

# COMPREHENSIVE ASSESSMENT OF THE EFFECTIVENESS OF INVESTMENT POLICY IN THE REPUBLIC OF UZBEKISTAN

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## ABSTRACT

*The goal of the work is to develop theoretical, methodological and practical aspects of improving the mechanism for attracting foreign investment into the economy of the Republic of Uzbekistan. To achieve this goal, it is necessary to solve a number of interrelated tasks: to study the essence and role of foreign investment in the development of the national economy; study the types and forms of foreign investment; study benefits and preferences for foreign direct investment in the Republic of Uzbekistan; explore the role of foreign investment in the development of the economy of Uzbekistan; identify the dynamics and trends in the development of attracting foreign investment in the conditions of economic modernization; reveal the main directions of attracting foreign investment to the Republic of Uzbekistan.*

**KEYWORDS:** *foreign investment, dynamics, trends, Republic of Uzbekistan*

## INTRODUCTION

A smooth transition to the digital economy requires further development of the regions' investment attractiveness. Also, in this context, it is necessary to correctly determine the investment potential of the region and attract foreign and local investors. In this regard, the importance of implementing investment projects consistent with state policy in the investment sphere is considered especially relevant. In the process of implementing this task, it is necessary to correctly analyze the geographical and economic capabilities of the region, the interaction of the government structure and investors, as well as market requirements. In this regard, the republic has adopted a number of regulatory legal acts, such as Law of the Republic of Uzbekistan No. ZRU-598 dated December 25, 2019 “On investments and investment activities”, Decree of the President of the Republic of Uzbekistan No. UP5495 dated August 1, 2018 “On measures for radical improvement investment climate in the Republic of Uzbekistan”, No. 4434 dated April 10, 2012 “On additional measures to stimulate the attraction of foreign direct investment.”

Today, for all regions, the main problem of investment policy is the search for sources of financing, although theoretically there are many potential options for attracting capital to regional investment projects. But it should be especially noted that only a few of the many projects at a given time can play a significant role in investment processes.

## MATERIALS AND METHODS

Based on the country's sustainable economic development strategies, problems associated with increasing investment attractiveness and determining investment potential is practically one of the most important problems of the economy. In this regard, vast experience has been accumulated in foreign countries. M. V. Olshanskaya studied issues of economic, organizational and managerial relations that mediate the processes of development and implementation of measures to increase the investment attractiveness of territories. This work was carried out taking into account the characteristics of the territories of the Russian Federation; also, the investment potential has been little studied, mainly attention is paid to organizational and management problems. N.N. Kuzmina studied the issues of socio-economic development of the region, in this scientific dissertation the investment attractiveness of the region was studied as a subject of market competition, and the work also analyzed concepts, essences, basic elements, and the management system of tourist and economic objects. D.A. Bondareva, A.N. Sorochaikin studied issues of public-private partnership in the management of economic facilities in large cities, taking into account urbanization, but they did not study the problems of individual territories. A.Z. Dadashev

investigated the problems of improving the tax and budget mechanism for supporting investment processes in highly subsidized regions. S.M. Vdovin believes that investment attractiveness is a factor in the sustainable development of the region; the researcher believes that currently the contours of research in this area are shifting towards solving the problem of sustainable development due to the increasing scarcity of resources and deterioration of the environment [7]. L.A. Beklaryan, S.V. Sotsky [15] studied the issues of investment activity taking into account regional investment and financial policy, while they argue that it is necessary to attract capital by dividing regions and investors into groups according to the level of their mutual attractiveness. In Uzbekistan, similar issues were studied by Sh.I. Mustafakulov, on creating the necessary conditions for attracting foreign investment in the economy of the republic [11], M.H. Nurmukhamidova, S.V. Mamazhanova, A.H. Shoev studied the problems of developing systems of economic measures development of regions, increasing the indicator of investment attractiveness [12], Vahabov A.V., [6], O.Sh. Sabirov [14], D.G. Gozibekov, E.I. Nosirov [8] conducted research to improve the conditions for improving the investment climate and attracting foreign investment.

## RESEARCH METHODOLOGY

The purpose of this article is to analyze the theoretical knowledge of scientists in the field of investment, investment attractiveness and investment potential. And also, the development of scientific and practical proposals and recommendations to improve

## ANALYZES AND RESULTS

The investment strategy of Uzbekistan gives priority to investment projects equipped with advanced technologies and aimed at ensuring deep processing of domestic raw materials, increasing the country's export potential and creating new high-tech industries. The essence of state investment policy is to ensure the level and structure of the need for capital investments in the country's economy and its individual sectors and industries, as a result of increasing the investment activity of all main agents, reproductive activity of the population, entrepreneurs and states.

