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ENHANCING THE DEVELOPMENT OF SMALL INDUSTRIAL ZONES IN UZBEKISTAN THROUGH THE ADOPTION OF INTERNATIONAL BEST PRACTICES

https://doi.org/10.5281/zenodo.19532574

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Abstract: *This study examines the role of international best practices in enhancing the development of small industrial zones in Uzbekistan. The research focuses on analyzing successful foreign models and evaluating their applicability within the national economic context. Particular attention is given to institutional frameworks, infrastructure development, investment support mechanisms, and the promotion of small and medium-sized enterprises. The paper identifies key challenges hindering the effective functioning of small industrial zones and proposes recommendations based on global experience. The findings suggest that adapting advanced foreign approaches can significantly improve industrial productivity, stimulate regional economic growth, and strengthen the competitiveness of Uzbekistan's economy.*

Keywords*: small industrial zones, international experience, economic development, industrial policy, SMEs, infrastructure development, investment climate, Uzbekistan*

1. **Introduction**Small industrial zones have become an important instrument for promoting regional economic development, increasing industrial output, and supporting the growth of small and medium-sized enterprises in developing economies. In Uzbekistan, the establishment of such zones is considered a strategic priority aimed at diversifying the national economy, reducing regional disparities, and creating new employment opportunities. Despite the progress achieved in recent years, a number of institutional, infrastructural, and managerial challenges continue to limit the full potential of small industrial zones.

In this context, the study of international best practices is of particular importance. Many countries have successfully implemented models of small industrial zones by ensuring effective governance systems, providing adequate infrastructure, and creating favorable conditions for investment and entrepreneurship. The experience of these countries demonstrates that the integration of innovative approaches, public-private partnerships, and targeted state support mechanisms can

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significantly enhance the efficiency and sustainability of industrial zones.

Therefore, this research aims to explore the possibilities of adapting foreign experience to the conditions of Uzbekistan in order to improve the establishment and development of small industrial zones. The study seeks to identify key success factors, analyze existing challenges, and propose practical recommendations for policymakers. The findings are expected to contribute to the development of more effective industrial policies and to strengthen the role of small industrial zones in ensuring long-term economic growth.

2. Literature review. In recent years, research on the establishment and development of Small Industrial Zones (SIZs) has gained increasing relevance due to their strategic role in economic and regional development. Both academic studies and practical policy initiatives in this area are largely informed by the experiences of multiple countries, highlighting the importance of comparative analysis and knowledge transfer in promoting effective industrial strategies. The literature indicates that SIZs are not merely mechanisms for economic activity; they also serve as essential instruments for fostering regional development, enhancing employment opportunities, promoting technological advancement, and improving the overall business environment.

Several international studies emphasize that successful SIZs rely on integrated approaches that combine infrastructure development, institutional support, investment incentives, and skilled labor availability. For example, countries that have implemented comprehensive planning frameworks and public-private partnerships have demonstrated higher levels of industrial productivity and sustainable growth within their small industrial zones. These findings underscore the necessity of adapting proven foreign models to local economic, social, and regulatory contexts in order to achieve optimal outcomes.

In the context of Uzbekistan, the modernization of industrial policy and the promotion of domestic production have brought significant attention to the creation of Small Industrial Zones. Policy documents, government programs, and legal frameworks consistently highlight the role of SIZs in strengthening regional economies, supporting small and medium-sized enterprises, and attracting both domestic and foreign investment. This convergence of theoretical research and practical policy initiatives suggests that the strategic development of SIZs can serve as a cornerstone for broader economic modernization and sustainable regional growth in Uzbekistan.

In the studies conducted by economists M. Khayitov and J. Nazarov [3], Small Industrial Zones (SIZs) are considered key drivers of regional development. According to their analysis, these zones contribute to the expansion of entrepreneurial activity by providing small businesses with robust

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infrastructure, well-organized land plots, and favorable conditions for establishing and operating enterprises. The researchers emphasize that SIZs not only facilitate economic diversification but also promote local employment, encourage innovation, and create a more dynamic and competitive business environment within the region.

