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"Global Challenges and Prospects of the Modern Economic Development"**DIGITALIZATION OF AGRICULTURE: PROBLEMS OF LEGAL SUPPORT**

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Novosibirsk, Russia, shnorr75@mail.ru*Abstract*

The strategic objective for contemporary development of Russian society is to digitalize its economy. Wide-spread introduction of information technology is supposed to contribute and provide a qualitatively new step in the development of the Russian economy and the standard of living for the population at large. The examination of strategic planning documents aimed at both the development of information society and the development of digital economy has proved that these planning papers contain neither such an objective nor direct indication of digitalization of the agricultural sector of the country as a goal and direction of the state policy. There are no measures to be taken to digitalize agriculture and to enhance IT in rural areas either. Strategic planning documents aimed at the development of agriculture do not identify the specifics of the application of digital technologies in this sector of the Russian economy. Speaking of legal regulation of the process of digitalization of agriculture, one can safely say, these issues have not been studied enough to scientifically and methodologically understand them properly. However, foreign experience shows positive achievements of using digital technologies in various fields of agricultural activity: animal husbandry, crop production, etc. The strategic objective outlined by the President of the Russian Federation is to increase the export of the domestic produce. This article considers the legal issues of the digitalization of agriculture and the development of the rural parts of the country. At the same time the paper indicates some ways to solve them.

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1. Introduction

Currently provided for the all-Russian national goals to ensure intensive input of digital technologies into the economy and social sphere as fast as possible, as well as the development of a high-performing export-oriented sector in the agro-industrial complex of the country based on modern technologies and having highly qualified workers. This requires the creation of a system of legal regulation of the digital economy based on flexible approach in the field of agriculture. Political and legal enactments aimed at the development of agriculture and rural territories do not provide for legal measures while employing digital technologies in the agricultural sector, nor state support measures for agricultural producers making use of these technologies. Thus, no adequate legal support is available for now to implement digitalization of agriculture and, simultaneously, a number of legal problems arise while using digital technologies. As a matter of fact, the situation as it is requires improvement of strategic planning and legislative regulation in the sphere of public relations in question.

2. Problem Statement

In fact, a lot of publications are devoted to agricultural development (Kuzminov, Gokhberg, Thurner, & Khabirova, 2018; Chetvertakov & Chetvertakova, 2018). Some of the researchers focus on the relationship between human resources and agricultural activities (Baldanov, Kiminami, & Furuzawa, 2019), others explore issues concerning the use of agricultural land (Kondolskaya, Vasilieva, & Parsova, 2019). The third group of authors highlight the forms of cooperation and integration of farmers and agricultural companies (Saraikin & Yanbykh, 2019), and rural territories of sustainable development (Loginova & Stokov, 2019). There are also research papers devoted to the development of agritourism (Litvinenko, Solovykh, Smirnova, Kiyanova, & Mironova, 2019).

Once the first instances of digitalization have appeared, the problems, directions and prospects of digitalization of the Russian agricultural sector have become the subjects of many scientific articles. Their purpose is to study but only the economic or technical aspects of the process of digitalization of agriculture (Nemchenko, Dugina, & Liholetov, 2019). However, there are few publications on the legal problems of digitalization of agriculture (Popova, 2018). Thus, the authors suppose that neither scientific nor methodological issues of legal support of digitalizing agriculture have been resolved to date.

3. Research Questions

Currently, Russia is ranking 45th in the world in terms of the digitalization of rural economy (Yurina, 2018). Therefore, one can safely say that the issues of digitalization of the agro-industrial complex should be a priority since food security and state sovereignty depend on the level of agricultural development (Popova, 2018). At the same time, our study of the current legal regulation and strategic planning documents shows that they do not reflect the specifics of agriculture and the risks of agricultural activity and do not provide for proper legal support.

In our opinion, strategic planning documents aimed at the development of digital technologies in agriculture can be divided into three groups: 1) documents dealing with the development of information

society, 2) documents with regard to the development of agriculture, 3) documents aimed at the sustainable development of rural territories.

The documents on the information development of society indicate that in Russia “since 2014, Russia has connected to the Internet villages and settlements with the population of 250 to 500 people, as a result, 5 million Russian citizens living in almost 14,000 of such sparsely populated areas have access to the network” (Decree of the President of the Russian Federation N 203 "On the Strategy for the Development of the Information Society in the Russian Federation for 2017-2030", 2017). Localities, where the number of population is under 500 people, are mostly rural communities. Therefore, their digitalization can be considered as the most important prerequisite to ensure sustainable development of rural territories. In addition, the Strategy stipulates that agricultural organizations require specific measures to use information technologies. These measures should provide competitive advantages to Russian agricultural business and ensure production efficiency and increase labour performance. This task should be interconnected with the state policy in the field of agricultural development. The documents on the development of the digital economy also do not provide for specific areas of digitalization of agriculture.

The second group of strategic planning documents includes agricultural development documents. But the objectives of the state agrarian policy do not envisage the task or goal to digitalize farming. This does not mean that the process of digitalization of agriculture is not in the focus of public policy in the agricultural domain. We believe, the Law contains a polysystematic mediated legal regulation of digitalization: via state support for certain branches of agriculture (crop production, livestock breeding, etc.) and public support for sustainable development of rural territories. It seems that the need to amend the Law governing the digitalization of agriculture has become urgent in earnest. In addition, the Law should provide for state support measures for farmers and agricultural companies introducing digital technologies. All the more so, such support is provided even in developed countries like Canada, Turkey, Australia, Germany, USA, etc. For instance, in Germany it is “the organization of experimental fields in agricultural enterprises; creation of a center of competence in the sphere of digitalization of agriculture; the formation of a “steering committee”, including representatives of the federal Ministry of Agriculture” (Zadvorneva, 2018, p. 349).

