

Formation of an institutional system for regional development

Establecimiento de un sistema institucional para el desenvolvimiento regional

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Abstract

The nature and quality of the institutional environment are essential for the functioning of the agricultural socio-economic sphere. Since the onset of the ultra-liberal reforms, transformational processes within this environment stimulate the growth of the scientific research reflections regarding the factors and nature of the formation and development of a new institutional framework for the agrarian economic sector. The article describes the problems of rural development in the close correlation with the agrarian sphere of the economy during an institutional transformation period.

key words: rural development, agrarian economy, institutional transformations.

Resumen

La naturaleza y la calidad del entorno institucional son fundamentales para el funcionamiento de la esfera socioeconómica agrícola. Desde el inicio de las reformas ultraliberales, los procesos transformacionales dentro de este entorno estimulan el crecimiento de las reflexiones de la investigación científica sobre los factores y la naturaleza de la formación y desarrollo de una nueva institucionalidad para el sector económico agrario. El artículo describe los problemas del desarrollo rural en estrecha correlación con el ámbito agrario de la economía durante un período de transformación institucional.

palabras clave: desarrollo rural, economía agraria, transformaciones institucionales.

1. Introduction

The issue of conceptualizing an integrated rural development under the "wave" process of globalization and counter-globalization as well as a permanent transformation of natural-climatic determinants is not an inherently new element of scientific research reflections regarding the agrarian sphere (Furmankiewicz, Janc, & Macken-Walsh, 2016) (Chapple & Montero, 2016). At the same time, there is now a substantial backlog of unresolved and dormant issues that need to be addressed. The elements of this issue complex can be conditionally divided into two parts:

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- inertial and hereditary problems remaining from the pre-reform period;
- evolutionary-acquired problems formed by the reformatory transitions in agriculture.

In different years during the 20-year period of intensive transformations in agriculture and its institutional environment (1991-2011), the target achievements were subject to change, whereas their subjects remained the same.

In this respect, several stages of institutional transformations in the Russian agrarian sphere can be distinguished over the past three decades (Kirkorova, 2007).

The first stage (1991-1993), envisaged a general reorganization of existing enterprises based on forming the institutions of private land ownership and instruments for production and the disaggregation of collective farms with changing its organizational and legal status (Kirkorova, 2007).

The second stage (1994-1995), included the extension of agrarian reform in implementing its main activities. During this period, we note the weakening of the actual State regulation and the mass formation of peasant (farm) holdings as the commercial business form of private subsidiary plots (PSP) (Kirkorova, 2007).

The third stage (1996-2000 and up to 2006), conveyed the partial strengthening of the State regulation processes for the agrarian economy linked to the acknowledgement of the actual capacity of the agrarian economic sector in addressing food-related challenges. There was also a start for increased utilization of investment, credit, collateral, and guarantee mechanisms of the state regulation and shaping the experience in applying the program-based targeted method of support (Bochkov, 2008).

The fourth stage (2006 - 2014), is a period of qualitatively new institutional development connected with the implementation of the National project "Development of AIC (agro-industrial complex)" and "4I" Doctrine (investment, infrastructure, innovation, institutes) (Britik, Vladimirov, & Shuldyakov, 2019).

The fifth stage (2014 to date), is the period of sanctions in the agro-industrial complex aimed at developing the import substitution system in resource-limited settings (Britik, Vladimirov, & Shuldyakov, 2019).

1.1. Directions of institutional transformations in agriculture

At the initial reformatory stages, the main directions of institutional transformations are as follows:

- reorganization of agricultural enterprises;
- "reformatting" the sectoral management system;
- formation of a mixed economy;
- agricultural cooperation and integration;
- formation of a new "bundle of property rights";
- institutionalization of small agrarian entrepreneurship (Anthopoulou, Kaberis, & Petrou, 2017).

As of the later periods, it is worth noting the following:

- formation of an integral institutional network system of the state regulation and support for the agrarian economic sector consisting in establishing executive divisions of the State entities;
- Integration of infrastructural and institutional structures into the current framework of the State regulation in the agricultural economy;
- establishment of specialized institutions for information and consulting the social and domestic development of rural areas as well;

- active foundation of agricultural holdings, clusters, zones of agro-innovative and integrated development of agricultural resources (Zhang, Wu, Skitmore, & Jiang, 2015).

Formed as a result of transformations, the institutional environment of the agrarian sphere is not suited to counteracting, minimizing or compensating for the negative impact caused by the set of economic contradictions. Their formulation, understanding the nature of their emergence and identifying their generic characteristics as classifying categories can provide a methodological basis for improving the institutional support for the development of the agricultural economical sector and its efficiency (Britik, Vladimirov, & Shuldyakov, 2019).