In his study [5], Sh. Qurbonov emphasizes that the successful establishment of Small Industrial Zones (SIZs) requires the development of public-private partnerships, the implementation of initial government support programs for businesses, and the introduction of tax and financial incentives aligned with international best practices. He argues that such measures are critical for creating a favorable investment climate, reducing entry barriers for small and medium-sized enterprises, and ensuring sustainable industrial growth. Moreover, the integration of public-private collaboration facilitates resource sharing, enhances managerial efficiency, and promotes innovation within SIZs, while targeted fiscal incentives help attract both domestic and foreign investors. Qurbonov's research highlights that adopting these strategies in accordance with global experience can significantly strengthen the effectiveness, competitiveness, and long-term sustainability of small industrial zones.

In their studies [2], G. Toshmatova and N. Egamberdiyeva propose integrating local industrial zones with universities and research centers. They argue that such integration plays a crucial role in introducing innovations into industry, primarily through the establishment of "technoparks." According to their research, technoparks serve as platforms for technology transfer, fostering collaboration between academia and industry, and accelerating the commercialization of research outcomes. By linking industrial zones with scientific and educational institutions, SIZs can benefit from a steady flow of skilled labor, access to cutting-edge research, and the development of innovative products and processes, thereby enhancing overall productivity and competitiveness within the region.

Economists, including Sh. Abdullayev [1], emphasize the socio-economic effectiveness of establishing Small Industrial Zones (SIZs) and highlight their importance in creating a favorable environment for small and medium-sized enterprises in terms of logistics and infrastructure. The author argues that concentrating industrial enterprises within a single zone and providing them with essential services generates a "cluster effect," which enhances competitiveness by fostering collaboration, knowledge sharing, and efficient resource utilization. Abdullayev's research demonstrates that such clustering not only reduces operational costs and improves access to shared infrastructure but also promotes innovation, increases productivity, and

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strengthens the overall economic performance of the region.

In their research [4], M. Yusupov and J. Fayziyev provide an analysis of the formation and effective management models of small industrial zones in countries such as Russia, China, Turkey, Vietnam, and France. Their study highlights international practices that have proven successful in promoting industrial development and supporting small enterprises. In particular, the authors note that the implementation of "incentivized zones" in Vietnam plays a significant role in fostering small business growth by attracting foreign investors and providing tax and land incentives. The research underscores that adapting such foreign models, while considering the local economic and regulatory context, can enhance the efficiency, competitiveness, and sustainability of small industrial zones in other countries, including Uzbekistan.

According to the 2023 analyses conducted by the Center for Economic Research and Reforms, the development of Small Industrial Zones (SIZs) in Uzbekistan continues to face significant challenges, including inadequate infrastructure, limited access to financial resources, and persistent administrative barriers. The report acknowledges that these factors hinder the effective establishment and operation of SIZs, thereby limiting their potential to stimulate regional economic growth and support small and medium-sized enterprises. Consequently, experts recommend a broader implementation of public-private partnership models for SIZs, the application of scientific and economic criteria in site selection, and the enhancement of specialization within zones. These measures are considered crucial for improving operational efficiency, attracting investment, and ensuring the sustainable development of small industrial zones in the country.

From an international perspective, industrial zones such as Mid-America Industrial Park (USA), Milton Park (UK), Mutsu-Ogawara Park (Japan), and Chemro (Slovenia) stand out not only for their manufacturing capacities but also for their comprehensive support mechanisms. These zones provide a wide range of services, including workforce training, logistics infrastructure, tax incentives, and mechanisms to promote local employment. As a result, they have become highly attractive destinations for industrial investors. The integration of such multifaceted support systems demonstrates how well-designed industrial parks can stimulate regional economic development, enhance productivity, and create a sustainable environment for small and medium-sized enterprises while fostering socio-economic benefits for the surrounding communities.