The state plays an important role in creating a favorable investment climate at the sites of the Republic of Uzbekistan, conditions created for investors in the country in the conditions created by any law. Many regions of Uzbekistan have appropriate investment potential, which can be successfully realized with government support. In the context of overcoming the global financial crisis, each country must first of all try to attract domestic and foreign investors into the sphere of material production. In this regard, a clear investment policy is being developed and implemented, and work is underway to create an appropriate investment climate. The successful implementation and effective use of this priority has created legal norms in Uzbekistan that create favorable conditions for foreign partners in a wide range of investment activities, protect their rights and invested capital. The country pursues an open-door policy for foreign investors, additionally guarantees the liberalization of foreign economic activity, nationalization, requisition and changes in legislation, creates a system of preferential taxation and creates the basis for attracting the necessary legal foreign investment. At the same time, the consistent implementation of economic reforms in the conditions of recovery from the crisis requires constant improvement of the forms and methods of investment policy, the formation of an effective and efficient system of regulation and support of investment processes, which determines the relevance of the study.

Modern investment policy in Uzbekistan is aimed at creating a favorable investment climate to attract domestic and foreign investment in the new investment period, including the post-crisis period. Ultimately, it focuses not only on the efficient functioning of different forms of ownership, but also on economic benefits, the labor market and the internationalization of capital.

The investment policy of Uzbekistan is based on influence on its subjects, equal property and financial responsibility for their decisions and obligations, as well as on a convenient and sustainable way to meet the demand and constant need of producers for investment. It should contribute to the formation of the desired conditions. In the Republic of Uzbekistan there are no restrictions or barriers to investment, as in any other country. Foreign investors can create enterprises on the territory of the republic in any legal form established by law, and today in Uzbekistan, potential foreign investors are offered various forms of investment:

- Creation of joint ventures;
- Creation of enterprises with 100% foreign capital;
- Acquisition of part or all shares of privatized enterprises.

The investment climate varies greatly from country to country and from country to country and can affect different organizations differently. In Uzbekistan, the focus is on three interdependent ways in which the government

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influences firms' decisions: through the risks associated with realizing opportunities, the direct barriers to realizing opportunities, and the competition that organizations face.

Many of the risks that organizations face is integral to investing in any market economy, including the uncertain behavior of buyers and competitors. However, government strategies and tactics can increase these risks in several ways. These circumstances range from political uncertainty and instability to risks associated with government expropriation and unpredictability in the interpretation of regulations. While risk is generally difficult to assess, political risk is perceived more acutely in low-income countries. Research on the investment climate shows that organizations in developing countries are primarily concerned with the risk associated with political uncertainty (Table 1).

**Table 1. Investment climate risks**

Primary risks	Main risks	Other risks
Political uncertainty 33%	Infrastructure 8%	Provisions 11%
Taxes 23%	Finance 5%	Skills 3%
Corruption 11%	Crime 3%	Courts 3%

All costs and risks, if high enough, can pose serious obstacles to entrepreneurship. However, governments themselves can create more direct obstacles, including creating monopolies and imposing market restrictions. Currently, the Uzbek investment “portfolio” of small businesses includes more than 140 announced investment projects totaling about 445 million US dollars. The strategy for further improvement of local business in Uzbekistan includes not only strengthening the achieved results, but also the development of new credit lines, especially the implementation of projects with a new investment climate, taking into account regional and global conditions and resources. This will not only improve the parameters of inclusive small businesses, but also make them a source of employment and growth in income and living standards. The implementation of these and other investment projects, combined with an increase in entrepreneurial activity, should help increase the contribution of small businesses and private entrepreneurship to the country’s GDP.

Typically, organizations prefer to have as little competition as possible. At the same time, competition encourages organizations to innovate, improve their productivity, and share the economic benefits of increased productivity with consumers and workers. The level of competition in an industry can be affected by many factors, including economies of scale and market size.

Investments support the process of economic growth. But it is not only the volume of investment that is important, but also the increase in labor productivity that results from these investments. The main reason for differences in living standards between countries is the difference in labor productivity. Technological progress helps explain the advances in productivity levels that began with the Industrial Revolution and led to modern economic growth. Changes in the investment climate affect the opportunities and incentives for business entities to grow and adopt or adopt a range of best practices to achieve a goal. This applies not only to those innovative methods that can be patented, but also to better ways to organize the production process, create, distribute products or satisfy consumer needs.