We associate ourselves with the opinion of I.N. Buzdalov that the implemented ultra-liberal model of market transformation significantly influenced the specific characteristics of institutional subsystems. It affected the market, production, social and environmental components of the agricultural socio-economic sphere (Buzdalov, 2013).

The transition to the market worsened almost all indicators of the agricultural socio-economic sphere. Thus, I.N. Buzdalov notes the scarcity of the productive elements of the infrastructural and institutional framework of the agrarian sphere that manifests itself in the underdevelopment of the service sector: enterprises providing irrigation and agrochemical services, quarantine protection for plants as well as veterinary and epidemiological protection for farm animals, maintenance entities, as well as sectors of warehousing and transportation infrastructure (Buzdalov, 2013).

The market-based infrastructural and institutional component also ended up in a position of overcoming the deficit in its functioning. Rural areas alone are less attractive to actors of the post-agro-industrial economy: credit and mortgage institutions, marketing and consulting services, economic mediators, etc. This results in increased transaction costs and enhancing barriers to access agricultural markets that significantly constrained and constrains the process of the agrarian reform (Nechaev & Khatuov, 2010).

There is also significant deterioration in the social sector of the infrastructural and institutional sphere of AIC. The studies by L.V. Ovinseva reflect the scale regarding the reduction of social facilities and social domestic infrastructure in rural areas. She noted that the large-scale transfer of social infrastructure objects to local authorities proved to be ineffective in rural areas (Ovinseva, 2002).

The deformation and dismantling the established system of social and domestic infrastructural and institutional services in the agrarian sphere threatens to increase a social conflict genity in rural areas, to deprive living conditions of the population. Moreover, the depopulation of rural agrarian-oriented areas becomes irreversible.

Given the functional and generical connection of the agricultural socio-economic sphere with environmental activity, we also note the low efficiency of the system of soil and water protection institutions, as well as the production and livelihood waste management system. There is an "allotment" of agricultural fields to existing waste collection sites that carried out every year. In the estimation of several authors, "the annual growth in amounts of waste in the Stavropol region alone constituted 1%" (Kostyukova & Kazakov, 2012). This displays the escalation of destructive processes in the field of agrarian ecology, the living conditions of the rural population and the rural continuum reproduction.

Going back to the contradictions in the functioning of the agrarian sphere, we should focus on the fact that they are more burdened by opportunistic hereditary phenomena than by evolutionary-acquired ones. Summarizing the economic literature on the subject revealed that the economic contradictions of the inertial and hereditary an etiology in the functioning of the agrarian sphere should include:

- An initiative, traditional socio-economic law-abidance of rural inhabitants (as opposed to the urban population in comparative terms), exposure to the shadow economy and informal regulations;
- A critical need for structural reforms in the industry in the absence of effective establishment practices for rural development institutions and the low responsiveness of the agriculture and the population to innovations;
- An absence of the actual interrelations between industrial development priorities and the socio-economic functional peculiarities of the traditional agricultural territories;
- The lack of operational tools for structural transformation in agriculture in response to changing macroeconomic and geopolitical conditions against a background of the dominance of strategic instruments in sectorial management system;
- An absence of a mechanism for incorporating the views of the rural population and especially its part involved in agricultural production. That is important in planning institutional transformations due to its role as the agent and the major consumer (Britik, Vladimirov, & Shuldyakov, 2019) (Buzdalov, 2013) (Kostyukova & Kazakov, 2012).

In the present situation, a comprehensive synchronized solution to the above-mentioned issues consists, in our view, in creating new institutional architectonics for rural development to contribute eliminating, minimizing or compensating the negative consequences of economic contradictions in the agrarian sphere functioning

2. Methodology

The logic of addressing the given heuristic design challenge determines the implementation algorithm from the substantive analytical level of an issue generalization and the conceptual understanding of the transformational necessity to the systemic functional level. This will enable identifying a conceptual model of institutional innovation and ways of its incorporation into the existing infrastructure and institutional support for the agrarian sphere development. Then there is the instrumental methodological and organizational applied level of the problem development, where it is appropriate to develop guidelines and tools for institutional transformations.

The methodological principles of forming the institute of rural development are:

1. the principle of legitimacy as a basis for forming and incorporating new institutions into their existing "palette" taking into account the creation of a new "bundle" of rights and other easements;
2. the principle of adaptability implies certain adaptogenic properties of the project institutions to changes in the operating environment;
3. the principle of observing socio-economic priorities of the territorial development implies the functional orientation of the established institutional structures to preserve the initial territorial and sectoral determinants without destroying the existing economic architecture;
4. system-forming general and methodological principles of comprehensiveness, consistency and purposefulness are also relevant.