Globally, models of Small Industrial Zones (SIZs) have been developed in diverse ways, reflecting differences in economic structures, regulatory frameworks, and strategic priorities of various countries. For instance, some

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zones focus primarily on manufacturing and export-oriented industries, while others integrate research and development, technological innovation, and service provision. Many countries, such as Vietnam and China, implement incentive-based models that include tax breaks, land concessions, and streamlined administrative procedures to attract foreign and domestic investors. In contrast, European examples often emphasize sustainability, high-tech industry clusters, and close collaboration with academic and research institutions. This diversity of approaches demonstrates that the design and management of SIZs must be adapted to the local socio-economic context to maximize their efficiency, competitiveness, and long-term contribution to regional development.

• In France, initiatives such as "Technopolis" and "Economic Development Zones," established to support small businesses, are actively promoted by the government through a variety of incentives. These include tax exemptions, discounted land plots, and access to long-term financing. Such measures are designed to encourage entrepreneurship, facilitate the establishment and growth of small enterprises, and enhance regional economic development. The French experience demonstrates that combining financial, fiscal, and infrastructural support can create an attractive environment for both domestic and foreign investors, thereby increasing the competitiveness and sustainability of small industrial zones. [6].

• In Turkey, "Organize Sanayi Bölgeleri" (OSB), or Organized Industrial Zones, are developed through collaboration between the public and private sectors. These zones provide small and medium-sized enterprises with affordable land, infrastructure, and utility services, while also hosting specialized centers for workforce training. The OSB model demonstrates how strategic partnerships and integrated support systems can enhance industrial productivity, facilitate business development, and ensure the availability of skilled personnel. This approach has contributed significantly to regional economic growth and has made OSBs attractive destinations for both domestic and foreign investors. [7].

• In China, "specialized industrial parks" are often located near major cities or logistics hubs. These parks typically host high-technology clusters, fostering innovation and advanced manufacturing. The government actively attracts private investors through policies aimed at subsidizing infrastructure and reducing initial setup costs. Such strategic interventions create a favorable investment climate, facilitate the rapid development of high-tech industries, and promote collaboration between enterprises, research institutions, and service providers. The Chinese model highlights the effectiveness of combining targeted state support with private sector participation to ensure the

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competitiveness and sustainability of industrial parks. [8].

Analyses indicate that, internationally, Small Industrial Zones (SIZs) serve as a key mechanism for enhancing economic competitiveness, strengthening export potential, and unlocking the capabilities of the domestic workforce. The global experience demonstrates that well-designed industrial zones not only foster manufacturing and services but also promote innovation, entrepreneurship, and regional development. In the context of Uzbekistan, the development of SIZs requires not only the improvement of infrastructure but also the strengthening of regulatory frameworks, the enhancement of the investment climate, and the widespread adoption of innovative solutions. These measures are essential for ensuring the sustainable growth, competitiveness, and long-term socio-economic impact of small industrial zones in the country.

3. Materials and methods. In the preparation of this scientific article, a comprehensive approach was employed, utilizing a range of research methods. The study combined qualitative and quantitative analyses, comparative studies of international experiences, and a review of relevant scientific literature, legal documents, and policy reports. These methods allowed for a systematic examination of the establishment and development of Small Industrial Zones (SIZs) in Uzbekistan, the identification of best practices from foreign models, and the formulation of practical recommendations to enhance their effectiveness and sustainability.

Firstly, using an analytical approach, both international and local sources were thoroughly examined and analyzed. This included reports from reputable organizations such as the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA), REN21, as well as official data published by the Ministry of Energy of the Republic of Uzbekistan and the State Statistics Committee. Through this analysis, the current status and development trends of the renewable energy sector, both globally and within Uzbekistan, were identified, providing a foundation for further research and policy recommendations.