A well-conditioned investment environment lowers barriers to the spread of new ideas, including importing new equipment or improving business organization. The all-encompassing investment environment also encourages what is called “creative disaster,” where organizations test their ideas, strive for success, and strive for success. A good investment environment makes it easier for organizations to enter and exit markets while achieving production and economic growth. The investment climate reflects the opportunities and incentives for business entities to invest in the physical sector, create jobs and expand production. A good investment climate does not simply mean that organizations make a profit. If this were the only goal, then you could focus your efforts on minimizing costs and risks. A good investment climate improves the situation of society as a whole.

This means that some costs and risks must naturally fall on the firms themselves. The most important priorities today are deep structural transformations, ensuring dynamic and balanced development, modernization and diversification of leading sectors of the economy, the formation and deepening of investment activity in Uzbekistan.

Based on the five principles of economic reform and renewal, the Uzbek model of economic development since independence and the limited and balanced economic policy pursued have created a reliable barrier and an

adequate level of security. Ensuring macroeconomic stability, stable operation of the financial and banking sector and the growth of foreign exchange reserves, the influence of speculative capital, uncontrolled elements on the economy of Uzbekistan and the lack of control in global financial and stock markets [95].

The implementation of the following measures helped achieve the goals set in the Anti-Crisis Program: implementation of a comprehensive investment program, continuation of structural reforms in the economy, significant expansion of scale and scope, social and infrastructure projects and, consequently, employment, gradual reduction of the tax burden, creation of the necessary incentives for key export-oriented sectors. The strategy of combating the financial and economic crisis and mitigating its consequences allowed our country in the past to maintain stable economic growth among few countries in the world, which in 2019 grew by 8.2%, industrial production by 7.7% percent. Agriculture - 7%, retail trade turnover - 13.9%. The most important source of consistently high growth rates of the country's economy in 2019 was the growth of investment in fixed capital, which amounted to 22.9% of GDP.

Domestic and foreign investment attracted US\$11.7 billion, up 14 percent from a year earlier. At the same time, more than 22 percent of all investments, or more than 2.5 billion US dollars, are foreign investments, of which more than 79% are foreign direct investments. If you look, last year about 74% of all investments were directed to industrial construction, primarily to the implementation of programs and projects for the modernization and modernization of production. Last year alone, the construction of 205 major investment projects was completed with a total capital investment of more than \$1.6 billion.

In Uzbekistan, the sectoral structure of investment in fixed capital. Let us emphasize the accumulated imbalance in the republic's economy. Therefore, economic development depends on investments in fixed capital necessary to modernize, improve and expand production. It is worth noting that the main essence of investment is the main guarantor of the country's socio-economic development strategy. Prospects for economic growth are mainly associated with increased investment activity of manufacturers. For example, we can consider that by 2021, investments in fixed assets in the Republic of Uzbekistan amounted to 18291.3 billion Umm - a percentage of 107.9%.

However, economic growth will be volatile without strengthening the real sector and creating the basis for its further formation. Consequently, without a significant influx of investment in fixed capital, a significant increase in capital, high rates of economic development, that is, growth, will be short-lived. In this regard, for the sustainable development of the Republic of Uzbekistan in the medium term, a rapid increase in investment is necessary - primarily in high technology and production, as well as the modernization of production capacities. During the financial and economic crisis, it is necessary to implement a number of economic barriers, including structural reforms, in order to effectively use the potential of existing basic resources and prevent the crisis from escalating through increased private investment. In particular, further reforms are needed in agriculture and finance. In this regard, the Government seeks to stimulate investment by continuing the process of privatization of the remaining state-owned enterprises, which will increase the use of existing production and infrastructure capabilities.

As a result of the active investment and industrial policy pursued since independence, new investments were attracted into the production of cars, trucks and buses, and new automobile factories were created. The Bukhara oil refinery, the Shurtan gas chemical complex, the Kungrad soda plant and dozens of textile complexes were built in cooperation with leading foreign organizations. Many experts from the two countries have repeatedly noted that Uzbekistan is taking unprecedented measures to strengthen the mechanism for financing the modernization of enterprises in the real sector of the economy.