The research methodology comprises the following logical steps:

- identification of the leading AIC sectors in the region with agricultural specialization;
- characterization of the territorial competitive environment according to the output level of the leading product;

- formulation of practical recommendations to improve the interaction between local institutions regulating activities in the agro-industrial complex.

The subject of the study is the traditional agrarian region of the Russian Federation (the Karachai-Cherkess Republic). The sampling period for analytical information is 5 years (from 2014 till 2018). Calculations for all the agricultural sectors were made, but presented in a shortened form in the article.

3. Results

Ensuring the recession overcoming and sustainable development of the agro-industrial complex is an essential prerequisite for stabilizing the economy of the Karachai-Cherkess Republic (KCR) and the North-Caucasus Federal District, in general, being a permanent essential target of institutional transformations. As a systemically important segment of the economy, agriculture can become a catalyst for overall economic growth. Investment in agriculture may increase product demand in other associated industries.

At the moment the agricultural industry in the Karachay-Cherkessia Republic (KCR) is not sufficiently competitive under the new conditions and results of the economic globalization.

To characterize the competitive environment of the agricultural socio-economic sphere of KCR, we used the indicators that determine the concentration degree for uneven distribution of enterprises' market shares and capacity for monopolistic position manifestations. The most significant is the concentration ratio (CR) that describes the share of the largest firms in a given market. For the agrarian sphere, it is appropriate to make calculations for 3, 4 and 8 largest enterprises on the market. The Herfindahl-Hirschman Index (HHI), which is the sum of the squares of the shares for all enterprises operating in the market, is the main indicator determining the distribution of private enterprises in the market.

$$HHI = S_1^2 + S_2^2 + \dots + S_n^2 \quad (1)$$

where S_i are sale shares of firms in the industry expressed in percentage terms defined as the ratio of firm sales to overall industry sales.

In order to empirically identify enterprises that can combine their activities and limit competition in the market, Linda Index (L) is used to determine the degree of unevenness among the leading enterprises in the market (2):

$$L = \frac{1}{n(n-1)} \sum_{i=1}^n Q_i \quad (2)$$

where n is the number of enterprises with significant shares (at least two);

Q_i is the ratio of the average share of the i supplier to the basic variable $(n-i)$.

In order to obtain comprehensive information on the intensity level of competition, we calculated the coefficient of variation (V) for private enterprises that will enable determining the homogeneity degree (the intensity of competition is directly proportional to the aggregate homogeneity level). In the analyzed area, the most common crops that account for about 95% of agricultural enterprises revenues are winter wheat, sugar beet, sunflower, as well as beef and milk production. By producing them, agricultural enterprises create corresponding competitive relations. We consider changes in concentration indices and coefficient of volume variation in the production of the most important food crop, winter wheat, especially since it dominates in the region in terms of sown areas.

An analysis of the indicators in Table 1 shows that the winter wheat market in the region is a type of perfect competition, but with gradual progress towards monopolistic competition. Therefore, agricultural enterprises should pay more attention to non-price methods in developing strategies. Analyzing the absolute efficiency of winter wheat cultivation in the area leads to the conclusion that the competitive environment is becoming more aggressive.

Table 1
Concentration index values and coefficient of variation for winter wheat production volumes by agricultural enterprises in KCR

Years	Coefficient values								
	CR3	CR4	CR8	HHI	L2	L3	L4	L5	V
2014	30%	38%	65%	695,	1,15	0,64	0,42	0,30	42,6%
2015	32%	39%	66%	716,3	1,319	0,733	0,476	0,338	46,6%
2016	28%	37%	67%	708,8	0,986	0,548	0,356	0,253	45,28%
2017	42%	52%	75%	936,5	1,865	1,036	0,673	0,497	76,95%
2018	42%	52%	75%	936,5	1,865	1,036	0,673	0,478	76,95%

Source: calculated by the author's team

However, the negative trends of increasing production costs and labour intensity for 1 centner (100 kg) of product do not allow to definitely acknowledge a significant increase in the efficiency level of this crop cultivation due to the progress of enterprises only, and not because of favorable weather conditions.

The Herfindahl-Hirschman index demonstrates the increased market concentration and a gradual transition to monopolistic competition also raising the profile of non-price competition practices. We determined the potential competitiveness of agricultural enterprises by comparing values of indicators, such as the monetary value of tillable land (tillable land quality), capital-labour ratio, energy security, labour supply, technology performance, capital equipment per labour unit, power availability, labour capacity and financial coverage of enterprises, with the maximum level for the analyzed area.

