Volume: 9 Issue: 2 Month: 6, Year: 2026
P.P.106 -122
مجلة البحوث القانونية والاقتصادية
JOURNAL OF LEGAL AND ECONOMIC RESEARCH

FREE ZONES AND SUSTAINABLE DEVELOPMENT: A READING OF THE SUCCESSES AND FAILURES OF INTERNATIONAL EXPERIENCES

Moussa DJOKHDEM*
University of Laghouat-Amar Telidji- Algeria
mo.djokhdem@lagh-univ.dz
Sociology of cultural communication

Send Article Date: 13-02-2026	Date of acceptance of the article: 08-05-2026

Abstract:

Free zones are among the most prominent tools adopted by governments to promote trade, attract foreign direct investment, and stimulate economic growth. However, the academic and practical debate about the role of these zones in achieving sustainable development remains shrouded in controversy, with some viewing them as an engine of development and others viewing them as a mechanism for deepening economic, social, and environmental imbalances.

This study aims to analyze international experiences of free zones in light of sustainable development criteria, through a comparative study of successful and faltering models in Asia, Latin America, Africa, and Europe.

The results show that the success of some experiences, such as Singapore, the UAE, and China, is due to linking free zones to long-term national strategies that address economic diversification, smart infrastructure development, and adherence to environmental and social standards.

Conversely, other experiences reveal failures resulting from an over-reliance on tax incentives and cheap labor without real technology transfer or enhanced integration with the local economy, as is the case in some Latin American and African countries.

Keywords: Free zones, sustainable development, international experiences, foreign direct investment, economic governance.

* **Moussa DJOKHDEM**

Introduction:

Free zones are one of the most prominent modern economic tools adopted by countries in recent decades as part of their policies aimed at stimulating economic growth, enhancing trade openness, and attracting foreign direct investment.The emergence of these zones has historically been linked to the transition to a market economy and economic globalization, as they constitute a strategic mechanism for overcoming bureaucratic and procedural restrictions that hinder trade and investment within the national economy (UNCTAD, 2020). Since the establishment of the first free zone in Shannon, Ireland, in 1959, this economic model has spread to more than 130 countries, with more than 5,400 free zones worldwide, representing approximately 20% of global trade today.0(World Bank, 2021).

WhereThe basic idea of free zones is based on the principle of directed economic liberalization—the creation of a special economic space within a country governed by more flexible and open policies than the general legislative framework. This allows for attracting investment, diversifying the production base, and stimulating exports and re-exports. These zones typically offer tax, customs, and regulatory privileges, as well as facilitation of foreign ownership of projects and profit repatriation procedures.(Farole, 2011). Thus, free zones represent testing grounds for economic policies, allowing governments to experiment with new approaches to economic management before extending them to other sectors.

However, the developmental role of these zones has remained a subject of widespread academic and political controversy. Their proponents see them as effective tools for achieving development through job creation, attracting foreign investment, transferring technology, and improving national competitiveness. Their opponents, however, argue that they could deepen economic and social disparities if misused, through excessive reliance on low-wage labor, or through excessive tax exemptions that drain public finances without any real developmental impact.(OECD, 2022). In recent years, with the growing global interest in the concepts of sustainable development, the issue of free zones has been re-emerged from a new perspective, linking their economic effectiveness with their ability to achieve a balance between growth, social justice, and environmental

conservation.Sustainable development does not only mean economic growth, but also encompasses rationalizing the use of natural resources, empowering human capital, and ensuring transparency in investment management. From this perspective, free zones are required to transform into smart green zones that adhere to standards of good governance and environmental and social innovation (UNIDO, 2022).

On a practical level, international experiences have shown clear disparities in the outcomes of establishing free zones. While countries such as China, Singapore, and the United Arab Emirates have achieved remarkable success in transforming these zones into integrated development engines thanks to a clear government vision and integration with the national economy, other experiences in Latin America and Africa have faced failures due to weak governance, lack of infrastructure, and the lack of real connectivity between these zones and the rest of the local economy.(ILO, 2018).

This contrast reflects a fundamental fact: free zones are not a successful economic model in and of themselves, but rather a flexible tool whose results depend on the efficiency of management, strategic planning, and institutional integration with the state's development policies.