If we stop at this, then this is a reduction for 5 years in the tax base of the single tax payment on the cost of new equipment; granting the right to reduce the tax base for income tax for a period of 3 years; exemption of innovative enterprises from property tax for a period of 5 years; exemption from customs duties on the import of technological equipment for components and spare parts, as well as tax incentives to limit price increases for all types of energy and all types of utilities.

Noting the importance and timeliness of the measures taken by the state to radically modernize the real sector of the economy, it should be recognized that business entities are unlikely to be able to solve these problems only on their own, since many of them do not have the necessary funds, qualified specialists and experience in restructuring various aspects of their activities. The most prepared professional participants in the financial

market, capable of providing significant assistance to enterprises in the real sector of the republic during this difficult period, are commercial banks, which have all the capabilities to “ensure the structural transformations being carried out in the country in the economy, the further formation of a favorable investment climate, modernization, and technical re-equipment of production.” The functioning of a “healthy” banking system that supports the growth of investment and continuous modernization of industries in the real sector, providing access to credit resources for the broad masses of the population and financial mechanisms to increase employment, preventing the use of financial resources to create various types of “bubbles”, is one of the most important priorities post-crisis development of Uzbekistan.

In Uzbekistan, foreign capital is actively involved in the process of modernization, development and improvement of its infrastructure. Large investments are made in geological exploration to study hydrocarbon reserves and develop new oil and gas fields. In this regard, large-scale geological exploration work is underway, and the organization (UzGazOil LLC, Ustyurt-Zarubezh-neftegaz LLC, Sprs Silk Road Sgoir IP, ARAL SEA OPERATING COMPANY JV) is conducting geological exploration work in the Uzbek part. On the shores of the Aral Sea, the oil and gas sector and the communications sector are the second largest for foreign investors in the development of newly discovered hydrocarbon fields. In 2020, the volume of foreign investment here increased 2.6 times, their share reached 24.4% (in 2011 - 16.7%). Foreign investments UMS, Beeline (Russia), Teliasontra UTA Holding DV (more than 272 million US dollars). (Netherlands) has completed the technical and technological development of a mobile communication system.

The share of foreign investment in the total volume of modernized and improved projects for 2016-2020, which are being implemented in these years, is about 83.5%, and their investment volume exceeds 12.5 billion US dollars. The largest exporters of capital are Russia (\$5.3 billion or 35.3 percent of foreign investment), China (\$3.6 billion or 23.9 percent) and Korea (\$2.3 billion). USA or 15.7 percent) and EU countries (about 1 billion US dollars or 6.4%). It should be noted that investments have been (or will be made) in the fuel and energy complex, communications, chemical, food, light industries, automotive, transport, and construction materials industries. The role of the “first violin” in attracting strategic investors to the economy in the coming years will continue to be played by the fuel and energy sector of the republic, which accounts for over 75% of foreign investments from Russia, China, Malaysia, South Korea, Switzerland and other countries (Table 2).

**Table 2. Share of six countries in total foreign investment in production modernization projects (2016-2020)**

A country	Branch of the economy	Million US Dollars	%
USA	Automotive industry	12,573.5	83.5
Japan	Chemical, energy	279.3	1.9
EU	Fuel and energy complex, chemical, textiles, transport, communications	965.9	6.4
Korea	Fuel and energy complex, automotive industry, textiles, transport	2358.4	15.7
China	Fuel and energy complex, textiles, communications	3594.2	23.9
Russia	Fuel and energy complex, chemical, food industry, building materials, communications	5323.8	35.3

In the UK, 372 joint ventures were established in partnership with UK investors and 109 organizations and organizations. They mainly specialize in areas such as the food industry, construction materials production, agricultural processing, insurance and consulting.

It is worth noting that companies in the Russian Federation plan to invest more than 5.3 billion US dollars. The largest investor is Lukoil, which has invested \$4.4 billion in the oil and gas sector. Over the next ten years, Uzbekistan plans to attract more than 50 billion US dollars of foreign investment. This was announced at the 17th meeting of the Uzbek-British Council for Trade and Industry.

Currently, it is possible to acquire in the person of Great Britain an important and reliable partner, economic relations with which have far-reaching prospects. The country is open to expanding international trade volumes and strengthening investment cooperation, including in the field of direct investment by leading British companies. British business can be more active in the Uzbek market, including the creation of joint high-tech

industrial production, including the Navoi Free Industrial Economic Zone, which has created unprecedented investment conditions.

