



# IMPACT OF ORGANIZATIONAL AND ECONOMIC MODELS OF AGRICULTURAL ORGANIZATIONS ON THE LIVING STANDARDS OF THE RURAL POPULATION

**Dmitry Sergeevich Nardin, Svetlana Aleksandrovna Nardina, Alla Vladimirovna Zinich, Oleg Anatolevich Blinov**

Omsk State Agrarian University, Instutskaya Square, 1, Omsk, 644008, Russia

## ABSTRACT

*The relevance of the study topic is substantiated by the considerable differences in the living standards of the rural population depending on the performance of agricultural organizations. At the same time, the rural population working in agricultural organizations and owners of these organizations who offer jobs are interested in ensuring high living standards. In this regard, the owners face the problem of choosing the most efficient business model. The study aims at defining the interrelation between organizational and economic models of agricultural organizations' (AO) functioning and indicators of living standards of the rural population working for relevant organizations. The methodological approach to the definition and typification of organizational and economic models of agricultural organizations within this study is based on the post-non-classical type of scientific rationality. The organizational and economic model is presented as a self-developing environment whose elements are the interrelated activities of organizations and employees who live in rural areas and ensure these activities. The conducted studies have shown that the more complex the organizational and economic model of an organization is, the greater the number of activities allocated to a separate management object is, and, consequently, the higher the efficiency of managing the activity as a whole is. In addition, a complex organizational and economic model implies greater choice of alternative types of employment for the rural population and considerably reduces the dependence of the organizations' efficiency on unfavorable climatic and socio-economic factors. As a whole, this allows to increase salaries of employees in organizations, which has positive impact on their living standards.*

**Keywords:** Standard of Living of The Rural Population, Economic Efficiency, Economic Model.

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## 1. INTRODUCTION

Over the recent 15 – 20 years the living standards of the rural population in the Russian Federation have been constantly monitored by public authorities. Federal, regional and municipal authorities develop and systematically take comprehensive measures on improving the living standards of the rural population and solving the most acute social and economic problems in rural areas [1, 2, 3].

Representatives of the business community operating in rural areas are also interested in raising the living standards of the rural population, which guarantees highly qualified labor force [4, 5, 6, 7, 8, 9] and, ultimately, contributes to the economic efficiency of agribusiness [10].

This study aims at defining the interrelation between organizational and economic models of the functioning of AO and indicators of the living standards of the rural population involved in working for the relevant AO.

To achieve this goal, the following tasks were set and solved:

- The methodological approach to the determination and typification of organizational and economic models of AO, as well as to the assessment of the models' impact on the living standards of the rural population has been substantiated,
- A methodology for the analysis and typification of organizational and economic models of AO has been developed, and
- The impact of various types of organizational and economic models of AO on the living standards of the rural population has been studied.

The object of the study is the interrelation between the organizational and economic models of AO and the living standards of the rural population working for these AO. The subject of the study is the organizational and socio-economic interrelations between subjects (employees of the organization) and the polysubject environment (internal organizational and economic structures of the AO) arising from the formation and development of organizational and economic models of the AO activity.

The study has been carried out by using the materials of the Omsk Region, the subject of the Russian Federation within the Siberian Federal District.

## 2. MATERIALS AND METHODS

### 2.1. Methodological approach to the definition and typification of AO organizational and economic models

In this study, the methodological approach to the definition and typification of AO organizational and economic models is based on the post-non-classical type of scientific rationality [11, 12, 13, 14, 15, 16]. The organizational and economic model is presented as a self-developing environment, whose elements are the interrelated types of AO activities (depending on the services provided and the products produced) and employees of organizations who live in rural areas and perform these activities.

The theoretical level of the study is based on the principles of third-order cybernetics [17, 18, 19]. According to them, the subject of this study is considered within the “subject-polysubject environment” relationship, where the organization employee (a rural resident) who strives to constantly improve his living standards is considered as a subject, and external and internal organizational and other structures that operate according to the principles of self-organization and have considerable impact on the subject’s achievement of the goal are the polysubject environment. Thus, the organizational and economic model of the AO operations can be represented as a self-developing polysubject environment, whose strategic subjects are heads of the AO structural subdivisions and (or) managers of activities if the organization has a business process management system [20, 21, 22, 23, 24].