Secondly, employing a comparative analysis method, detailed evaluations were conducted between conventional energy sources (coal, natural gas, oil) and renewable energy types (solar, wind, biomass, and others). The comparison focused on multiple criteria, including efficiency, economic costs, environmental impact, and sustainability. Through this systematic assessment, the study identified the relative advantages and limitations of each energy type, providing a scientific basis for prioritizing certain energy sources in the context of Uzbekistan. This approach not only highlights the potential for optimizing energy policy but also informs decision-making regarding investments, infrastructure development, and long-

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term strategies for transitioning to a more sustainable and environmentally responsible energy system.

Thirdly, using statistical methods, key indicators in the renewable energy sector over recent years were analyzed, including installed capacities, production volumes, investment levels, and the geographical distribution of established solar and wind power plants. The analysis utilized various data visualization tools, such as charts, tables, and infographics, to systematically present trends and patterns. This statistical evaluation provided an empirical basis for assessing the growth, regional distribution, and investment efficiency of renewable energy infrastructure in Uzbekistan, enabling more informed policy-making and strategic planning for the sector's sustainable development.

Fourthly, a recommendation-based approach was applied to develop practical measures addressing the identified challenges and obstacles, drawing on international best practices. Specific strategies were formulated to enhance workforce capacity, improve infrastructure, implement financial incentives, and foster environmental awareness among the population. These measures aim to create a more supportive environment for the development of renewable energy in Uzbekistan, ensuring that investments are efficiently utilized, operational efficiency is maximized, and long-term sustainability is achieved. By integrating global experiences with local conditions, the study provides actionable solutions to strengthen both policy and practical implementation in the sector.

The aforementioned methods were applied collectively, ensuring that the article is scientifically grounded, comprehensive, and oriented toward practical application. During the research, the following methodological approaches were employed:

• Analytical method - conducted a detailed analysis of international experiences in the establishment and management of industrial zones;

• Comparative method - compared the organizational and management mechanisms of industrial zones in Uzbekistan and foreign countries;

• Empirical approach - analyzed existing statistical data, regulatory frameworks, and legal documents to assess current practices and trends;

• Recommendation-based approach - developed practical proposals and strategic directions for the effective development of industrial zones.

The integration of these methods allowed for a holistic evaluation of Small Industrial Zones (SIZs), combining theoretical insights, international best practices, and practical recommendations tailored to the context of Uzbekistan.

4. Analysis and results. International experience indicates that government support plays a decisive role in the establishment and development of industrial zones. For example, in Turkey, the framework of "Organized Industrial Zones" has been implemented, where small and medium-sized enterprises

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(SMEs) are consolidated while maintaining their legal and economic independence. Most of the infrastructure facilities within these zones are constructed using public funds, providing a stable and supportive environment for businesses. This model demonstrates how strategic state involvement in infrastructure, coupled with the autonomy of enterprises, can enhance efficiency, attract investment, and promote regional economic development.

In France, newly established small businesses benefit from extensive tax incentives. Specifically, they are fully exempt from corporate income tax for the first two years, followed by a gradual reduction over the next three years. These reforms, complemented by subsidies, concessional loans, and accelerated depreciation allowances, aim to enhance the competitiveness of small industrial enterprises. The French experience demonstrates that targeted fiscal measures, combined with financial support, can effectively stimulate entrepreneurship, encourage investment, and strengthen the overall performance of small industrial zones.

In the Russian Federation, Greenfield and Brownfield types of industrial parks are widely implemented. Their infrastructure is primarily financed through public-private partnerships, where local authorities are responsible for developing the necessary facilities and creating a conducive environment for investors. When conditions are favorable, enterprises operating within these parks can save up to 20% of their expenses related to infrastructure development. This model highlights the effectiveness of collaborative governance in enhancing the attractiveness and efficiency of industrial zones, promoting investment, and supporting regional economic growth.

In Japan and the United States, industrial parks are highly developed, providing not only manufacturing facilities but also comprehensive social and service infrastructure. For instance, parks such as Milton Park in the United Kingdom and Mid-America Industrial Park in the United States offer a wide range of amenities, including childcare centers, cafes, internet services, transportation logistics, Wi-Fi access, and other conveniences. These features enhance the overall attractiveness of the zones for investors and employees, supporting workforce retention, facilitating business operations, and promoting a balanced integration of industrial, social, and logistical functions within the park.