Accordingly, this aims toResearchpaperTo analyze the real role of free zones in achieving sustainable development by comparing a group of international experiences, both successful and unsuccessful, in Asia, Latin America, Africa, and Europe.The paper attempts to answer the following problem:

To what extent have free zones contributed to supporting sustainable development? What factors determine their success or failure in achieving this goal?

In order to answer this problem, the first section will address the theoretical framework of free zones and their connection to the dimensions of sustainable development, while the second section will provide a comparative analysis of the most prominent international experiences between success and failure. The research will conclude with the third section, which presents a proposed model for sustainable free zones as one of the tributaries of the green economy and the modern knowledge society.

1- The Theoretical Framework of Free Zones and SustainableDevelopment

1.1- The Concept of Free Zones and TheirHistoricalDevelopment

Free zones are defined as specific geographical areas within the country's territory in which companies are granted special customs, tax and regulatory facilities and exemptions, with the aim of encouraging economic, commercial and industrial activity and attracting foreign investment.(Farole, 2011). Economically, they constitute “laboratories” for implementing market policies and trade openness in an experimental environment that is more flexible than the general economic framework.

The roots of the idea of free zones go back to the nineteenth century, when free commercial ports were established, such as the port of Hamburg in Germany and Hong Kong in Asia. However, the real shift towards establishing integrated economic zones came with the experience of the Shannon Free Zone in Ireland in 1959, which represented the first modern model aimed at revitalizing a local economy that had been harmed by the decline in international air traffic.(UNCTAD, 2020). Since then, this model has expanded to include thousands of regions around the world, varying in their objectives and legal structure, but all sharing the commonality of being tools to support export and industrial and technological development.

According to the World Bank report(World Bank, 2021) The number of free zones worldwide has reached more than 5,400 in 130 countries, providing approximately 70 million job opportunities and contributing approximately 20% of global trade. These figures reflect the growing importance of these zones as a driver of growth, but they also raise questions about the sustainability of this growth and its connection to social and environmental dimensions.

1.2- Economic and Social Objectives of Free Zones

The philosophy of free zones is based on achieving a set of economic and social goals, the most prominent of which are:

1. Attracting foreign direct investment(FDI):By granting tax and customs exemptions and administrative facilities, which contributes to technology transfer and job creation (OECD, 2022).
2. Export development:Free zones are an ideal environment for manufacturing export-oriented goods without additional customs costs.
3. Stimulating economic diversification:By supporting new industrial sectors outside the traditional framework of the national economy.
4. Improving the business environment:By simplifying procedures and reducing bureaucracy, making them modern models of economic governance.
5. Creating job opportunities and vocational training:These regions contribute to absorbing unemployment, especially in developing countries, by attracting labor-intensive investments.

However, these goals are not achieved automatically, but rather depend on the extent of integration of the free zones with the national economy. Weak integration may lead to what is called a "parallel economy within the country," where the free zones operate in isolation from the rest of the sectors, weakening the overall development impact.(ILO, 2018).

1.3- SustainableDevelopment and ItsComponents:

The concept of sustainable development emerged since the report of the World Commission on Environment and Development, known as the Brundtland Report.**(1987)**, who defined it as:

"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987).

Sustainable development is based on three main interconnected dimensions:

1. **Economic dimension:**Achieving continuous growth, productive efficiency and income generation.
2. **social dimension:**Achieving justice, equality and well-being for all segments of society.
3. **Environmental dimension:**Conserving natural resources and reducing pollution and industrial waste (UNDP, 2019).

Sustainable development seeks to create a dynamic balance between these three dimensions, so that economic growth is not achieved at the expense of the environment or social justice.

1.4- Relationship Between Free Zones and SustainableDevelopment:

Free zones in their modern form are considered vital platforms for achieving sustainable development, provided that they are managed according to the principles of good governance and included in long-term national strategies.whereThis relationship can be analyzed in light of the three dimensions of sustainable development as follows:

1. Economic dimension:

Free zones contribute to increasing growth and employment rates by stimulating investment and international trade. However, economic sustainability requires moving beyond the "low-cost" model to a model based on high added value, by embracing technological innovation and the knowledge economy.(Zeng, 2016).

