

The influence of digital technologies on the form and content of contracts in the Agricultural law

Oleg Puchkov

Department of State Theory and Law

Ural State Law University

Ekaterinburg, Russia

argun061@gmail.com

Abstract— The article analyzes the features and new trends of contractual relations in agriculture, due to the introduction of digital platforms based on information and communication networks. The method of system analysis, method of interpretation of law and comparative legal method were used in the study. As a result of the applied methodology, a theoretical and legal model of the contract in agriculture based on the use of digital technologies is proposed. This implies a decentralized architecture, agriculture with the use of blockchain technology. A common view on the process of digitalization of contractual relations in agriculture with the use of blockchain is developed. It became obvious that for the transition to the digital economy in agriculture it is necessary to improve both contractual relations and the texts of contracts, giving the latter a digital (electronic) form and perfect legal content. New trends in the legal regulation of contractual relations in agriculture are revealed, proposals for the adoption of new laws are made.

Keywords— *digital technologies, digital economy, transaction, contract, digital rights, blockchain, decentralized digital platform, agriculture*

I. INTRODUCTION

Digital technologies have invaded the modern world. They dominate public administration, industrial production, agriculture, social and cultural spheres. The strategy for the development of the information society in the Russian Federation for 2017-2030, approved by the President of the Russian Federation [1], formulates the main directions and means by which the global task of digitalization of society will be solved. What is their main feature, the main advantages over traditional technologies of human activity? All advantages can be classified into two groups: 1. Technical advantages; 2. Social advantages. The first group includes such things as: obtaining rate, storing, processing of information; high speed of information transfer, its exchange, interaction between subjects; fixation of events, people, their activities in digital form; the minimum space occupied by a large amount of data; the ability to connect to one network an unlimited number of users (based on IP Protocol), the use of artificial intelligence as an alternative to human thinking, etc. The social advantages of digital technologies include the reduction of costs of production of goods and services, a high degree of involvement of a large number of people in digital communication, the transformation of familiar material objects (such as art, sports, leisure activities, legislation, law, transactions, purchase and sale of goods, etc.) into a new digital form, as Plato would say, “between” the world of

things and the world of ideas.

It is important to understand that for the last decade civilization is dealing not so much with the fashion for some technological innovations, but with a fundamentally new way of being of a human – being, acquiring a new essence – the space-time digital transcendence. This new feature is implicitly significant for the sphere of law. Due to its conservative nature, the law is lagging behind the new technological trends of the 21st century, but it is also trying to restructure, acquiring new forms and updated content. One example of such changes can be contract (contractual) law, which is a legal expression of the freedom of economic actors (including in agriculture, industrial production). The time of traditional e-mail has passed, and we are witnessing how the contracting parties are using all the technological power to gain a competitive advantage through digital technologies. As a result, the parties in the contractual relations seek to execute trade transactions faster, better and more qualitatively, to conclude supply contracts, etc. In view of the above, it is important to analyze new trends related to the digitalization of contractual relations, which ultimately ensure greater efficiency of business processes, including in the agricultural sector.

II. LITTERATURE REVIEW

The scientific literature devoted specifically to the agricultural contracts is not too outsized [2]. New trends in contract law related to digital technologies are practically neglected in the scientific literature. This forces us to fill known gaps with our own scientific analysis. So, what is the modern contract, acting as a legal form of agricultural relations? For the time being, due to the traditions and established business customs, a contract with a simple written form prevails in Russia. This is the form required by article 160 of the Civil Code: “1. A transaction in writing shall be made by drawing up a document expressing its contents and signed by the person or persons making the transaction or by persons duly authorized by them.” However, recently, according to section 434 of the Civil Code allows greater freedom in the form of a transaction, taking into account the direct permission of the legislator, set out in part 2 of article 434 of the civil code (“...an electronic document transmitted through communication channels is information prepared, sent, received or stored by electronic, magnetic, optical or similar means, including the exchange of information in electronic form and e-mail”). This position of the legislator “opened the floodgates”, as a result of which the process of concluding the contract in electronic form became a reality.

The study was carried out with the financial support of the Russian Foundation for Basic Research in the framework of the research project № 18-29-16148 “Transformation of law in the conditions of the development of digital technologies”

III. METHODS

The subject of the research indicated above dictates the corresponding methods of knowledge: in particular, the use of a complex of formal legal methods of knowledge is required. Among those the method of interpretation of law, the system-structural method, the method of abstract modeling and the functional-legal method should be pointed out. Their synergy in the thinking of a knowing subject is able to give an increase in knowledge and relevant recommendations.

Currently the electronic contracts are used increasingly when an entity electronically signs documents with others. Execution is also controlled electronically. The manufacturer has shipped the goods – the money is quickly transferred from one account to another.