At the methodological level, the organizational and economic models under study are represented as “human-sized” (combined) systems that are efficiently managed by using soft forms of management. The managerial impacts on such systems are based on the principles of the project and environmental management and are carried out not directly, but through the impact on the environment; culture and values of subjects.

Thus, for the purposes of this study, the AO organizational and economic model is interpreted as a self-developing combined system whose elements are structural subdivisions and activities of the organization, as well as employees who perform these activities.

## **2.2. Methods of the analysis and typification of AO organizational and economic models**

The purpose of the methodology is the analysis and typification of organizational and economic models of the AO functioning.

The methodology includes five stages.

The first stage is the analysis of the availability of structural subdivisions and types of activity in the AO whose operation is not related to the agricultural production and processing. At this stage, the availability or non-availability of employees who are not engaged in agricultural production and processing is determined by analyzing the staff schedule and reports. If the availability of such employees is determined, it means that the AO has structural subdivisions or types of activity that are not related to the agricultural production and processing.

The second stage is the analysis of the number of subdivisions and types of activity in the AO that are not related to the agricultural production and processing. This stage is realized if these subdivisions and types of activity were determined during the first stage. In general, it is possible to distinguish five groups of such elements of the organizational and economic model: subsidiary production and crafts, housing and communal, cultural and everyday services, trade and public catering, construction, and children’s and educational institutions.

The third stage is the analysis of the number of AO subdivisions and types of activity related to the agricultural production. This analysis is carried out by using information from the staff schedule approved in the AO.

The fourth stage is the analysis of the number of subdivisions and types of activity related to the agricultural processing. The level of detailing at this stage may be different, but the minimum level should include four groups: primary processing of plant and animal products, and secondary processing of plant and animal products.

The fifth stage is the typification of the AO organizational and economic models. At this stage, it is possible to use various approaches to the typification, but the basic one is the typification depending on the number of elements in the AO organizational and economic models that allows carrying out the typification depending on the model complexity.

### 2.3. Methodical approach to assessing the impact of AO organizational and economic models on the indicators of the living standards of the rural population

The methodology and methods for assessing the impact of organizational and economic models of AO on the indicators of the rural population's living standards are also based on the "subject – self-developing polysubject environment" interrelations. In addition to organizational and corporate goals and values, the rural population working for the AO and participating in the above interrelations is focused on achieving its own (internal) goals and realizing its values. Ultimately, this wish is expressed in raising the living standards, which are estimated by each employee as a set of interrelated socio-economic and psychological parameters formed within working at a particular position in a certain team of the AO.

In this study, the salary levels and labor intensity were used as basic parameters for assessing the living standards of the rural population.

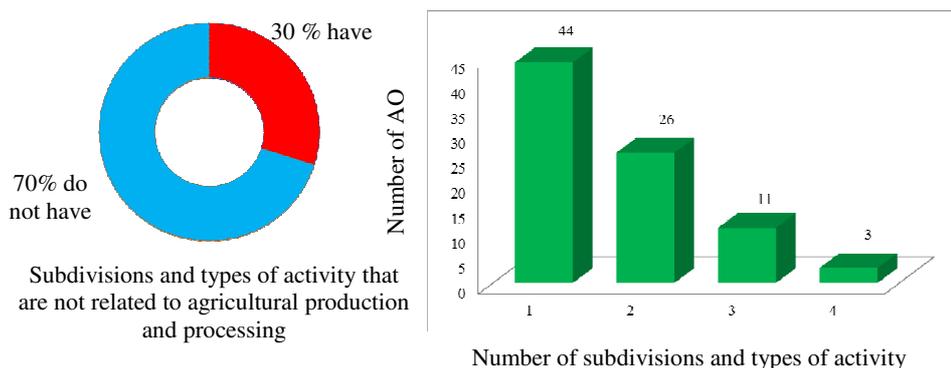
The salary level is a basic economic parameter. Taking this into account, it is possible to define other criteria and indicators for assessing the living standards from the material point of view (availability and quality of housing, development of social infrastructure, etc.). To some extent, the socio-psychological parameters that characterize the employees' living standards (job satisfaction and interrelations in the team) also depend on the salary level. Labor intensity can also be considered as a basic indicator that has impact on the living standards in terms of, above all, employees' satisfaction. As a rule, the higher the labor intensity is, the more stressed the psychological state of employees is. In agriculture, this is especially evident in the period of spring and autumn field works.