2. Social dimension:

The success of free zones in creating job opportunities must be accompanied by improved working conditions and respect for workers' rights.In some cases, such as Bangladesh and Latin America, weak labor oversight has led to exploitative practices, leading these zones to face widespread human rights criticism (ILO, 2018). Therefore, achieving social sustainability requires integrating decent work standards and social accountability into the management system of free zones.

3. Environmental dimension:

Free zones can be a source of environmental pollution due to intensive industrial activities, especially in the absence of strict environmental legislation. However, many countries have begun transforming these areas into green economic zones that rely on renewable energy and recycling, such as the Jebel Ali Green Zone in the UAE and the Tianjin Eco-Region in China.(UNIDO, 2022).

Therefore, the integration between free zones and sustainable development is based on the principle of “smart transformation,” i.e.,

using these zones as laboratories for implementing industrial, environmental, and social innovation simultaneously.

1.5- Governance and Sustainability:

TGood governance is essential to ensuring the success and sustainability of free zones. It ensures transparency, accountability, and equal opportunities in investment management, and prevents free zones from becoming hotbeds of tax evasion or exploitation.Resources.aliveTh Studies indicate(OECD, 2021) indicates that free zones that adopt transparent electronic management systems and subject their activities to strict financial and environmental oversight achieve significantly better development outcomes than their counterparts that lack such a framework.WhereasIntegrating free zone governance and sustainable development goals**(SDGs)**The new global trend, embraced by institutions such as the World Bank and the United Nations Industrial Development Organization, is represented by the development of indicators for assessing sustainable economic zones (Sustainable Economic Zones Framework).

1.6- Integrated Model for Sustainable Free Zones

Based on the previous analysis, it can be said that achieving sustainable development through free zones requires moving from the "traditional free zones" model to the"Sustainable Free Zones", which is based on the following principles:

1. **Institutional integration**With national development policies.
2. **Integrating Environmental, Labor, and Governance Standards**Under the terms of licensing and management.
3. **Stimulating innovation and clean technology**Instead of focusing on low costs.
4. **Achieving transparency and digitization**In transactions and procedures to reduce corruption.
5. **Activating the partnership between the public, private, and civil society sectors**In free zone management.

This model places free zones at the heart of the transition to a green economy, enabling them to effectively contribute to achieving

the 2030 Sustainable Development Goals at the national and international levels.

2- Comparative Analysis of International Experiences

First: Introduction:

International experiences in managing free zones show a clear contrast in results between countries that were able to transform these zones into engines of sustainable development, and others that turned them into islands isolated from the national economy.This disparity is due to institutional, legislative, and economic factors related to the extent of integration of public policies, the clarity of the strategic vision, and the efficiency of governance in managing these regions (World Bank, 2021).

Through a comparative analysis of the experiences of Asia, Latin America, Africa, and Europe, clear models of success can be distinguished, as opposed to models of failure and stumbling, reflecting the difference in approaches to managing free zones and adapting them to the requirements of sustainable development.

2.1- Asian Experiences

The Chinese experience:

China is considered one of the most prominent countries that has successfully invested in free zones to achieve balanced economic and social development. Since the establishment of the Shenzhen Special Economic Zone in 1980, China has adopted a gradual experimental approach, serving as a laboratory for market policies and trade openness before extending them to the rest of the economy.(Zeng, 2016).The Chinese model is distinguished by its focus on:

- **Investing in smart infrastructure**Linking free zones to ports and railways.
- **Encouraging technology transfer and high-value-added manufacturing**.
- **Commitment to increasingly stringent environmental standards**, especially after 2010 under the "Green China" plan." Thanks to this approach, the special economic zones have become responsible for more than**45% of foreign direct investments**and**60% of Chinese exports** (UNCTAD, 2020). This success is attributed to the institutional integration of free

zones and the national strategy for sustainable development, and not to tax benefits alone.

2. Singapore experience:

Singapore has set an advanced model in integrating economic efficiency and environmental sustainability. The government has linked free zones to its "Smart Nation" policy, which focuses on the digital economy, industrial innovation, and green transformation.(Lee, 2019).

