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The Development of Extension Services and their Application in Bulgarian Agriculture: Problems and Prospects

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I – Introduction

Bulgarian agriculture is gradually benefiting from a large-scale economic reform based on the restoration of land property and on management according to market economic principles. Given the actual conditions, the existing extension services have to cope with new demands and the development of agricultural production. The opportune reconstruction of this sector and its adaptation to market mechanisms should determine the efficiency of Bulgarian agriculture and its advances.

This paper discusses the position of Bulgarian agriculture and the problems its extension services encounter. The reorganization and management of these services according to the agrarian reform are underlined.

II – Scientific and Technical Achievements Applied to the Agricultural Sector

In Bulgaria, the introduction of technical innovations is characterized by two main features:

- The first is restructuration. As a result of the splitting, the so-called 'scientific and production union in the field of agriculture' – representing a first step to economic reform – received new organizational existence through the scientific and introduction teams which were integrated in the huge national formations in the following spheres of production: seed and plants, beet breeding, sugar and tobacco, pig breeding, cattle and poultry, fruit and vegetables.
- The second feature concerns the former unappropriate system of introduction of scientific and technical progress which is dying out, given the new type of agriculture. It is necessary to establish a link between science and characteristic practices for advanced countries but also to apply the mechanism available with a view to their management and development.

1. The Organizational Structure of Extension Services

The Agricultural Academy deals with all types of research activities, the essential part of engineering and introduction activities in the agricultural sector. It comprises 46 specialized research institutes and 40 experimental stations, with a permanent staff (6,500 employees, 25% of whom are scientists). The institutes are specialized according to the crops, animals or fields (soil science, farm mechanization, plant protection, etc.) under study. They possess large experimental bases (up to dozens of thousand decares) where different innovations are tested. But they also keep into direct contact with enterprises for selling their scientific innovations and participate in their introduction.

The experimental stations are specialized or complex and generally have the same research programs as the research institutes. The difference lies in their size and in the level of activities regarding the introduction of models and the development of production (60% compared to 40% for research institutes).

A specialized group from the Agricultural Academy disseminates scientific innovations and information. The Ministry of Agriculture supervises mass dissemination of innovations through programs as required. It organises large-scale agrarian and ecological tests of new varieties and hybrids (at 30 experimental stations), possesses a system of animal breeding and selection (8) and machine-test stations (3). The Ministry of Agriculture keeps under its control the regional veterinary and selection centres, the agricultural chemical services, and the erosion control enterprises; the introduction of scientific results in the agricultural sector and the development of production have been achieved through these centers.

Specialized organisations held the monopoly for building houses and selling machines, waterworks, technology transfer, etc. After the destruction of these monopolistic structures, the conditions for an adequate development of these activities and their relations with their necessary partners (research institutes and users) on the basis of market mechanism were created.

2. The Crisis of Extension Services and Production Development

The past development of the Bulgarian agricultural extension services has been directed towards an organizational integration with the agricultural research system or in the huge national and regional production unions. This process was accompanied by a higher concentration of new techniques and their transformation into unflexible ones hard servicing some hundreds or thousands producers.

In some scientific and production unions and regional complexes, that essentially meant the use of a national potential by a restricted part of consumers. This process led to a useless increase of the staff occupied in the scientific and introduction sectors (1,68 employees in scientific activities versus 100 permanent jobs in the production sector) and often to the unnecessary doubling of the activities.

For instance, new tobacco varieties have been established and introduced by 8 scientific groups, wheat by 10 teams, maize by 6, etc.

At the same time the tendency to favour extension services giving it relative autonomy and to finance the innovations introduced at the expense of the production sector (up to 50% of the total production cost of the scientific and introduction groups), alternated with a much centralized distribution of resources. In the last years, an absurd situation arose when the introduction of innovations was ensured by the Agricultural Academy while the resources allocated for their application went to the Ministry of Agriculture.

