

Environmental policy as a factor of China's food security

*Maxim Sushchenko**

The Department of History and Political Science, FSBEI HE Kuban SAU, 350044 Krasnodar, Russia

Abstract. Public policy tools help to effectively implement the goals of the national development of the People's Republic of China. The article examines the main directions and mechanisms of environmental policy of modern China as factors of ensuring food security of society. The problems of conservation, environmental protection and food security are closely connected. Agriculture is the only branch of the Chinese economy that is directly related to the country's natural conditions. Protecting the environment from the adverse effects of anthropogenic factors is the most important condition for achieving China's strategic goals. The actions of the administrative, economic and regulatory mechanisms of environmental protection of the People's Republic of China are interrelated and interdependent. The regulatory mechanism includes means of state and party policy of the state of nature. The action of the mechanisms ensures the effective implementation of China's socio-economic policy in the areas of sustainable environmental management and reduction of environmental pollution.

1 Introduction

One of the causes of global instability is the growing threat to food security in the modern world. At the same time, the escalation of political crises and conflicts is leading the global economy to disrupt previously stable food supply channels to end consumer in the 2020s. The problem of food security is becoming more acute, and it is beginning to manifest itself more and more clearly in the world. 258 million people, where living in 58 countries, felt the effects of the global food problem in 2022 [1]. The trends of environmental degradation are actualized as an effective factor of social development in the aspect of a serious international problem. The ecological environment is actualized as an effective factor of social development. China is one of the largest countries in the world in terms of territory, population and GDP. The industrialization of the economy leads to a general deterioration of the environment, turning China into one of the most polluted countries in the world [2]. The balanced development of the environment and the task of ensuring food security in China are closely interrelated. The expansion of demand for agricultural products puts a strain on the functioning of the agro-industrial complex. The increase in production capacities and agricultural products has a negative impact on the environment. Adverse environmental consequences, a decrease in public health, and a decrease in labor productivity negatively

* Corresponding author: spacemirror@mail.ru

affect the living conditions of society. The main development goals of the People's Republic of China in the 21st century were proclaimed by Chinese President Xi Jinping in 2022 at the XX Congress of the CPC to transform the country into a rich, democratic, socialist state and complete socialist modernization [3]. The balanced development of the environment and the task of ensuring food security are closely interrelated in China. The expansion of demand for agricultural products puts a strain on the functioning of the agro-industrial complex. The increase in production capacities and agricultural products has a negative impact on the environment. Adverse environmental consequences, a decrease in public health, and a decrease in labor productivity negatively affect the living conditions of society. The main development goals of the People's Republic of China in the 21st century were proclaimed by Chinese President Xi Jinping in 2022 at the XX Congress of the CPC to transform the country into a rich, democratic, socialist state and complete socialist modernization [3]. For continue the modernization of agriculture and ensure the achievement of food security, the leadership of the People's Republic of China strives to implement an effective environmental policy. The environmental regulation measures of the Chinese authorities help to implement the national development plan in the short and long term. The purpose of the paper is research the main directions and mechanisms of environmental policy of modern China as factors of ensuring food security of society.

2 Materials and methods

Several general scientific and special methods that allowed the author to achieve the research goal used in the paper. An overview of current research by modern scientists from the Scopus database provides in the research. The several general scientific and special methods uses in the paper. They allowed to achieve the research goal the author. The main processes in the development of the environmental policy of the People's Republic of China in the XXI century are established in the research by means of the historical method. The approaches to defining the concepts of food and environmental safety clarified by means structural and functional analysis. The special approach to explaining the main mechanisms and directions of the PRC's environmental policy in the context of the task of the PRC authorities to achieve food security formulated by the use the method of ascending from the abstract to the concrete.

3 Food and environmental security: sustainable socio-economic development of modern China

The sustainable development of Chinese society is aimed at realizing the main goals of Chinese modernization while preserving natural resources, harmonious development of the economy and nature. The concept of ecological civilization was first enshrined in the country's regulatory documents and the Charter of the Chinese Communist Party. The concept of human adaptation to nature is proclaimed in the context of the ideologeme of ecological civilization. The sustainable development of Chinese society is aimed at realizing the main goals of Chinese modernization while preserving natural resources, harmonious development of the economy and nature. The concept of ecological civilization was first enshrined in the country's regulatory documents and the Charter of the Chinese Communist Party in 2017. The concept of human adaptation to nature is proclaimed in the context of the ideologeme of ecological civilization [4]. Chinese elites are making serious efforts for the ecological progress of society. Russian researchers note that the construction of the "ecological civilization" means that the authorities pay special attention to environmental aspects in various areas of Chinese policy [5].