Once the set and values of factors impacting the potential competitiveness are determined, an overall indicator that can characterize the potential competitiveness of an agricultural enterprise using the particle smoothing technique is calculated according to the formula (3):

$$Q = \frac{1}{\sqrt{(1-x_1)^2 + (1-x_2)^2 + \dots + (1-x_n)^2}}, \tag{3}$$

where Q is a potential competitiveness rating of agricultural enterprises;

x1, 2 ... n are factorial features.

Table 2
Description of competitive environment in winter wheat
market in Karachai-Cherkess Republic of Stavropol region

Years	Profitability-based grouping, %	Number of households in group	Marketshare, %	Cropyields, c/ha	Labour intensity pers./h /c
2014	< -1,5	5	24,8	41,8	1,3
	-1,5...23	4	18,9	40,1	2,2
	23,1... 47,5	4	24,7	40,3	0,8
	>47,5	4	31,6	41,0	0,9
2015	<-6,1	2	15,2	32,0	1,8
	-6,0...31,2	6	35,6	36,1	1,6
	31,3... 68,6	4	26,8	33,1	1,3
	>68,6	4	22,4	29,0	1,3
2016	<119,1	4	33,4	31,3	1,3
	119,2...185,0	9	51,1	36,3	1,4
	185,1... 250,9	2	3,2	23,1	2,4
	>250,9	2	12,3	39,8	1,5
2017	<20,8	2	11,0	38,3	4,3
	20,9...64,4	6	38,9	37,3	1,1
	64,5... 107,9	5	26,6	41,3	2,5
	>107,9	4	23,5	38,0	2,4
2018	<3,1	1	7,8	44,2	2,4
	3,2... 20,0	3	17,6	43,1	1,4
	20,1...36,8	6	40,8	39,5	1,1
	>36,8	7	33,9	36,8	1,3

Source: calculated by the author's team

The calculated indicators of the potential competitiveness for the aggregate of enterprises with determining the relative position of the enterprise in a competitive environment provide reliable information on the market situation.

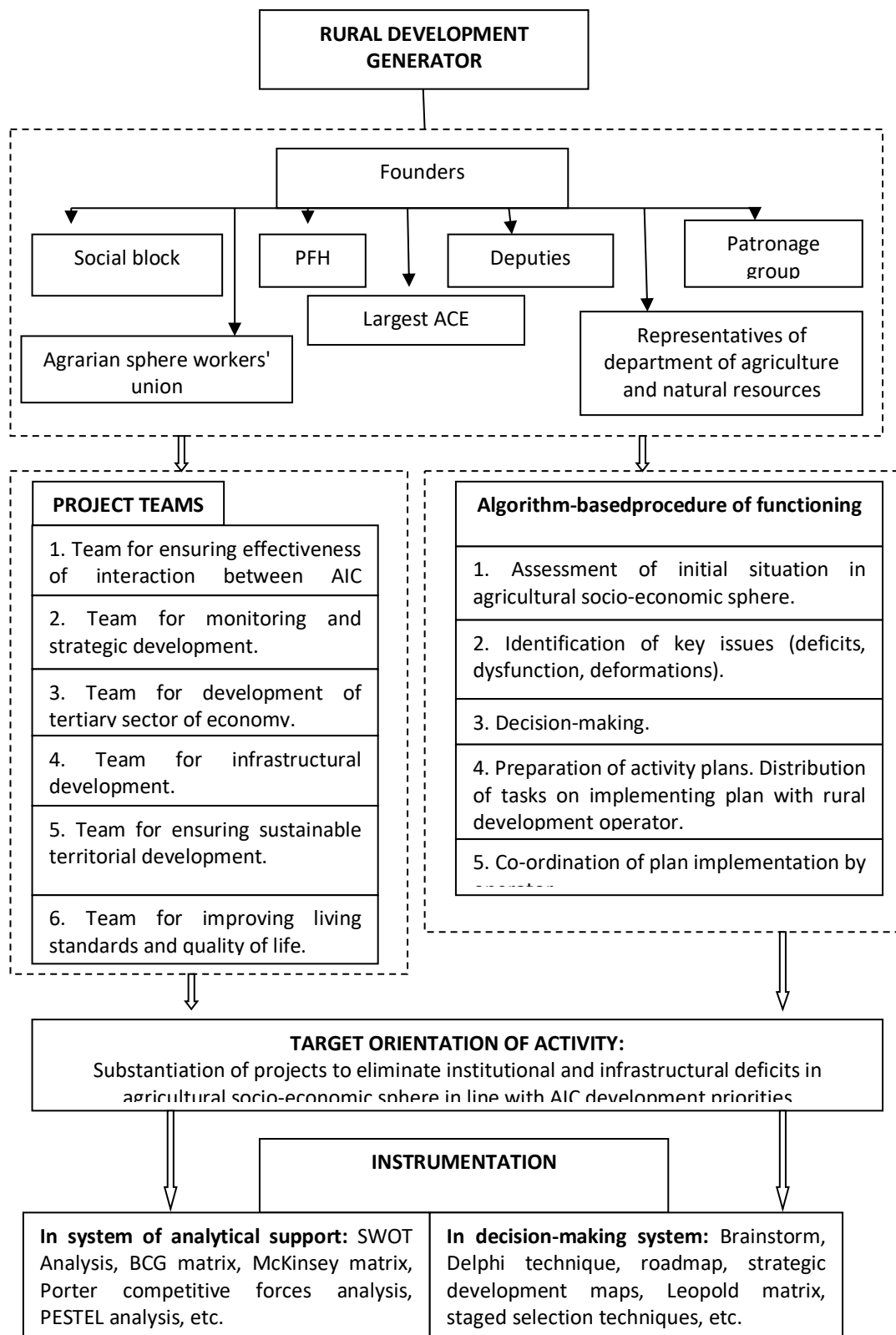
Our analysis of the performance of the agrarian enterprises in KCR demonstrated that the current state of their economic development is characterized by the instability and high volatility of the competitiveness level. As the leading industry in the region, crop production shows high-performance ratings, whereas calculations for other industries show a decline and crisis. This is particularly true for livestock as there is a decrease in animal stock productivity, a reduced production of milk and meat, and a raise of the production costs and a loss ratio of livestock cost. Support and incentives for depressed industries are an important factor in the socio-economic development of the agrarian region as agricultural activities are systemically important there.