The Singaporean experience is characterised by:

- Highly efficient central management.
- Strict environmental policies that rely on clean energy and recycling.
- Linking education and training to free zone requirements to avoid the skills gap.
- Indicators show that Singapore has succeeded in making free zones centers for innovation and scientific research rather than traditional manufacturing areas, making them consistent with the Sustainable Development Goals.(SDGs 8, 9, 13).

3. The UAE experience:

The UAE is one of the leading Arab countries in managing free zones, as it has more than**45 free zones**Most notably, Jebel Ali, Dubai South Airport, and Abu Dhabi Industrial City.

The UAE experience was distinguished by linking free zones with the vision"UAE 2031", which is based on a diversified economy, environmental sustainability, and digital governance (UAE Vision 2031, 2022).

The most important elements of success were:

- Transforming into digital green areas using artificial intelligence and solar energy technologies.
- Diversifying the economic base away from oil.
- Adopting an electronic regulatory system that ensures transparency in licensing and environmental oversight. These policies have made the UAE a successful Arab model in aligning free zones with the global sustainable development agenda.

2.2- Latin American Experiences

1. The Mexican experience:

Since the 1980s, Mexico has created "export industrial zones" to attract American and European companies.(Farole, 2011). Despite its success in generating employment opportunities and expanding exports, the Mexican model has faced severe criticism due to:

- Poor working conditions and low wages.
- Limited transfer of technology and local knowledge.
- Poor environmental control and pollution of industrial areas. Thus, short-term economic success is achieved without social or environmental sustainability, which has led the World Bank to classify it as a model of "growth without development."" (World Bank, 2021).

2. Costa Rica Experience:

Costa Rica offers a more balanced model in the region, focusing on attracting biotechnology and clean energy industries.It relied on moderate tax incentives coupled with strict environmental policies (UNIDO, 2022).

The country has become one of the first to link free zones to net-zero carbon targets, making it a preferred destination for green-minded multinational companies, such asIntel and Procter & Gamble. This experience highlights the importance of linking incentives and environmental sustainability to ensure the effectiveness of free zones.

2.3- AfricanExperiences

1. The Moroccan experience:

Morocco has achieved relative success thanks to free zones such as Tangier Med, which was designed as a logistics and industrial platform linking Africa to Europe.

Its success is due to:

- Its integration with port and road infrastructure.
- Government management and strong partnership with the private sector.
- Growing environmental commitment through the Tangier Green Industrial Zone" (OECD, 2021).
- However, the challenge is to enhance local integration and expand community benefits from investment returns.

2. The Nigerian experience:

In contrast, Nigeria has faced failure in most of its free zones, such as the Calabar Economic Zone, due to:

- Weak legal framework and institutional oversight.
- The spread of administrative corruption and tax evasion.
- Lack of adequate infrastructure(ILO, 2018). This has led to limited development impact and some areas have become short-term investment havens without sustainable benefit.

2.4- European Experiences

1. The Polish experience:

After joining the European Union, Poland adopted the "Special Economic Zones for Balanced Development" model, which links investment attraction with the achievement of the EU's regional development goals.(EU Commission, 2020).

The Polish model is based on:

- A strict balance between economic incentives and environmental standards.
- Directing investments towards less developed regions.
- Linking free zone activities to vocational education and local innovation policies.

Thanks to this policy, Poland has achieved high growth rates with a decrease in regional inequality, making it a successful model of integrated sustainability in Eastern Europe.

2.5: A comparative analysis of the factors determining success and failure

By reviewing previous experiences, a set of basic factors can be identified that explain the variation in results between free zones around the world.:

Determiningfactors	Successmodels (China, UAE, Singapore)	Failure models (Mexico, Nigeria, some Latin American countries)
Strategic planning	A long-term national vision linked to sustainabledevelopment	Lack of vision and multiple stakeholders
Legal and institutionalenvironment	Clear and transparent legislationwith strict oversight	Legal ambiguity and weakenforcement of laws
infrastructure	Advanced logistical and technicalequipment	Weak transportation, energy and ports
Integrationwith the local economy	Actual networking with national value chains	Isolation from the domesticmarket
Environmental and social standards	Effective integration of the principles of governance and social justice	Ignoringenvironmentalconsiderations and decentwork

Source: Prepared by the researcher based on numerous sources.

