



## NATIONAL STRATEGIES FOR SUSTAINABLE AGRICULTURE IN CENTRAL ASIA AND UZBEKISTAN

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**Abstract:** The article analyzes national strategies for sustainable agriculture in Central Asia, with a special focus on Uzbekistan. In the context of global challenges such as climate change and growing population, countries in the region are developing practices and programs aimed at increasing the sustainability of the agricultural sector. Key areas of the strategies are discussed, such as investments in modern technologies, sustainable use of land and water resources, support for farms and improving food security. The conclusion highlights the importance of these strategies for sustainable development of the agricultural sector and ensuring food security in the region.

**Key words:** Sustainable agriculture, food security, investments, agricultural technologies, water resources, farms, ecology, development strategies.

Agriculture is a fundamental sector of the economy of Central Asian countries, including Uzbekistan, where it not only ensures food security but also creates jobs, playing an important role in the development of rural areas. The employment of a significant part of the population in agricultural production emphasizes not only the economic importance, but also the social aspect related to the life and well-being of millions of people. However, this sector faces serious challenges caused by climate change, depletion of natural resources and population growth, which requires adaptation and modernization of approaches to agriculture.

In response to these challenges, countries in the region are beginning to develop and implement national strategies for sustainable agriculture. These strategies are aimed at achieving environmental, economic and social sustainability, which allows for increasing the efficiency of the agricultural sector and minimizing its negative impact on the environment. Key areas include the introduction of innovative technologies, sustainable management of water and land resources, and support for farms. Thus, sustainable agriculture is becoming an important tool not only for adapting to changing conditions, but also for ensuring sustainable development and improving the quality of life of the population in Central Asia.

National sustainable agriculture strategies are based on various priorities, including:

1. Reducing the environmental impact of agriculture: Countries are seeking to reduce greenhouse gas emissions and improve resource management. According to a report by the Food and Agriculture Organization of the United Nations (FAO), the agricultural sector in Central Asia is responsible for 15-20% of all CO<sub>2</sub> emissions [1].

2. Ensuring food security: With population growth and changes in consumer preferences, it is important to ensure a reliable and sustainable food supply. UN projections indicate that the world population will reach 9.7 billion by 2050, requiring a 70% increase in food production [2].

3. Sustainable Water Management: In the context of global climate change, water management is becoming an important aspect. Water is critical for agriculture, and its inefficient use can exacerbate existing problems. The Central Asia Water Strategy 2020–2030 emphasizes the need to optimize water use [3].

### National Strategies of Central Asian Countries

**Uzbekistan.** Uzbekistan has developed its National Strategy for Sustainable Rural Development for 2020-2030, which includes the following key points:

- Investments in modern agricultural technologies: Uzbekistan plans to allocate more than \$1 billion to modernize agricultural infrastructure and introduce new technologies. According to [4], such investments should help increase productivity by 20%.

- Support for farms: The strategy also includes programs to support small and medium-sized agricultural enterprises, including subsidies for innovative technologies and training for farmers.

- Sustainable use of land resources: The government is implementing practices to minimize the use of chemicals.

**Kazakhstan:** Kazakhstan is also actively developing its sustainable agriculture strategy, which includes:

- The program "A Look into the Future: Spiritual Renewal", aimed at developing agronomic technologies, improving the quality of agricultural products and rational use of resources.

- Reducing greenhouse gas emissions: In 2020, Kazakhstan approved a new program that provides for a 30% reduction in CO<sub>2</sub> emissions in the agricultural sector by 2030 [5].

**Kyrgyzstan.** Kyrgyzstan, in turn, is concentrated on :

- Creation of a law on "Sustainable Agriculture", which will concern the legal regulation of the agricultural sector and support for farms through programs for access to financing and innovation.

- Programs to improve food security through the expansion of agricultural production and increasing the availability of agricultural products [6].

National sustainable agriculture strategies in Central Asia, especially in Uzbekistan, represent a significant step towards environmental and economic sustainability. Adequately addressing food security issues and effectively managing natural resources not only helps to minimize the negative impact of the agricultural sector on the environment, but also to create a more equitable and sustainable food supply system for the population. The introduction of innovative technologies in agriculture helps to increase its productivity and resilience to climate change, which is an important factor for achieving sustainable development targets.

Sustainable agriculture thus serves a dual function: it not only responds to current challenges such as climate change, resource depletion and food security, but also serves as a powerful mechanism for stimulating economic growth and social reform. Effective implementation of national sustainable agriculture strategies can significantly improve people's quality of life by providing access to safe and nutritious food, as well as creating new jobs and improving rural livelihoods. This allows us not only to cope with domestic challenges, but also to prepare for global changes that may affect the agricultural sector.

In addition, the development of sustainable agriculture contributes to the creation of an active environment for cooperation between the public and private sectors, as well as to the deepening of international cooperation in the field of agricultural policy. Joint efforts can lead to a more balanced development of the economies of Central Asian countries, allowing these states to exchange experience and best practices in the field of sustainable technologies. Attention to sustainable agriculture is becoming an important strategic priority, contributing to the achievement of long-term regional development goals and improving the well-being of the population, which will ultimately lead to a stable and sustainable future for all countries in the region.



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