World practice shows that during a financial crisis, the role of government resources in maintaining and stimulating production and investment activity in the country will increase. The use of an investment approach in economic development will ensure the state's constant interest in this project. This means that the return on long-term investments and resources relative to investments takes into account the principles of sustainable long-term implementation of laws, which allows us to believe in the long-term sustainability of the investment climate in 31 countries around the world. Thus, the republic is creating a solid base based on market relations for future economic relations, and the financial and economic crisis is one of the catalysts for this process.

The advantages that the modern economy of Uzbekistan provides for foreign companies include political and macroeconomic stability, favorable natural and climatic conditions, hospitable and hardworking people, and others. The modern investment policy of Uzbekistan is aimed at creating a favorable investment climate in the post-crisis period to attract national and foreign investments to the country. Ultimately, it achieves the long-term strategic goal of creating a socially oriented society, characterized by a high standard of living of the population, based on an economy that ensures only the effective functioning of various forms of ownership together, the internationalization of markets for goods, labor and capital.

The investment policy of Uzbekistan is based on the interaction of its subjects, equal property and financial responsibility for their decisions and obligations and should contribute to the creation of favorable conditions that meet the constant investment needs of producers. There are no restrictions on the form of investment in the Republic of Uzbekistan.

Foreign investors can create enterprises on the territory of the republic in any organizational and legal form permitted by law. Today, potential foreign investors are offered various forms of investment: - creation of a joint venture; creation of an enterprise with 100% foreign capital; acquisition of part or all shares of privatized enterprises.

The implementation of the following activities helped achieve the goals set in the anti-crisis program: implementation of a large-scale investment program, continuation of structural reforms in 60 countries, significant expansion of scale and scope, social and infrastructure projects and, consequently, employment, gradual reduction of the tax burden, creation of necessary incentives for key export-oriented sectors.

Realizing the importance of creating a favorable investment climate in Uzbekistan, it is important to analyze the factors that influence the investment climate to one degree or another and the country's investment potential. An analysis of investment climate factors can be done using the SWOT matrix. A SWOT analysis is carried out to identify the strengths and weaknesses of the activity of the analyzed object, in this case the investment climate of the country, as well as emerging opportunities and impending threats (Table 3).

**Table 3. SWOT analysis of investment climate factors**

<b>Positive sides</b>	<b>Negative sides</b>
<ul style="list-style-type: none"> <li>- geographical position;</li> <li>- qualified but relatively cheap labor;</li> <li>- rich resource base;</li> <li>- relatively low costs of production factors;</li> <li>- growing purchasing power of the domestic market;</li> <li>- developed infrastructure.</li> </ul>	<ul style="list-style-type: none"> <li>- geographical location (access to the sea);</li> <li>- administrative barriers;</li> <li>- significant regulatory barriers to doing business;</li> <li>- insufficient development of investment infrastructure in some regions</li> </ul>
<b>Possibilities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>- high rate of economic growth;</li> <li>- state guarantee of protection of investors' rights;</li> <li>- macroeconomic and political stability in the country;</li> <li>- carrying out structural reforms;</li> <li>- developing financial system;</li> <li>- system of tax and customs benefits and privileges for investors;</li> <li>- creation of free zones</li> </ul>	<ul style="list-style-type: none"> <li>- the relative dependence of macroeconomic growth on the situation on world raw materials markets;</li> <li>- deterioration of the environmental situation in the regions;</li> <li>- deterioration of security due to social tension in some neighboring countries;</li> </ul>

Analyzing these factors, it can be noted that Uzbekistan has good geographical conditions for vigorous economic activity, is located in the heart of Central Asia and is the only country bordering five Central Asian states, including Afghanistan. This creates favorable conditions for the development of regional cooperation, participation in regional and transnational projects for the development of transport corridors. Foreign companies investing in Uzbekistan have the opportunity to enter the 5 largest and most dynamically growing markets - the CIS countries, Central and Eastern Europe, South and Southeast Asia, and the Middle East. Uzbekistan has achieved political stability with a sequence of reforms in all spheres of social and political life. Representatives of more than a hundred nationalities and dozens of religious denominations live in peace and harmony in our republic. The population of Uzbekistan is more than 32.6 million people, 50.6% of which is urban. In terms of education, Uzbekistan is on par with the developed countries of the world. One hundred percent literacy of the population, significant personnel and intellectual potential, but relatively cheap labor is also one of the strengths of our country.