Agriculture is the only branch of the Chinese economy directly related to the country's natural conditions. These include climate, soil condition, and its availability of water

resources [6]. The main task of China's agriculture is to ensure national food security and supply the main types of agricultural products to the markets of the People's Republic of China [7]. Food security is "a situation in which all people at any time have social, physical and economic access to the necessary amount of safe and nutritious food that meets their dietary needs and preferences for an active and healthy life" [8]. Jie Zou and Shining Guo et al. write that food security is the foundation of national security [9]. Food security depends on the dynamics of food exports and imports, as well as the growth of national production in general. It is characterized by such properties as the self-sufficiency of society with food, food prices and the level of their consumption by society. The group of international researchers notes it [10]. Therefore, it is no coincidence that the Chinese authors Ling Ye et al write that the assessment of food security should take into account parameters related not only to food production, but also to their consumption [11].

This approach to determining the parameters and characteristics of food security is generally accepted not only among various international researchers, but also in the Chinese academic community. The level of food security in China is determined by the quality and quantity of consumed food. Therefore, Chinese scientists Yuke Hou and Xin Liang note that improving the well-being of Chinese citizens will lead to an update in the structure of consumption of basic foodstuffs by the Chinese population, which will inevitably contribute to radical changes in the structure of Chinese society's demand for food [12].

4 Mechanisms of environmental regulation in the People's Republic of China

Chinese researchers have made a serious contribution to the study of the environmental policy of the People's Republic of China. Wang Chunmei and Lin Zhaolan analyzed China's environmental policy in the first decade since the beginning of the 21st century. They note the country's environmental policy as a factor in the renewal of production capacities and the development of a system of international cooperation and exchange for the sustainable development of the world economy. Researchers are writing about various environmental activities. The focus of Western researchers is on China's efforts to generate environmental energy, with special attention paid to the use of renewable sources within the framework of the emissions trading system. Qianyang Tu and Ying Wang come to the conclusion about the ambiguity and ambivalent consequences of the implementation of the PRC's environmental policy under tax legislation. Scientists note that the new policy will be able to improve the quality of the environment in the medium and long term. However, the new taxation may negatively affect the total volume of production, consumption and investment. In fact, this will mean a slowdown in the growth of the Chinese economy. Jiajie Liu, George Du, Weina Liu and Dianwei Zhang write that within the framework of China's 70-year environmental policy, the authorities focus on administrative and command methods and control, which makes it difficult to manage the economy. In the future, various controls should be provided to expand voluntary actions of citizens in the field of environmental activism. These measures should be based on the concept of equal attention to pollution prevention and environmental protection. It is no coincidence that Russian authors write about an integrated approach to the environmental policy of the Chinese authorities. For example, S. P. Savinsky notes that the leaders of the People's Republic of China have to combine administrative and economic measures and methods.

Environmental policy is implemented in the People's Republic of China as a set of complex measures of economic, regulatory and administrative mechanisms, which regulate the protection and state of the environment. *Regulatory regulation* includes legal legislative and party norms aimed at protecting the environment of the People's Republic of China.

The operation of *the legislation* is a mechanism for ensuring the environmental policy of the state. China has faced environmental problems that it had not dealt with them before since the beginning of the era of “reform and openness”. Until recently, the laws were restrictive in nature, the norms provided for the occurrence of adverse legal consequences for violators of environmental legislation. These include regulatory legal acts “on environmental protection” or “on environmental impact assessment”. Russian scientists write that the legislation of the People's Republic of China requires further development and strengthening legal regulation in this area is an urgent task in the environmental sphere.

Therefore, the trends of stricter state regulation are beginning to develop in China's environmental legislation today. Qianyang Tu and Ying Wang note the economic regulation implemented by the state through the development of environmental taxation. Thus, the law on a special new tax norm regulating the collection of mandatory fees to the state budget for environmental protection. This tax is the first experience of the state in the history of China to ensure the protection of nature. The implementation of this tax cancels the functioning of a whole range of penalties imposed by the authorities for environmental degradation due to anthropogenic factors. The previous law was in force earlier for more than 40 years.

Party environmental standards. The norms of environmental law are also contained in some party documents. The main regulatory document of the CPC contains an indication of the general line of China's environmental policy, including the regulation of China's environmental activities to ensure the country's food security. In particular, the Charter contains a provision on the development of a society focused on saving natural resources. Such a society takes care of nature. The natural environment is protected by a set of strict sanctions. The spatial configuration of the new type is based on production, which allows to preserve nature and save resources, as well as create a comfortable production base and a material and material household environment. During the last main annual party forum of the country, the 3rd plenum of the CPC Central Committee of the 20th convocation, the main measures of environmental policy were confirmed. In the final communique of the plenum, in the context of the trend of continuing the “era of reform and openness” in China, plans were noted to begin the comprehensive construction of a socialist modernized state. In the planning aspect, the need to improve the prospects for green and low-carbon development was fixed.