3.1. Rural Development Generator

In the territorial entities, where the agrarian sphere has opportunity to self-development in terms of both the development level and use of local agricultural capacity, it is advisable to implement the institutional model of the rural development generator that enables planning and implementing sectoral structural and infrastructural institutional transformations in the agrarian sphere.

The founders of the rural development generator may be the largest agricultural organizations, the largest peasant (farm) holdings (PFH), the social block including the agrarian sphere workers' union, as well as the patronage group including deputies and representatives of the department of agriculture and natural resources management (figure 1).

Figure 1
Structural and functional diagram of rural development generator in institutional transformation system of AIC



Source: compiled by the author's team

In our view, these actors are exactly able to form the most relevant institutional request for social and economic transformations based on the existing problems in rural areas and the interaction specifics of actors in a single agricultural socio-economic environment. These actors play a key structure-forming role in the development of the agrarian sector of the economy. They also cover practically the entire spectrum of issues of rural development: productive, social, power and imperative.

In our view, the following project teams should be included in the structure of the rural development generator:

1. *The team for ensuring the effectiveness of the interaction between AIC entities.* The overall objective of this group is to prepare a project and conceptual framework for interacting all participants of the agrarian business through the preparation of activity programmes, projects, targeted interventions, roadmaps, strategic maps, etc.

2. *The team for monitoring and strategic development.* The team should identify imbalances and deficits in implementing production, distribution, processing and support business processes, as well as identifying recurring business processes that can be outsourced in order to deepen the agrarian division of labour and increase its productivity. And others, shown in figure 1.

In addition, the most important task of this group is to provide information and counselling activities to support agricultural organizations as well as peasant (farm) holdings and private subsidiary plots of the population with the economic, legal, technological, market and other types of information.

4. Conclusions

The establishing a regional structure that supervises rural development should interact on matters related to the integrated infrastructure and institutional development of rural areas with the following entities:

- a) regional ministries of agriculture – in matters of elaborating conceptual guidelines for the institutional and infrastructural transformation of the agricultural socio-economic sphere;
- b) financial and credit institutions – on aspects of providing borrowed funds for the planned transformations;
- c) with local governments– on the whole range of issues related to the development of the local agricultural sphere;
- d) systemically-important institutions in rural areas (agricultural and processing enterprises, PFH, PSP) –on aspects of addressing the acute productive-economic and socio-economic issues;
- e) infrastructural actors – in solving the problems of infrastructural deficits of territories with the agrarian specialization.

The proposed measures will not only ensure a selective approach in addressing the accumulated systemic issues of the agrarian economic sector but also facilitate specific activities corresponding to the institutional peculiarities of the regional territories through the unifying board of founders and participants of the institutional transformations. Establishment of rural development institute based on leading economic industry principles.

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