## CONCLUSIONS

For foreign investments in the Republic of Uzbekistan, a national regime has been established, which provides for the provision of foreign investments with conditions no less favorable than the corresponding conditions for investments made by legal entities and individuals of the Republic of Uzbekistan. Legislation, along with general guarantees and measures to protect foreign investors, may provide additional guarantees and protection measures, including those ensuring the unconditional fulfillment by partners of their obligations to foreign investors. Additional guarantees and protection measures may be provided to foreign investors in each specific case when investing: in priority sectors that ensure sustainable economic growth, progressive structural changes in the country's economy; into priority projects that ensure the strengthening and expansion of the republic's export potential, its integration into world economic relations; in projects in the field of small business, the implementation of which is aimed at processing raw materials, producing consumer goods and services, and providing employment to the population. Also, the state guarantees and protects the rights of foreign investors carrying out investment activities on the territory of the Republic of Uzbekistan. Analyzing the structure of foreign investment by economic sector over the past five years, it should be noted that the bulk of the utilized foreign investment, that is, more than 90% of foreign capital, was invested in the production sector.

To enhance the influx of foreign investment, further development of the infrastructure necessary for the introduction of business activities by foreign investors in Uzbekistan is required. It is also necessary to pay attention to the further development of the system for disseminating information about the advantages of the investment environment of Uzbekistan and investment opportunities in our country. The most important tool for dynamic and balanced economic growth, implementation of deep structural transformations and diversification of the economy is the implementation of an active targeted investment policy. An effective and evolutionary strategy of market reforms ensured the creation of a favorable investment environment in the Republic of Uzbekistan. In our opinion, the main advantages of this investment environment are: macroeconomic and political stability; state guarantee of protection of investors' rights; developed infrastructure; convenient location in relation to sales markets and optimal transport corridors; highly qualified but relatively cheap labor; system of tax, customs benefits and privileges provided to investors; a developing financial system that meets international standards. The development of industry and especially the manufacturing industry occupies a special place in the implementation of economic modernization. Therefore, the structure of investment in industry should gradually change in favor of the manufacturing industry. An analysis of the structure of investment in industry shows an increase in the share of chemical and petrochemical industries.

## REFERENCES

1. UP-5308 2018 Decree of the President of the Republic of Uzbekistan No. UP-5308 "On the State Program on Implementing the Action Strategy for Five Priority Areas of Development of the Republic of Uzbekistan in 2017-2021 during the "Year of Supporting Active Entrepreneurship, Innovative Ideas and Technologies", dated 22 January 2018 [http://www.ombudsm.an.uz/ru/press\\_center](http://www.ombudsm.an.uz/ru/press_center).
2. Speech of the President of Uzbekistan Sh. Mirziyoyev on January 14, 2017 at an expanded meeting of the Cabinet of Ministers dedicated to a comprehensive analysis of the results of the country's socio-economic development in 2016 and the identification of the most important priority areas of the economic program for 2017 (January 19, 2017), *Narodnoe slovo*.
3. Decree of the President of the Republic of Uzbekistan Sh. Mirziyoyev "On the Strategy for the Further Development of the Republic of Uzbekistan" (January 23, 2017).
4. UzDaily.com 2018 Minister of Foreign Trade speaks about export potential of fruits and vegetables of Uzbekistan <https://www.uzdaily.com/articles-id-43325.htm>.