However, in this area of public and private relations, the problem of identification and authentication of individuals arises. So far, not all agricultural producers have “acquired” a digital signature, as a result of which the problem of confirming the authority of one or another authorized person is solved in the old manner - by means of a written notarized power of attorney. One of the important problems preventing the “triumphal march” of contracts in electronic form is the lack of a common digital trust environment. Creating a unified digital environment of trust will significantly reduce costs and accelerate the formation of new business processes. While in this area there are huge legal gaps. Obviously, we need a law that comprehensively regulates the issues of the digital economy, including in the field of agricultural production. Ideally, it would be wise to adopt a new, integrated, codified law that plays a basic role. Such, for example, could be the “Code of the Digital Economy”. It should reflect such pressing issues as the digital trust environment, issues of obtaining and using big data, the status of digital systems and things that exist only in the virtual space and much more. In addition, the adoption of such a law would entail serious revisions of many legislative acts in the Russian legal system.

Agriculture is a priority area of the Russian economy, which is why companies that have a high degree of informatization, are ready for openness and dialogue with government bodies, and also have a desire to connect online to information systems should work here. The state should in relation to such companies find an opportunity to reduce the administrative burden. All these are interrelated aspects that, in synergy, are capable of giving this area of the housekeeper a modern look. While the Russian national legislation contains these features only partially; the time requirement is to eliminate those means of regulation that inhibit the development of agricultural enterprises. This area patiently awaits the introduction of new digital technologies - big data technologies, registries of distributed data, etc. These are new mechanisms and tools of the first half of the XXI century. If this data is properly used and analyzed, then the level of decision making, their effectiveness can significantly increase. In the meantime, we do not see on the fields of the country autonomous, avoiding collisions, agrarian robots, tractors without a driver and unmanned aerial vehicles used on farms. The logical question is: are the enterprises ready to use these new technologies, do they have the appropriate personnel, professional competencies and knowledge? Hardly, by virtue of which, relevant IT training seems relevant. These digital technologies provide undeniable

opportunities to increase productivity for farmers, but this is a matter for the future.

Turning to the analysis of the current trends in the conclusion of contracts in agriculture, we note that the practice has been widespread, in accordance with which the contract is concluded in simple written form as a single document (including electronic), or the contract is concluded through the exchange of electronic letters.

In terms of agricultural production, the practice of labor contracts is in demand. Here is a picture of the active invasion of information technology. Article 312.2 of the Labor Code of the Russian Federation explicitly established a provision in accordance with which an employment contract for remote work may be concluded through the exchange of electronic documents. So far, in these cases, the employer is obliged to send the remote worker by mail by registered mail within three days, with a notification of a duly executed copy of this employment contract on paper. These are the requirements of the law.

The problem of the widespread use of electronic methods of collecting and processing information related to labor relations at all their stages, the legalization of electronic office work in the personnel business, is becoming increasingly urgent. It’s time to decide at the legislative level the issue of electronic workbook, as well as the conclusion, amendment and termination of employment contracts in electronic form. These problems are the key, when deciding on the introduction of electronic workflow (electronic workflow). By the way, the legislation of most developed countries allows the implementation of all operations related to employment contracts in electronic form.

Another new trend is that digital rights will appear in the Civil Code from October 1st, 2019. Digital rights are rights of obligation and other rights named in such a capacity in a law, the content and conditions of which are determined in accordance with the rules of an information system that meets the criteria established by law. Implementation, disposal, including transfer, pledge, encumbrance of a digital right by other means or restriction of disposal of digital law are possible only in the information system without recourse to a third party. The holder of a digital right is a person who, in accordance with the rules of the information system, has the opportunity to dispose of this right. In cases and on the grounds provided by law, another person is recognized as the holder of the digital right. How much can this legislative novelty affect trends in agriculture? Obviously, this norm creates the need to create an appropriate digital platform that allows you to automate the management process, and ultimately, digitize economic activities in agriculture. Using the technology of decentralized information systems - blockchain, it is possible to achieve information security, as well as the integration of management processes and processes of subject activity.

The literature rightly notes that “blockchain is a breakthrough technology that has been widely recognized by experts in various fields” [3]. Indeed, based on new technology, decentralized platforms implement the basic principle of the digital economy - the integration of management processes and processes of subject activity. For example, at present blockchain is used in agriculture in the water management system [4], food production using artificial intelligence [5]. The widespread use of blockchain

technology in agribusiness potentially increases the profits of agricultural enterprises due to the fact that transaction costs will be lower, the higher the degree of trust between the parties to the contractual relationship. In addition, blockchain technology allows for transparency in agricultural trade [6].

Another aspect of the subject matter is the identification of the parties in the contractual relationship. So far in the practice of business relations in Russia, as noted above, paper documents and written signatures dominate. However, the environment of trust in digital documents and signatures is not always obvious to tax authorities and other regulatory bodies. Block chains can be the digital equivalent of a signature and original documents on paper. Technically, a blockchain can look like a register of digital fingerprints fixed in the form of digital files. Using modern algorithms, based on fingerprints, which papillary patterns are unique for each person, unique numeric codes are created for, for example, contracts concluded by the agricultural producer. As a result, each document gets a unique digital footprint. If a firm wants to prove the validity, for example, of a contract for the supply of livestock products, it will be able to present the director's signature on paper, retaining it physically. The new technology allows you to use digital fingerprints, save them in digital form (in the file), and the fingerprint itself can be simultaneously stored in the blockchain.

