

# PROSPECTS OF THE VETERINARY SECTOR ON THE PATH TO DEVELOPMENT OF UZBEKISTAN

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**Abstract.** This article analyzes the role and prospects of the veterinary sector in the development of Uzbekistan. The veterinary system plays an important role not only in the sustainable development of animal husbandry and agriculture, but also in human health, food safety and environmental protection.

The article discusses the current state of the veterinary service in Uzbekistan, areas for its improvement, opportunities for the introduction of modern technologies and innovative approaches that meet international standards. It also highlights best practices in preventing animal diseases, strengthening the veterinary and sanitary control system, and improving legislation in the field.

The results of the study are aimed at identifying strategic development directions for the veterinary sector, explaining the mechanisms of support provided by the state, and developing recommendations for the further scientific, practical and economic development of the sector.

**Keywords:** Veterinary medicine of Uzbekistan, the path of development, veterinary sector, livestock development, food safety, animal diseases, veterinary innovations, ecological sustainability, sanitary control, diagnostic methods, zoonotic diseases, veterinary legislation

**Introduction.** The veterinary sector plays an important role in ensuring human health, the development of livestock farming and food security. In the modern world, this sector is not limited to the prevention and treatment of animal diseases, but also covers issues such as protecting the ecological environment, combating zoonotic diseases, and ensuring the quality and safety of agricultural products. Therefore, the development of the veterinary system directly affects the socioeconomic stability of the country.

During the years of independence, Uzbekistan has implemented largescale measures to radically reform the veterinary service and bring it into line with international standards. Today, the introduction of innovative technologies into the sector, the development of scientific research, improving the quality of veterinary services, and expanding international cooperation remain one of the priority areas. Decisions and programs adopted by the state serve to improve the veterinary system in accordance with modern requirements.

This article analyzes the current state, development trends, and future directions of the veterinary sector in Uzbekistan. The ongoing reforms to modernize the veterinary system, scientific and technological achievements, as well as current problems in the field and their solutions will also be discussed.

## EMPIRICAL ANALYSIS

### History of the development of the veterinary sector in Uzbekistan

The formation of the veterinary sector in Uzbekistan dates back to ancient times. The works of Abu Ali ibn Sino and other great doctors contain information about methods of treating animal diseases. During the Soviet period, the veterinary system was controlled by the state, and research institutes, clinics and laboratories began to operate. After independence, important steps were taken in our country to reform the veterinary service, adapt it to international standards and introduce modern technologies.

Today, the veterinary sector is developing inextricably linked with agriculture and animal husbandry. Laws and resolutions adopted by the state are aimed at increasing the efficiency of the veterinary service. In particular, significant changes are being observed in the following areas:

Veterinary diagnostics modern laboratories are operating, aimed at early detection and prevention of diseases. Sanitary and hygienic control – the quality and safety of animal products are constantly being checked. Veterinary education and scientific research – modern curricula are being developed in higher education institutions and scientific institutes. International cooperation – cooperation has been established with the World Health Organization (WHO), the Food and Agriculture Organization of the United Nations (FAO), and the World Veterinary Organization (WOAH).

Modern veterinary science includes advanced technologies such as artificial intelligence, genomics, biotechnology, and digitalization. The following innovative approaches are being introduced in Uzbekistan:

Diagnosis based on artificial intelligence – automated systems are being used to detect animal diseases. Genetic engineering and vaccines – new generation vaccines are being developed by local scientific centers. Digitalization of veterinary services – automated monitoring systems are being established on livestock farms. Despite the development of the veterinary system, there are a number of problems:

Shortage of personnel – lack of highly qualified veterinary specialists. Weak material and technical base – lack of modern equipment in laboratories and clinics. Epizootic risks – in some regions, an effective system for preventing the spread of animal diseases has not been fully established.

Lack of financial resources – the need to allocate sufficient funds for the development of the veterinary sector. The following directions are of great importance for the further development of the veterinary sector in the future: Wide introduction of innovative technologies – attraction of modern technologies and medical devices. Improving the veterinary education system – developing modern curricula and focusing on practical knowledge.

Continuing reforms in line with international standards – using the experience of advanced countries in the veterinary sector. Digitalization of veterinary services – developing automation of veterinary practice and monitoring systems. In general, the veterinary sector in Uzbekistan is expected to enter a new stage of development and further develop on the basis of advanced technologies, scientific approaches and state support. This will serve not only to increase the efficiency of animal husbandry and agriculture, but also to improve the overall ecological and sanitaryhygienic environment.