It is clear, then, that the success of free zones in contributing to sustainable development is not related to their number or area, but rather to the quality of their management, governance, and the extent of their integration into the national economy.When free zones are managed according to an integrated vision that takes into account the environment and society, they become a true lever for sustainable growth. However, when they are left without oversight or strategy, they become a burden on development.

3: Towards a Proposed Model for Sustainable Free Zones

3.1: Justifications for moving towards the sustainable free zones model

Comparative analysis has shown that the traditional model of free zones, which is based primarily on tax exemptions and cheap labor, has become insufficient in light of current global transformations that require the integration of the principles of sustainable development and good governance into all economic policies.(UNCTAD, 2020).

Environmental challenges, international supply chain requirements, and increasing social pressures have prompted many governments to reconsider the philosophy of free zones, transforming them from tools for attracting investment only into platforms for experimenting with green innovation and institutional integration.(OECD, 2022).

The transition towards a "sustainable free zones" model is considered a strategic necessity that aims to achieve a balance between economic efficiency and social and environmental responsibility.

3.2: Components of the proposed model for sustainable free zones

1. Legislative and institutional dimension

A sustainable model requires reformulating the legal framework governing free zones so that:

- Explicitly incorporates the principles of transparency, accountability, and environmental and social governance into laws and regulations.

- A national body for environmental and social assessment of free zones shall be established to monitor performance according to sustainable development indicators.(SDG Indicators).
- Parliamentary oversight and accountability mechanisms are activated to ensure that these areas do not become tax or environmental havens.

The presence of strong and accountable institutions is what ensures that free zones operate as part of the national economy and not as a separate entity from it.(World Bank, 2021).

2. Economic and productive dimension

This dimension is based on redirecting the activities of free zones towards green and future sectors, such as:

- Renewable energy (solar and wind).
- Clean Industries and Environmental Technology.
- Circular economy and recycling.
- Knowledge and digital industries (artificial intelligence, big data)Free zone policies should also include incentives conditional on environmental and social innovation, meaning that investors are only granted benefits if they prove that their project contributes to sustainable development goals (UNIDO, 2022).

3. Social dimension

This dimension focuses on social justice and improving the quality of work within the free zones through:

- Applying decent work standards in accordance with the recommendations of the International LabourOrganization(ILO, 2018).
- Ensuring equal pay and opportunities for both genders.
- Integrating vocational training and technical education programs to qualify the local workforce.
- Encouraging community participation in monitoring the social impact of free zones.

This dimension enhances the “social responsibility of free zones” and makes them a development actor, not just a closed economic space.

4. Environmental dimension

The environmental dimension is the cornerstone of the proposed model, and includes:

- Imposing mandatory requirements for waste and emissions management.
- Adopting renewable energy as the main source of employment within the free zones.
- Encouraging companies to obtain certifications**ISO 14001**Environmental management.
- development"Green Free Zones" as a comprehensive concept that combines economic efficiency and environmental protection.

In this context, experiences such as the "Tianjin Ecological Zone" in China and the "Green Jebel Ali" in the UAE stand out as models to be emulated in the developing world.

5. Technological and digital dimension

Digital transformation represents one of the new drivers of sustainability for free zones, as it allows:

- Digitization of customs and administrative procedures.
- Track business transactions to ensure transparency and reduce corruption.
- Facilitating data collection to measure development performance.

  Some countries, such as Singapore and the UAE, are moving towards creating integrated digital platforms for managing free zones, directly linked to government and regulatory authorities.(Lee, 2019).

3.3: Mechanisms for activating the proposed model

To ensure the success of the "sustainable free zones" model, a set of executive mechanisms must be adopted, the most prominent of which are:

1. **Integrating free zones into national sustainable development plans**And link its performance indicators to indicatorsSDG
2. **Developing public-private partnerships**To finance green infrastructure projects.
3. **Involving universities and scientific research centers**In knowledge management and innovation within free zones.