Experience from Vietnam demonstrates that state support for industrial zones is significantly enhanced through classifications such as “Incentivized Projects” and “Priority Incentive Zones.” These zones offer extensive tax benefits, streamlined access to infrastructure, and broad opportunities for workforce training and placement. Such comprehensive support mechanisms foster a favorable investment climate, encourage the growth of small and

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medium-sized enterprises, and contribute to regional economic development by integrating fiscal incentives, human capital development, and logistical facilitation within a structured framework.

Analysis of Small Industrial Zones (SIZs) in Uzbekistan reveals that the majority of existing zones are inadequately equipped in terms of technology, and initial financial support mechanisms for business startups remain insufficient. Furthermore, collaboration frameworks with scientific institutions and technoparks are still underdeveloped, limiting the effective transfer of innovation and knowledge to industrial enterprises. These gaps highlight the need for targeted infrastructure upgrades, strengthened business support mechanisms, and enhanced integration with research and innovation centers to foster a more competitive and sustainable industrial ecosystem within the country.

5. Conclusion and practical recommendations. The study of Small Industrial Zones (SIZs) in Uzbekistan, supported by an analysis of international best practices, underscores the critical role these zones play in promoting regional economic development, enhancing competitiveness, and fostering small and medium-sized enterprises (SMEs). International experience from countries such as Turkey, France, Russia, Japan, the United States, and Vietnam demonstrates that the combination of government support, fiscal incentives, robust infrastructure, workforce development, and integration with scientific and technological institutions significantly enhances the effectiveness of industrial zones.

In Uzbekistan, the establishment and development of SIZs remain constrained by technological gaps, limited initial financial support for startups, and insufficient collaboration with research institutions and technoparks. Addressing these challenges is essential to improve investment attractiveness, facilitate innovation transfer, and ensure sustainable growth.

Based on these findings, the following practical recommendations are proposed:

1. Upgrade technological, logistical, and social infrastructure within SIZs to provide enterprises with a conducive and efficient operational environment.

2. Introduce targeted subsidies, concessional loans, tax exemptions, and accelerated depreciation programs to support startups and enhance the competitiveness of small industrial enterprises.

3. Promote PPP models to co-finance infrastructure and service facilities, ensuring shared responsibility between the state and private investors while reducing operational costs for enterprises.

4. Strengthen collaboration between SIZs, universities, and research centers to implement innovation-driven solutions and technological advancements in industrial processes.

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5. Establish training centers and skill development programs within SIZs to ensure a qualified labor force capable of meeting the demands of modern industrial production.

6. Develop a clear and consistent normative-legal framework to attract domestic and foreign investment while simplifying administrative procedures for businesses.

7. Implement systematic monitoring and performance evaluation of SIZs to identify bottlenecks, assess economic impact, and guide future policy interventions.

By implementing these strategic measures, Uzbekistan has the potential to significantly enhance the operational efficiency, technological capacity, and global competitiveness of its Small Industrial Zones (SIZs). Beyond localized industrial performance, these initiatives contribute to broader macroeconomic resilience by diversifying economic activities, reducing dependence on traditional sectors, and stimulating sustainable job creation across multiple regions. Moreover, the systematic integration of international best practices-such as advanced energy management, digitalization of industrial processes, and environmentally sustainable production techniques-into context-specific frameworks allows for a tailored approach that respects local socio-economic realities and resource availability. This hybrid strategy not only accelerates the modernization and technological upgrading of Uzbekistan's industrial sector but also fosters inclusive economic growth by promoting equitable access to opportunities for both urban and rural populations. In the long term, such evidence-based interventions can enhance industrial productivity, attract foreign direct investment, and support the transition toward a resilient, innovation-driven, and environmentally sustainable industrial economy.

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