Thus, in this study it is offered to use two parameters to assess the impact of the AO organizational and economic models on the living standards of the rural population: the salary level and labor intensity.

### 3. RESULTS

In this study organizational and economic models of 281 agricultural organizations of the Omsk Region were analyzed and typed by using the developed methodology.

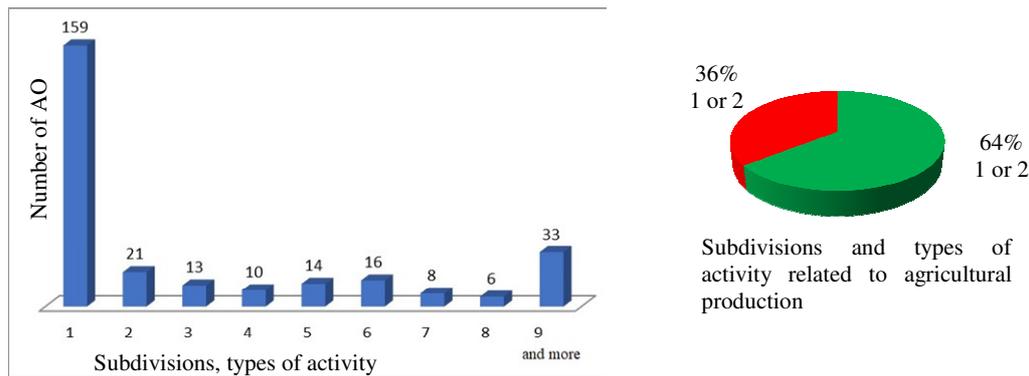
Figure 1 shows the results of analyzing the number of subdivisions and types of activity that are not related to the agricultural production and processing.



**Figure 1.** Analysis of the Number of AO Subdivisions and Types of Activity that are not Related to Agricultural Production and Processing

30% of the AO have structural subdivisions and types of activity related to the agricultural production and processing, including 44 organizations that have 1 type of activity or structural subdivision, 26 organizations that have 2 types, 11 organizations that have 3 types, and 3 organizations that have 4 types.

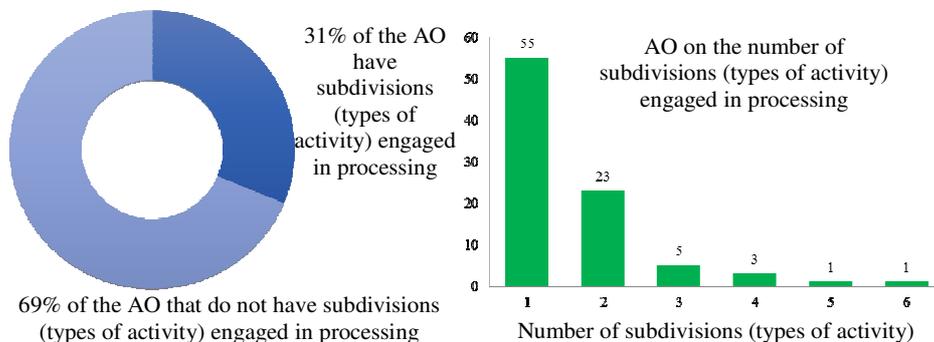
Figure 2 shows the data characterizing subdivisions and types of activity related to agricultural production in AO.