5. VI Zuev and AG Abdullaev, *Greenhouse Vegetable Farming* (Tashkent: Ukituvchi, 2002).
6. II Buzdalov, "Methodological aspects of stability of rural development," *Economics of Agricultural and Processing Enterprises* **6**, 2-4 (2017). <https://elibrary.ru/item.asp?id=29425230>
7. I.Yu. Chazova, "Forecasting consumer demand for vegetable products of closed ground", *AIC: Economy, Management* **4**, 52-57 (2009).
8. SR Umarov, AS Durmanov, FB Kilicheva, SM Murodov, and OB Sattorov, "Greenhouse Vegetable Market Development Based on the Supply Chain Strategy in the Republic of Uzbekistan," *International Journal of Supply Chain Management (IJSCM)* **8(5)** (2019).
9. T. Nurimbetov, S. Umarov, Z. Khafizova, S. Bayjanov, O. Nazarbaev, R. Mirkurbanova, A. Durmanov, "Optimization of the main parameters of the support-lump-breaking coil," *Eastern-European Journal of Enterprise Technologies* **2 (110)**, 27–36 (2021). <https://doi.org/10.15587/1729-4061.2021.229184>
10. A. \_ Durmanov, S. Umarov, K. Rakhimova, S. Khodjimukhamedova, A. Akhmedov , S. \_ Mirzayev, "Development of the Organizational and Economic Mechanisms of Greenhouse Industry in the Republic of Uzbekistan", *Journal of Environmental Management and Tourism* **12(2)**, 331-340 (2021). doi:10.14505/jemt.v12.2(50).03
11. V. M. Sharapova, "Formation of marketing strategies in agricultural organizations," *Economics of Agricultural and Processing Enterprises* **7**, 61-63 (2016). <https://elibrary.ru/item.asp?id=26484462>
12. L.P. Silaeva, "Key actions to support the development of crop production" *Bulletin of the Kursk State Agricultural Academy* **8**, 80-83 (2015).
13. AYU Skachkova, *Organizational-economic mechanism for the development of greenhouse farming organizations in the conditions of Russia's membership in the WTO The author's abstract of the PhD Thesis* (Saratov, 2013).
14. AG Svetlakov and VN Zekin, *Innovative business in the development of rural infrastructure: a monograph* (Perm: Prokrost, 2017).
15. M. Li, S. Chen, F. Liu, L. Zhao, Q. Xue, H. Wang, et al., "A risk management system for meteorological disasters of solar greenhouse vegetables," *Precision Agriculture* **18(6)**, 997 -1010 (2017).
16. VI Nabokov and KV Nekrasov, "Managing innovative activities of organizations of the agro-industrial complex in modern conditions," *Agricultural and Food Policy of Russia* **1 (61)**, 30-32 (2017). <https://elibrary.ru/item.asp?id=28183804>
17. M. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. Translated from English 2nd ed. (Moscow Alpina Business Books , 2006) .
18. A. \_ S. \_ Durmanov, M. R. \_ Li, A. M. \_ Maksumkhanova, O. Khafizov , F.B. \_ Kilicheva and J. \_ Rozikov , " Simulation modeling, analysis and performance assessment ", *International Conference on Information Science and Communications Technologies ICISCT 2019* , pp 6 ( 2019 ) .
19. A. \_ S. \_ Durmanov, A. T. \_ Tulaboev, M. R. \_ Li, A. M. \_ Maksumkhanova, M. M. \_ Saidmurodzoda and O. Khafizov , " Game theory and its application in agriculture (greenhouse complexes) ", *International Conference on Information Science and Communications Technologies ICISCT 2019* , pp 6 , ( 2019 ) .
20. A. \_ S. \_ Durmanov, A. X. \_ Tillaev, S. S. \_ Ismayilova, X. S. \_ Djamalova and SM ogli Murodov, "Economic-mathematical modeling of optimal level costs in the greenhouse vegetables in Uzbekistan," *Espacios* **40(10)**, 20 (2019).
21. A. \_ A. \_ Fomin and A. I. \_ Tikhomirova , " Macroeconomic factors for the implementation of the export potential of livestock " , *International agricultural journal* , **3** , 68-72 (2018).
22. A. \_ L. \_ Gerritsen, M. Stuijver and C. J. \_ A. \_ M. \_ Termeer , 'Knowledge governance for sustainable economic development: models for organizing and enabling knowledge networks' *Proceedings of the Expert Group Meeting on Knowledge Networking and Network Governance 18 September, 2012, United Nation Industrial Development Organizations & the Leuven Center for Global Governance* (Vienna, Austria, 2012) .
23. A. \_ Durmanov, S. Bayjanov, S. Khodjimukhamedova, T. Nurimbetov, A. Eshev, N. Shanasirova , " Issues of accounting for organizational and economic mechanisms in greenhouse activities " , *Journal of Advanced Research in Dynamical and Control Systems* , **12 ( 07-Special Issue)** , 114-126 ( 2020 ) . doi: 10.5373/jardcs/v12sp7/20202089
24. S. \_ M. \_ Jordan, E. Romo-Rabago, R. McLeary, L. Reidy, J. Nazari and I. M. \_ Herremans , " The role of energy technology innovation in reducing greenhouse gas emissions: A case study of Canada , " *Renewable and Sustainable Energy Reviews* **78(C)** , 1397-1409 ( 2017 ) .
25. N. \_ A. \_ Scherbakova , " Vegetable and melon growing Problems and development prospects " , *Collection of articles FSSFSI "PNIAZ"* pp 260 ( 2016 ) .
26. Farmanov, T. , Umarov, S. , Hilorme, T. , Khasanov, B. , Durmanov, A. (2023). *The impact of energy aspects on the climatic indicators of agricultural products . International Journal of Energy, Environment and Economics* , **30(2)**, 187–209
27. G. \_ Mannina, G. Ekama, D. Caniani, A. Cosenza, G. Esposito, R. Gori, M. Garrido-Baserba, D. Rosso and G. Olson , " Greenhouse gases from wastewater treatment - A review of modeling tools " , *Science of The Total Environment* , **551-552** , 254-270 ( 2016 ) .
28. S. Tkachenko, L. Berezoovska, O. Protas, L. Parashchenko and A. Durmanov, "Social Partnership of Services Sector Professionals in the Entrepreneurship Education", *Journal of Entrepreneurship Education* **22(4)**, 6 (2019).
29. J. \_ P. \_ Weyent , " Accelerating the development and diffusion of new energy technologies: beyond the "valley of death " , " *Energy Economics* , **33(4)** , 674-682 ( 2011 ) .



