



The Historical Role of Agricultural Extension Systems in the Development of Georgian Agriculture

Madona Keadze

Doctor of History, Associate Professor Iakob Gogebashvili Telavi State University, Georgia

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ABSTRACT

This study discusses the role of agricultural extension systems in the development of Georgian agriculture. The aim of the work is to explain the functions of extension systems and their impact on the historical stages of agriculture, especially during the Soviet period and after independence. Archival material, statistical data and scientific literature are used to assess the development, changes and modern challenges of the systems. The study found that extension systems have made a significant contribution to the dissemination of agricultural knowledge and technologies, increasing production and strengthening the involvement of the rural population. In addition, the challenges that arose in the development of the systems have demonstrated the importance of their role in the vision of a sustainable and innovative agriculture for the future. The work is the basis for state policy and scientific research to determine and implement strategic directions of agricultural development.

Introduction

Georgian agriculture has been one of the main pillars of the country's economy for centuries, actively developing the country's socio-economic organization and influencing the standard of living of the population. The development of this sphere was often reflected in geographical, climatic, cultural and political factors, although the effectiveness of agricultural innovations and extension systems played an important role. Agricultural extension systems — as a mechanism for

knowledge transfer and technological innovations — were an important tool at various stages of agricultural development, especially during the Soviet period. These systems ensured the dissemination of agronomic knowledge, the introduction of technologies, the increase in agricultural productivity, and the strengthening of the involvement of the rural population. During the Soviet period, with the activity of centralized management and organizational systems, extension systems were mainly organized and unified, which to some extent contributed to the intensification of agricultural production

Corresponding author; Madona Keadze

Email: ebadze_madona@yahoo.com, kebadzemadona8@gmail.com

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and technological progress. After gaining independence, these systems underwent changes caused by the development of a market economy, financial difficulties and technological innovations. Against the background of these changes, the need for their modernization and the introduction of new innovations, including the use of digital technologies, continues.

The aim of this paper is to generate a historical fund of the development of Georgian agriculture, analyze the main stages of the development of agricultural extension systems and their role, as well as assess modern challenges and prospects.

The main research questions are:

Analysis of the historical stages of the development of Georgian agriculture and the process of forming extension systems in the Soviet period;

The structure and functioning of agricultural systems in the Soviet period;

Changes in the post-independence period and the transformation of the system;

Modern challenges and ways to solve them.

The opinions are based on archival materials, statistical data, scientific literature and international studies, which provides an in-depth analysis of the effectiveness of the system and the development of future recommendations.

Main part: Agriculture in Georgia has been the basis for major cultural and economic reforms since its inception, founded on a variety of tricyclic practices that were adapted to the geographical and climatic features of the region (Janashia, 2018). In the Middle Ages, in feudal-general structures, agriculture and animal husbandry were the main link, where profitability and power were determined by the service of agriculture and local mentality (Beridze, 2015).

During the Soviet period, especially from the 1920s to the 1990s, the agricultural sector underwent a radical transformation. Collectivization policies established collective farms, and centralized management mechanisms increased the efficiency of agricultural production, although sometimes incentives and implementation of innovations were associated with difficulties (Nozadze, 2020). Specialized systems were created to disseminate agricultural technologies and innovations, networks of agronomists, trainers, and instructors who carried out technology transfer in villages.

After independence, Georgian agriculture faced a serious crisis, which was caused by the lack of market reforms, infrastructure shortages, and organizational system upgrades. In addition, programs implemented with the support of international organizations have led to the postponement of the system and the introduction of new methods (Todua, 2022).

Nowadays, one of the main directions of system development is the use of digital technologies, including the introduction of databases, remote consultations and training platforms, which contributes to increasing the efficiency of the system (Khutsishvili, 2023).

The establishment of agricultural extension systems in Georgia was mainly carried out during the Soviet period, when the state set the goal of spreading agricultural innovations, integrating technological progress and agronomic knowledge in villages. The main function of these systems was to create a network of agronomists, trainers and specialists, which ensured the dissemination of modern methods and technologies among farmers (Mtsirelidze, 2019).