As a result, the extension services paid no attention to the real problems of Bulgarian agriculture and only 10–12% of scientific achievements reached the application phase.

In fact, there exist no effective team for scientific transfer; the potential of scientific and technical attainments available in research institutes was only 30–60% for different crops and animals. Often too important resources have been spent on pseudo-scientific introduction with the well-known negative economic and ecological results arising from enthusiasm for intensive technologies, minimum or no tillage at all, and intensive installation of hydrotechnical and irrigation equipment.

The frequent changes in the organizational structures and management mechanism of this sector (more than 10 changes in the last 15 years) further intensified the crisis of development of the system. If the system was uneffective in the conditions it was meant to serve, it would be still more useless in the new economic conditions of Bulgarian agriculture. This fact determines the necessity for an immediate re-organization and re-management of this sphere of activity, extremely important for development purposes.

III – Opportunities and Development Prospects of Agricultural Production

Agricultural development in Bulgaria actually concerns private farms and the wide use of market mechanism for management. In these conditions, the innovation concept is different: only the "introducers" of scientific and technical achievements will be the producers themselves. They would need and look for scientific results to ensure competitive and effective production. Government policies in relation with the technology gradually used for agricultural production will be realized not through "introduction" but through economic means, i.e., setting up favourable organizational and economic conditions facilitating the fulfilment of determined national priorities regarding technology, technical and biological factors of development, etc. As in many countries, the connection between the scientific system and production will be realized not through the introduction of innovations but through the development process and production.

The role of extension services is to contribute to hasten the process of applying the successful achievements of research institutes in the field of agricultural production. In the future, researchers have to make sure that the results of their research are made known. In this connection, in some research institutes, specialized groups of extension agents have to be trained for the dissemination of research results. These agents will adapt the scientific achievements of the research institutes according to different agro-ecological regions in Bulgaria and the actual condition of the different producers; they will provide assistance in the use of new techniques as well as advice and training to farmers, disseminate scientific and technical results, and finally ensure the feedback with research institutes.

1. Organizational Structure and Personnel Security

The basis of the national production is an existing network of experimental stations within the Agricultural Academy covering the main agro-ecological regions and subregions of Bulgaria. Most of them possess the required infrastructure for development activities. They can take the form of agricultural development institutions in a given region. Their main functions are: approbation of scientific results obtained from research institutes for production and economic purposes in given region, dissemination of scientific achievements, improvement of the qualification level of agricultural leaders, etc. That involves intensification of contacts with these groups as well as with agricultural organizations and private producers but also with scientific research teams and institutes.

This seems quite possible considering the personnel available for this type of work. Most of the specialists of the Agricultural Academy possess professional and organizational experience and the required qualification for the introduction of innovations. Actually, 20% specialists having higher education in agriculture are thus occupied. Most of them would probably be re-orientated within the new structure. A number of experts from the former departments and other structures (cooperatives, unions, municipal councils, etc.) could also join these specialists.

Agricultural universities and research institutes also have an active role to play in development activities: i) in ensuring assistance and author control on the transfer process of scientific achievements; ii) in improving the professional skill and the scientific and technical knowledge of farmers; iii) by the dissemination of research results. These activities should be managed and coordinated by the National Centre for scientific, technical and economic information.

Another essential element could be the establishment of the new private and joint stock companies for the development of agricultural production in the fields of biotechnology, chemicals, mechanization, economic and juridic issues.

The follow-up and production control should be ensured by a national agency within the Ministry of Agriculture. This agency could coordinate the activities of new state and private development services. Its principal task would be to realize a unified technological policy in the field of agricultural development.

2. Economic Problems and Prospects of the Development Process

An economic reform in the field of research, extension and introduction of innovations will result in the reorganization of the sector into two interrelated systems of research: research and development and extension services. In a first stage, an important financial support to farmers is necessary in this scope. Direct financing will be used in the future for the realization of priority national and regional programs including the introduction of new techniques and the development of production.