**Figure 2.** Subdivisions and Types of Activity Related to Agricultural Production in AO

64% of the AO under study have one or two subdivisions (types of activity). As a rule, this is one branch of crop production and one branch of animal husbandry. In the remaining 36% of organizations, the number of subdivisions (types of activity) varies from 3 to 41 (LLC *Luzinskoe Moloko*). The availability of 41 subdivisions (types of activity) is explained by the complex organizational structure of the AO (feed production, dairy cattle breeding, commercial crop production) and the adopted cost management system for individual structural subdivisions.

Figure 3 shows the data characterizing the availability of subdivisions or types of activity for the primary and industrial processing of agricultural products in AO.



**Figure 3.** Subdivisions of Types of Activity on Primary and Industrial Processing of Agricultural Products in AO

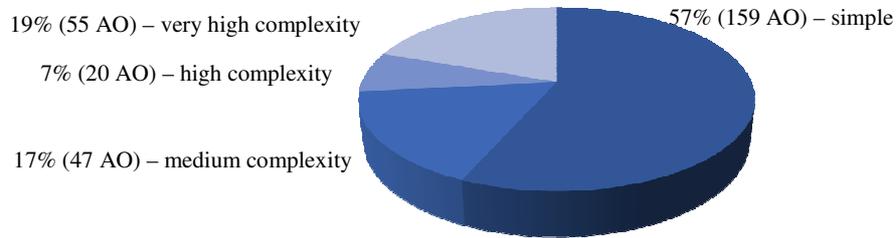
88 of the AO under analysis (31%) have subdivisions (types of activity) for processing. 55 organizations have one subdivision (type of activity), 23 organizations have 2 subdivisions (types of activity) each, and ten organizations have three or more subdivisions (types of activity) engaged in processing agricultural products.

The analysis made it possible to determine the number of subdivisions (types of activity) for each AO. Its totality makes up the organizational and economic model. The greater the number of subdivisions and types of activity concentrated in the AO is, the more complex the model of its operation is. If the organizational and economic model of the AO includes 1 – 2 subdivisions (types of activity), it is classified as simple (in terms of management and interaction of the model elements), 3 – 5 divisions (types of activity) – medium complexity; 6 – 8 subdivisions (types of activity) – high complexity; and nine or more subdivisions (types of activity) – very high complexity.

Figure 4 shows the distribution of AO models by the level of complexity.

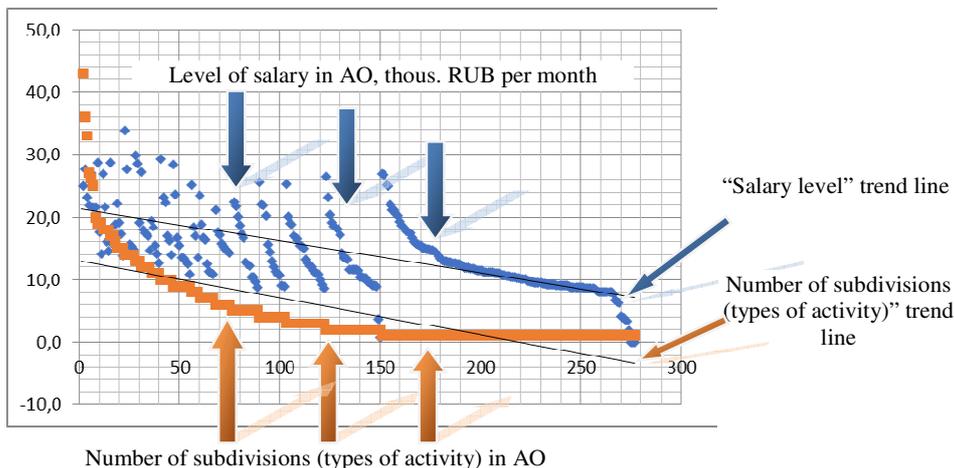
57% of the AO were classified as simple models, 17% of the AO have models of medium complexity, 7% are high, and 19% are ultrahigh.