Thus, it can be stated with confidence that the comprehensive orientation of the Chinese government towards building an “ecological civilization” and protecting the environment is an important condition for solving the tasks of sustainable development.

5 Direction of environmental policy in modern China

Modern China is implementing today and will continue to pursue a policy of conservation of nature in the future for achieve the food security of state. The main directions of China's environmental policy are to reduce quantitative and qualitative indicators of environmental pollution, including air and water purification, as well as ensuring sustainable and rational use of natural resources.

Ensuring sustainable environmental management. Current researches show that the efforts made by Governments are currently insufficient. Many states need to intensify measures to integrate sustainable development into the governance structure and promote environmental innovation. Strategies for the protection, conservation and enhancement of natural resources should be based on specific constraints in the process of environmental management faced by economic entities. The task of sustainable management of natural resources is to find a balance between protecting ecosystems and meeting the growing needs of society.

The concentration of states' efforts in the management segment in the process of achieving sustainable development. First of all, it need on ensuring the environmental friendliness of management activities. It will make possible to achieve the goals of sustainable development at all levels (state support, the introduction of innovative resource-saving, environmentally friendly and efficient technologies). The sustainable development policy of modern China is based on reducing low-carbon and coal-fired power plants to prevent air pollution in order to realize the concept of a zero-carbon world and reduce carbon intensity to 18.8%. In addition, the country has increased the area of forests by almost 23.4%. For example, the creation of five national parks was announced, 98% of polluted reservoirs were cleaned and air quality in many large cities in 2021.

Chinese scientists write that on the way to realizing the goals of national development, the People's Republic of China faces the problem of achieving a balance between economic growth and environmental conservation. The main measures of the People's Republic of China on the path of sustainable development are an integrated approach that requires policy coordination in social, economic and environmental contexts. Therefore, lean environmental management of the People's Republic of China in the realities of the national environmental policy is one of the most important priorities.

Reducing environmental pollution. The significant pace of modernization and reform of the economic sphere of the PRC society could not be without a trace for the state of the environment at the beginning of the XXI century. Significant annual GDP growth rates ranged from 9 to 14%. The environmental activities of the Chinese authorities were initially focused on regulating their condition. The air pollution situation continued to worsen in the mid-2010s. Only 8 of the 74 cities monitored by the Chinese Ministry of Environmental Protection met air quality standards in 2014. The unfavorable trend of industrial air pollution in the 2020s also continues to develop. The Ministry of Ecology and Environmental Protection reported that 121 of China's 337 prefectures - city levels did not meet air quality standards in 2021. China ranks 160th out of 180 countries and regions in the Global Environmental Performance Index 2022.

The shortage of water and its pollution contribute to the aggravation of environmental problems with adverse economic, social and environmental consequences in China. Widespread pollution of surface waters is largely the result of poor water management - increased emissions of chemicals into reservoirs, etc.

Serious efforts are being made to combat air pollution in China . Significant progress has been made in the control of vehicle emissions and urban air pollution, and flue gas desulfurization. The air quality in China has not deteriorated further, despite the existing problems associated with increased coal consumption, the number of vehicles and the pace of urbanization.

Russian researchers note that global pollution of fresh water and atmospheric air creates prerequisites for the inefficiency of agriculture. The development of adverse environmental trends has a negative impact on the food security of society. To achieve the goals of strategic development, the leadership of the People's Republic of China will apply environmental policy mechanisms in the short and medium term.

6 Results

1. The balanced development of the environment and the task to ensure food security of Chinese society are closely interrelated.
2. The environmental regulation measures of the Chinese authorities help to implement the national development plan of the People's Republic of China until 2035 in terms of ensuring food security.

3. The environmental activity of the state in China is a system of interrelated and interacting elements of administrative, economic and regulatory mechanisms that affect the state and protection of the natural environment of society.
4. The regulatory mechanism includes the implementation by the authorities of legislative and party norms for the protection of the environment of the People's Republic of China.
5. Mechanisms of party-state management of the state of the natural sphere help Chinese elites to implement the main trajectories of environmental policy. Such areas contribute to sustainable environmental management, environmental conservation and reduction of the adverse effects of economic modernization. They help the authorities to maintain the proper and necessary state of water and air levels.

7 Conclusion

The scientific, technical and economic power of China will increase significantly due the achievement of the main national development goals in 2035. Adverse anthropogenic environmental factors during the implementation of Chinese modernization are manifested very often. The main levers of environmental regulation relate to the powers of the State in China. The effectiveness of the government's achievement of strategic national goals and ensuring food security in the short and medium term will depend on the functioning of the party apparatus.

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