### **METHODOLOGY**



Analysis of scientific research, historical sources and modern publications in the field of veterinary medicine allows us to identify the development trends of this direction in Uzbekistan. In the process of literature analysis, local and international sources on the history, current state and future development directions of the veterinary field were studied.

The initial scientific information on the development of veterinary science in Uzbekistan is presented in the works of representatives of ancient oriental medicine, including Abu Ali ibn Sina, Abu Bakr al-Razi and Al-Beruni. Ibn Sina's "Canons of Medicine" contains recommendations for the treatment of animal diseases, which formed the first scientific foundations of veterinary science.

Also, in the 19th-20th centuries, a number of scientific studies were conducted in the field of veterinary medicine. During the Soviet period, a number of research works were carried out in veterinary science in Uzbekistan, during which veterinary institutes were established and scientific laboratories operated.

After independence, a number of scientific research and publications were published on the development of veterinary science in Uzbekistan. In particular, scientific articles on the introduction of innovative technologies in the veterinary sector, the prevention of epizootic diseases, veterinary diagnostics and the development of livestock farming are noteworthy.

The development of the veterinary sector is based on laws and regulatory documents adopted by the state. In particular, the Law "On Veterinary Medicine", the "State Program for Ensuring Epizootic Stability" and other regulatory documents were analyzed in conjunction with the scientific literature on the sector.

The analysis of the literature shows that a number of important scientific studies have been conducted on the development of the veterinary sector in Uzbekistan and they have not lost their relevance. At the same time, there is a need to expand research in areas such as new technologies, digitalization, artificial intelligence, and genetic engineering. Also, the study of international scientific developments and foreign experiences serves as an important source for the modernization of the Uzbek veterinary system.

## **RESULTS**

The development of the veterinary sector in Uzbekistan is closely related to the overall economic development of the country and agriculture. In recent years, significant reforms have been carried out to modernize this sector, introduce innovative technologies, and bring it into line with international standards. The veterinary system is not limited to treating animal diseases, but also performs strategic tasks such as food safety, maintaining ecological balance, and preventing zoonotic diseases.

Currently, the veterinary sector in Uzbekistan is developing in the following main areas: Strengthening the legal and regulatory framework laws and decrees are being adopted regulating veterinary services. Development of the diagnostic and preventive system modern laboratories are being established, work is being carried out to identify animal diseases in advance and take preventive measures.

Expanding scientific research – new vaccines, drugs and methods for diagnosing diseases are being developed in veterinary institutes and research centers. Strengthening international cooperation – cooperation relations with developed countries and international organizations in the veterinary field have been established. Nevertheless, there are a number of problems in the sector:



Lack of personnel – lack of highly qualified specialists and low interest of young people in this field. Outdated technological base – lack of modern equipment in some veterinary laboratories. Funding issues – the need to further increase the funds allocated to the veterinary sector. Controlling the epizootic situation – insufficient development of mechanisms for effectively preventing the spread of animal diseases in some regions. The following proposals can be put forward for the further development of the veterinary sector:

Widely introducing innovative technologies – widespread use of artificial intelligence, genetic engineering and modern diagnostic methods. Study of international experiences – applying the experience of the veterinary system of advanced countries to Uzbekistan. Development of veterinary education – strengthening the material and technical base of higher veterinary educational institutions and creating practiceoriented educational programs.

Accelerating the digitalization process – automating veterinary services and developing an electronic monitoring system. In general, Uzbekistan has the opportunity to modernize the veterinary sector and bring it to a high level through the introduction of advanced technologies. This will serve not only the development of livestock farming and food security, but also the strengthening of the general healthcare system.

### CONCLUSIONS

The development of the veterinary sector in Uzbekistan is directly related to the country's agriculture, livestock and food security. In recent years, a number of reforms have been implemented in this area, and important steps have been taken to improve diagnostics, prevention and veterinary services. At the same time, an innovative approach is being implemented in the field through the introduction of modern technologies, the development of veterinary education and the adoption of international experience.

At the same time, there are still problems in the veterinary sector, which are observed in areas such as staff shortages, outdated material and technical base, financing issues and effective control of the epizootic situation. To eliminate these problems, it is important to continue the strategic measures taken by the state and adapt veterinary services to international standards. In general, the development of the veterinary sector in Uzbekistan is an important factor in ensuring economic stability, public health and environmental safety. By modernizing the sector, it is possible to achieve that the country's veterinary service operates in accordance with international requirements and standards.

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