Figure 5 shows the dependence of the rural residents' salary (employees of AO) on the complexity of organizational and economic models implemented in.



**Figure 4.** Organizational and Economic Models of AO by Level of Complexity

To study the dependence of the salary on the complexity of the organizational and economic model of the AO, two corresponding data series were compared, and the number of subdivisions (types of activity) in the descending order was preliminarily sorted out.



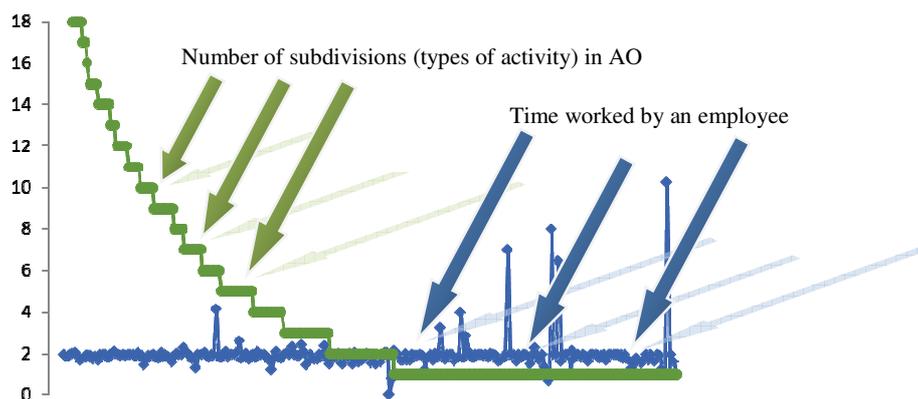
**Figure 5.** Dependence of the Rural Population's Salary on the Complexity of Organizational and Economic Models of AO

The results shown in Figure 5 allow making the following conclusions: as a rule, the more complex the organizational and economic model is, the higher the employees' salary is, and respectively, the higher their living standards are. This conclusion is confirmed by comparing two trend lines for the specified data series. The trend line by the number of subdivisions (types of activity) is negative because the data for this series are sorted in the descending order. The trend line in terms of salaries almost duplicates the trend line by the number of subdivisions (types of activity), which indicates the direct interrelation between these indicators.

Figure 6 shows the dependence of the labor intensity (the time worked as calculated per 1 employee of the AO) on the complexity of the organizational and economic model.

To study the dependence, two series of data were compared: the time worked by one employee and the number of subdivisions (types of activity) of the AO, and preliminary sorting of the number of subdivisions (types of activity) in the descending order.

## Impact of Organizational and Economic Models of Agricultural Organizations on The Living Standards of The Rural Population



**Figure 6** Dependence of the Rural Population's Labor Intensity on the Complexity of Organizational and Economic Model of AO

The data of Figure 6 show that there is no clear dependence of the intensity of rural residents' labor on the complexity of the AO organizational and economic models. The labor intensity in most AO is approximately at the same level, and this result is quite predictable because this indicator is strictly regulated at the legislative level. All AO try to use their employees' time fuller, but this process is limited by law. That is why the labor intensity in organizations is approximately the same. The graph shows some exceptions. They are related to a considerable change in the number of AO employees during the year.

### 4. CONCLUSION

The more complex the organizational and economic model of the AO is, the greater the number of activities is allocated to a certain management object, and thus, the higher the efficiency of managing the operation of the AO as a whole is. In addition, a complex organizational and economic model implies a greater choice of alternative types of employment for the rural population and considerably reduces the dependence of the AO efficiency on unfavorable climatic and socio-economic factors [25].

All together, this allows increasing the AO employees' salary, which has positive impact on their living standards. The deficit of qualified agricultural personnel that has occurred in the Omsk Region in recent years, on the one hand, makes managers of agrarian business structures create terms and conditions for attracting employees, and ensures rather high living standards for them. On the other hand, employees themselves have more opportunities to choose the most favorable working conditions that provide them with the appropriate living standards. The level of complexity of the organizational and economic model implemented in the AO can be one of the indicators of such choice.

### ACKNOWLEDGES

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