In Russia, they talk about the need to develop and approve the Digital Agriculture program by the relevant departments. The goal of this program is “the digital transformation of agriculture through the introduction of digital technologies and platform solutions to ensure a technological breakthrough in the agricultural sector and achieve a twofold increase in productivity at digital agricultural enterprises in 2021” (Decree of the Government of the Russian Federation N 717 "On the State Program for the Development of Agriculture and Regulation of Agricultural Products, Raw Materials and Food Markets", 2012). Similar programs are already operating in several foreign countries. For example, in Kazakhstan in 2017, State program “Digital Kazakhstan” (Decree of the Government of the Republic of Kazakhstan No. 827 “On approval of the State program “Digital Kazakhstan”, 2017) (hereinafter – the EAPC) was adopted. The purpose of the EAPC is “the application of the best available tools to digitalize business processes that ensure increased productivity and export of processed agricultural products” (Zadvorneva, 2018, p.349). Digitalization should cover all stages of agricultural activity: from agricultural production to marketing. It is also planned by the end of 2019 to develop a portal “E-cooperation” in order to help

agricultural cooperatives and their members – peasants' farms - to reduce costs and to create database of agricultural cooperatives.

The third group of strategic planning documents includes documents aimed at sustainable development of rural areas. The third group of strategic planning documents includes documents aimed at sustainable rural development. They are about creating a digital environment by fully covering radio and television broadcasting and providing telecommunication and postal services to all residents, including social security facilities; as well as providing access to the information and telecommunication network Internet and providing public electronic services. But not all goal-setting documents concerned with the sustainable development of rural territories directly envisage the use of digital technologies. In our view, it is necessary to amend the second and third groups of strategic planning documents in terms of their compliance with other strategic planning documents which are aimed at digitalizing the Russian economy at large.

Digitalization of agriculture has its some specifics due to climatic risks, seasonal nature of agricultural activity and biological processes of farm animals and plants. To be precise, a substantial part of the risks is associated with issues of legal liability for harm caused by loose livestock grazing, unmanned agricultural machinery, robots, etc. (Popova, 2018). These are the most obvious risks of the digital technology applications. At the same time, digital technologies in agriculture are significantly applied in a number of areas. They are as follows:

1. Digital arable farming;
2. Creation of knowledge and technology database by agricultural sub-sectors and constituent entities of the Russian Federation;
3. Ensuring traceability of agricultural products;
4. Encouraging access to digital open platforms (digital field, herd, management for machinery, equipment and greenhouses);
5. The introduction of online trading platforms and systems for promoting agricultural products (Yurina, 2018);
6. Electronic bidding;
7. Creation of electronic portals to transfer land from state and municipal property (for example, in the Vologda Oblast there is portal "Hectar35"), etc.

This requires amendments not only to legislation on agricultural development, but also the adoption of a federal law on electronic bidding as well as the development of new norms and standards (in particular, environmental ones), and amendments to civil law.

Also, normative regulation and strategic planning in the domain of digitalization of agriculture should be improved taking into account the latest FAO requirements adopted at the 31st session of the FAO regional conference (May 16-18, 2018), e.g. the role of agricultural digitalization "as a tool to mitigate and adapt to climate change, in particular" (Shlyakhova, 2018, p.44).

4. Purpose of the Study

The purpose of the paper is to examine the legal problems of digitalization of agriculture and propose ways how to improve the political and legal regulations in the sphere of digitalization of rural economy via the insight of documents of strategic planning, legislation in force, foreign experience and

scientific publications available. The paper also analyzes strategic planning documents and formulates their conceptual changes. A comparative legal analysis made it possible to formulate proposals for improving Russian legislation, taking into account positive foreign experience.

5. Research Methods

The study is based on formal and logical, comparative and legal, statistical methods. The comparative and legal method made it possible to formulate proposals for borrowing positive foreign experience. The logical method will formulate proposals for improving Russian legislation. The statistical method made it possible to evaluate the existing social relations in the field of digitalization of the Russian agricultural economy and formulate its development trends.

6. Findings

In modern society the digitalization of the economy, including agriculture, is a strategic task of the Russian state. Digitalization is instrumental increasing the competitiveness of agriculture, ensuring food security, and increasing the export of Russian agricultural products. Alongside with these, the current legislation and strategic planning documents in the digitalization domain of agriculture have a number of shortcomings, therefore, they need to be adjusted. Primarily, the directions for digitalization of agriculture and rural development should be determined, the risks of introducing digital technologies should be assessed, the role of digitalization in the process of combating climate change should be taken into consideration, measures of public support for agricultural producers who introduce and apply digital technologies should be granted.

7. Conclusion

To sum it up, it should be noted that despite the fact that there is a real and practical need to digitalize agricultural sector, issues of its legal support have not been properly implemented in the provisions of legal and political regulations and enactments. To define its legal regulation the digitalization of agriculture requires: 1) a comprehensive and integrated approach, 2) a balance of public and private interests, 3) ecosystems, 4) correlation with other strategic planning documents, 5) scientific understanding of the legal challenges of digitalization of agriculture.

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