## International Journal of Global Economic Light (JGEL)

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30. J. \_ H. \_ Williams, A. DeBenedictis, R. Ghanadan, A. Mahone, J. Moore, W. R. \_ III Morrow, S . Price and M. S. \_ Torn , " The technology path to deep greenhouse gas emission cuts by 2050: The pivotal role of electricity " , *Science* **335** , 53–59 ( 2012 ) .
31. Akmal Durmanov et al ., *IOP Conf. Ser.: Earth Environ. Sci.* **1043** , 012022 ( 2022 ) .
32. Rashid Khakimov et al ., *IOP Conf. Ser.: Earth Environ. Sci.* **1043** , 012043 ( 2022 ) .
33. Ravshan Nurimbetov et al ., *IOP Conf. Ser.: Earth Environ. Sci.* , **1043** , 012006 ( 2022 ) .
34. Akmal Durmanov et al ., *E3S Web of Conferences* **389**, 04002 (2023)
35. Bakhtiyor Menglikulov et al ., *E3S Web of Conferences* **389**, 05036 (2023)
36. Sultanov, B. , Nurimbetov, T. , Bayjanov, S. , Seyilbekov, B. , Durmanov, A. ( 2023) Trends in change and the current state of the effectiveness of land reclamation measures in agriculture. *AIP Conference Proceedings* , 2921(1), 070001
37. Farmanov, T. , Khasanov, B. , Yusupova, F. , Gapparov, S. , Durmanov, A. (2023) Encouraging the use of water-saving technologies *AIP Conference Proceedings* , 2921(1), 080002
38. Durmanov, A. , Tabayev, A. , Turmanov, T. , Kasimov, S. , Ruzieva, D. (2023) Methodology for calculating income maximum in the greenhouse economy. *AIP Conference Proceedings* 2921(1), 090001
39. Plakhtiev, A. M., Nabiyeu, E. G., Aliev, Y. E., Boboyorov, R. A., Meliboev, Y. A., Jalolova, D. J., & Durmanov, A. S. (2023). Main characteristics of noncontact converters of large currents with longitudinally distributed parameters for control and monitoring systems. *Proceedings on Engineering Sciences* , 5 (3), 417–424. <https://doi.org/10.24874/PES05.03.006>
40. Durmanov, A., Abdurazakova, N., Eshev, A., Mamasadikov, A., & Koshnazarova, M. (2023). Improvement of the organizational and economic mechanism for managing the quality of greenhouse products. In *E3S Web of Conferences* (Vol. 420). *EDP Sciences*. <https://doi.org/10.1051/e3sconf/202342001027>
41. Durmanov, A., Kilicheva, F., Nurimbetov, T., Bayjanov, S., & Seyilbekov, B. (2023). Application of electrical technologies to increase the productivity of cucumber in protected ground structures. In *E3S Web of Conferences* (Vol. 420). *EDP Sciences*. <https://doi.org/10.1051/e3sconf/202342001002>
42. Durmanov, A., Madumarov, T., Abdulkhayeva, G., Shermukhamedov, A., & Baltashov, S. (2023). Environmental aspects and microclimate in greenhouses in the republic of Uzbekistan. In *E3S Web of Conferences* (Vol. 389). *EDP Sciences*. <https://doi.org/10.1051/e3sconf/202338904002>
43. Durmanov A. et al. (2023). Sustainable Growth of Greenhouses: Investigating Key Enablers and Impacts. *Emerging Science Journal*, 7(5), 1674-1690. <http://dx.doi.org/10.28991/ESJ-2023-07-05-014>