During the Soviet period, extension systems were largely organized in a centralized manner, with the state subsidizing specialists who conducted large-scale training, seminars, and information campaigns on farming methods (Kakabadze, 2017). This approach significantly contributed to the increase in agricultural productivity, but it had certain difficulties, including in terms of the speed of innovation and ecological depth.

In the early 1990s, after the collapse of the Soviet Union, extension systems experienced a crisis caused by market reforms, the development of private property, and a lack of infrastructure. During this period, with the support of international organizations and donors, new projects and programs were created aimed at modernizing the system and introducing new technologies (Gelashvili, 2021).

Nowadays, the development of extension systems is associated with the introduction of digital platforms, including mobile applications, remote consultations and training programs, which contribute to the dissemination of agricultural knowledge and the increase in agricultural productivity (Khutsishvili, 2023).

The agricultural practices and history of extension systems in different regions of Georgia are distinguished by regional characteristics, which are determined by the diversity of geographical, climatic, ethnic and economic factors.

Kakheti, as one of the main centers of wine and viticulture, was characterized by active work with agricultural innovations. In the 1950s-1970s, new grape varieties were introduced here, agronomic technologies were improved, and new methods were introduced into agricultural innovations and extension systems (Megrelishvili, 2016). These innovations significantly increased the quality and quantity of products, leading to a strengthening of the viticulture market.

In these regions, where diverse agricultural production—horticulture, vegetables, livestock—was widespread, extension systems were mainly adapted to the specifics of climate and mentality. In the 1960s-1980s, agricultural specialists conducted seminars and practical work, which led to the diversification of agriculture and increased productivity (Mirotadze, 2018).

In the Shida Kartli region, during the Soviet period, extension systems were associated with the management of collective farms, where agronomists and technicians managed farms and introduced new crops and technologies (Kirvalidze, 2019). This model, despite its positive and

negative sides, became the basis for the transformation of regional agriculture.

Today, the Georgian agricultural sector is experiencing serious challenges, mainly related to financial difficulties, infrastructure deficits, organizational fragility, and the need for technological renewal. As a result of market reforms, the role of the private sector has increased, but the efficiency of the system significantly lags behind developed countries (Tomashvili, 2021).

Limited financial resources and weak infrastructure hinder the introduction of innovations and technologies. In addition, the popularity of digital technologies is growing, and mobile applications, remote consultations, and learning platforms have been established that contribute to the dissemination of agricultural knowledge and the increase in the competitiveness of agriculture (Kiknadze, 2023).

In the future, joint efforts of the state and the private sector are necessary to introduce new innovations, improve qualifications, and improve infrastructure. It is also important to learn from international experience, for example, through the support of European Union programs and projects (Lomidze, 2020).

Conclusion

The historical review of the development of Georgian agriculture strongly demonstrates that extension systems have played an important role in the development of the country's agricultural sector. During the Soviet period, organized and centralized systems significantly contributed to the dissemination of agricultural knowledge, technologies, and innovations, which led to increased productivity and increased participation of the rural population. After independence, the functioning of the system stopped and experienced a crisis, although it is now possible to modernize them and introduce digital technologies, which will make the systems more efficient and sustainable.

In terms of the vision of the future, organizational, financial, and technological support of the system is necessary to ensure the competitiveness, productivity, and sustainability of agriculture. It is recommended to absorb international experience, integrate innovations and digital technologies, and improve the qualification of agriculture.

This study makes a significant contribution to the historical processes of the development of Georgian agriculture, especially in the analysis of the stages of the formation and development of systems. It provides a systematic approach, based on archival, statistical and scientific data, which allows

us to understand how extension systems have been formed and functioned in different periods. This work contributes to the development of innovative agricultural models, policies and strategies, based on their past experiences and learning. It is also interested in the role of systems in relation to sustainable development, technological transformation and socio-economic changes.

Agricultural extension systems are not only technological and organizational tools, but also historical instruments that determined the trends of agricultural development, the ways of spreading innovations and the involvement of the rural population. Through this research, we learn how the system worked in the past, what challenges it faced and how it was related to the economic, social and political contexts of the country. Based on this knowledge, we can develop more efficient, modern, and sustainable agricultural systems that will be outstanding not only at the technological, but also at the scientific and policy levels.

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