4. **Strengthening regional and international cooperation**To exchange experiences on sustainable free zone management.
5. **Establish a periodic evaluation system for environmental and social performance**Based on transparency and disclosure.

Through these mechanisms, free zones can transform from mere "tools for rapid economic growth" into platforms for comprehensive sustainable development.

Conclusion

The study demonstrated that free zones represent a complex and multidimensional economic phenomenon, transcending their traditional conceptual boundaries, which were based on facilitating trade and attracting investment, into a broader space that intersects with issues of sustainable development, governance, and innovation. The success of any free zone experience is no longer measured solely by the volume of investments or exports, but rather by its ability to achieve real added value to society by creating decent job opportunities, promoting social justice, preserving the environment, and localizing technology and knowledge.

International experience, particularly in Asia (such as China, Singapore, and South Korea), has proven that the sustainable success of free zones depends on their integration into the national development strategy, not their isolation from the local economy. When these zones are managed with an open and institutional mindset, and linked to innovation, education, and local manufacturing programs, they become an effective tool for modernizing the productive structure and enhancing international competitiveness. However, when they are managed with a logic of quick profit and temporary privileges, they turn into "closed economic islands" that deepen social disparities and deplete natural resources without real returns.

The study also revealed that the failures of some experiments in Latin America and Africa were not only due to a lack of resources, but also to the absence of a long-term strategic vision, a lack of coordination between institutions, and weak legal and regulatory frameworks. This has left free zones in those countries content with a limited role based on tax exemptions and cheap labor, without

achieving the essential goals of sustainable development, such as social justice, environmental protection, and economic integration.

On the other hand, the future of free zones in the developing world depends on the ability of governments to move beyond the logic of tax competition toward the logic of development excellence—that is, creating free zones characterized by knowledge, clean technology, and advanced digital services. These zones must also be linked to the goals of "Vision 2030" for sustainable development, through clear monitoring and evaluation mechanisms that ensure transparency and accountability.

Sustainable free zones are not an intellectual luxury, but a strategic choice to confront the challenges of the new global economy, which is witnessing a transition toward digitalization and a green economy. Economic growth alone is no longer sufficient without consideration of the social and environmental dimensions. True transformation lies not in the volume of investments, but in their quality and their sustainable impact on society and the environment.

Therefore, the challenge facing decision-makers in developing countries is to build a model for free zones that combines economic efficiency with environmental and social sustainability, and relies on effective governance, sound management, institutional integration, and long-term strategic planning. Only with this approach can free zones transform from traditional tools into engines of comprehensive development, contributing to the world's vision of a more balanced, just, and sustainable future.

Bibliography:

1. Books :

- Farole, T. (2011). *Special economic zones in Africa: Comparing performance and learning from global experience*. World Bank.
- World Commission on Environment and Development (WCED). (1987). *Our common future*. Oxford University Press.

2. Journal Articles :

- Lee, C. (2019). Smart nation and sustainable economic zones: The case of Singapore. *Journal of Sustainable Development*, 12(3), 45–58.

3. International Reports :

- International Labour Organization (ILO). (2018). *Employment and working conditions in special economic zones*. ILO.
- Organisation for Economic Co-operation and Development (OECD). (2021). *Governance and transparency in free zones*. OECD Publishing.

- Organisation for Economic Co-operation and Development (OECD). (2022). *Sustainable development and investment incentives in special economic zones*. OECD Publishing.
- United Nations Conference on Trade and Development (UNCTAD). (2020). *World investment report 2020: International production beyond the pandemic*. United Nations.
- United Nations Development Programme (UNDP). (2019). *Human development report 2019: Beyond income, beyond averages, beyond today*. UNDP.
- United Nations Industrial Development Organization (UNIDO). (2022). *Green industrial parks and sustainable free zones: Policy frameworks and case studies*. UNIDO.
- World Bank. (2021). *Special economic zones: An operational review of global trends and policy lessons*. World Bank.
- European Commission. (2020). *Regional development and special economic zones in the EU*. European Commission.
- Government of the United Arab Emirates. (2022). *We are the UAE 2031 vision*. Retrieved from https://uae2031.ae