The problem of trust between the parties in contractual relations in agriculture may also have a solution in the case of the development and implementation of electronic auction technology. This greatly facilitates online transactions, but it is necessary to establish an environment of trust between sellers, buyers and auctioneers. The collusion between the parties in the electronic auction allows a decentralized system of electronic auctions, which is linked to the so-called "smart contract" on the blockchain technology. This technology has already received an appropriate application [7].

Generally speaking, a smart contract is a legal transaction between the parties, executed in the Internet environment, possessing the means of digital protection and ensuring its effectiveness on the basis of blockchain technology. As noted in the literature, a smart contract facilitates payment fairness in trade and the necessary transactions [8]. The introduction of these technologies into trade relations is possible under two circumstances: the development of appropriate digital platforms and the training of personnel in these technologies.

IV. CONCLUSION

By virtue of what has been said, a law is needed to protect a small business from becoming a victim of unfair contract terms. Such a law will help to establish a balance of power in favor of small farms, especially if the latter use innovations related to digital technologies. In particular, such a law should contain a provision according to which entering into a contract of contracting presupposes the availability of data on the range and quantity of agricultural products to be supplied in the specification to the contract. Other circumstances that lead to the recognition of the contract between the agricultural producer and the supplier of the void, related to the fact that:

- The terms of the contract establish a significant imbalance in the rights and obligations of the parties;
- The implementation of the contract may cause financial, material or other damage;
- The terms of the contract are written incomprehensibly, containing internal contradictions, gaps (for example, there are no terms about the delivery, payment, etc.).

Therefore, a law is needed to protect the rights of a rural producer. There is no need to go far for positive examples. Thus, a fairly lengthy law (97 articles) was adopted in the Republic of India in 2001. It defended not only the rights of farmers, the rights of creators of new varieties of agricultural products, but also settled the relevant breeders' rights [9]. If a similar law is adopted in Russia, you can count on solving the problem of contracts with small farms. Such a law is needed, since it would become a protecting mean for farmers against the dictates of large companies; it would give a legal opportunity to revise the concluded contracts taking into account the interests of farmers. Ultimately, changes in contractual law will help create a more transparent, fair and equitable contractual environment in which there is no place for non-economic dictates of the stronger over the weak.

REFERENCES

- [1] About the Strategy for the Development of the Information Society in the Russian Federation for 2017-2030, Presidential Decree of May 9th, 2017, №203. [Electronic resource]. Access mode: <http://www.garant.ru/products/ipo/prime/doc/71570570/#ixzz5D2MaMaOD>
- [2] Yu.F. Bepalov, O.A. Egorova, P.A. Yakushev, Contract Law, M.: Unity-Dana, Law and right, 2014, p. 552.
- [3] N. Kolokotronis, K. Limniotis, S. Shiales, R. Griffiths, "Secured by Blockchain: Safeguarding Internet of Things Devices," IEEE Consumer Electronics Magazine, vol. 8, №3, 2019.
- [4] B. Bordel, D. Martin, R. Alcarria, "A Blockchain-based Water Control System for the Automatic Management of Irrigation Communities," 019 IEEE International conference on consumer electronics (ICCE). Access mode: http://apps.webofknowledge.com/Search.do?product=WOS&SID=C64zifS7xCwpHSaR33k&search_mode=GeneralSearch&prID=78970bd9-bf81-48ef-9e3a-b86763998782
- [5] J. Lin, Z. Shen, A. Zhang, "Blockchain and IoT based Food Traceability for Smart Agriculture," 3rd International Conference on Crowd Science and Engineering (ICCSE), Nanyang Technol Univ, Singapore, 2018. Access mode: http://apps.webofknowledge.com/Search.do?product=WOS&SID=C64zifS7xCwpHSaR33k&search_mode=GeneralSearch&prID=78970bd9-bf81-48ef-9e3a-b86763998782
- [6] P.S. Faye, "Use of Blockchain Technology in Agribusiness: Transparency and Monitoring in Agricultural Trade," Proceedings of the 2017 international conference on management science and management innovation (MSMI 2017). AEBMR-Advances in Economics Business and Management Research, vol. 31, 2017, pp. 38-40.
- [7] S. Wu, Y. Chen, Q. Wang, "CREam: A Smart Contract Enabled Collusion-Resistant e-Auction," IEEE Transactions on information forensics and security, vol. 14(7), 2019, pp. 1687-1701.
- [8] Y. Wang, A. Bracciali, T. Li, "Randomness invalidates criminal smart contracts," Information Sciences, vol. 477, 2019, pp. 291-301.
- [9] The Protection of Plant Variety and Farmers Right Act, 2001 (PPVFR Act). Access mode: <https://wipo.lex.wipo.int/en/text/200363>