zones in China", *Journal of Environmental Management*, 335, 117536. URL: https://doi.org/10.1016/j.jenvman.2023.117536

Zeng, D. Z., 2019, "Special economic zones: Lessons from the global experience", *Journal of International Commerce and Economics*, 11, 1, 1–35. URL: https://assets.publishing.service.gov.uk/media/586f9727e5274a130700012d/PEDL_Synthesis_Paper_Piece_No_1.pdf

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Special Economic Zones (SEZs) are rapidly emerging tools for territorial development, designed to attract Foreign Direct Investment (FDI) and enhance economic competitiveness in geographically defined areas through tailored administrative and fiscal incentives. These zones offer significant potential to boost employment and foster growth in lagging regions. However, poorly designed SEZs risk exacerbating regional disparities and undermining territorial competitiveness. This volume offers an interdisciplinary exploration of SEZs, integrating insights from economic geography, regional policy, and environmental sustainability, exploring several aspects of the topic such as territorial impact assessments tools, the role within the framework of sustainable development, and comparative case studies, not forgetting to start from a theoretical perspective to highlight both successes and hazards. Through this approach, the book "Special Economic Zones: Challenges and Opportunities for Territorial Development" contributes to providing an overall understanding of SEZs as dynamic tools for sustainable development in the Anthropocene era.

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