
Cluster Policy in Agrarian Sphere in Implementation of Concept of Economic Growth

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Abstract:

The purpose of the article is to substantiate the necessity and compile recommendations for improvement of the process of development and conduct of cluster policy in agrarian sphere during realization of the concept of economic growth by the example of modern Russia. As methodological provision, the research uses the proprietary methodology of analysis of development of agrarian sphere of economy. As a result of the use of this methodology and analysis of development of agrarian sphere of modern Russian, the authors come to the conclusion that it has a lot of negative tendencies, which causes necessity for improvement of policy in this sphere. For this, the authors offer to use clustering. The authors develop the Pyramid of optimal economic growth and the Model of realization of the concept of economic growth on the basis of conduct of cluster policy in agrarian sphere.

Key Words: *clustering, concept of economic growth, cluster policy in agrarian sphere, agro-cluster.*

JEL Classification :

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1. Introduction

Concept of economic growth, which became popular worldwide, supposes a course for increase of GDP as a main landmark of economic development. It sets general universal path for development, but each economic system is managed by its own unique national peculiarities and landmarks during realization of this concept, picking up the most acceptable vectors of growth and the most accessible growth points.

Despite the fact that formation of foundations of the concept of economic growth is paid close attention from many scientists of the world, this concept includes only general provisions, without specific recommendations and instructions for economic systems. This causes necessity for deeper study and specification of the concept of economic growth.

This research offers a hypothesis that cluster policy in agrarian sphere is an important and perspective direction of realization of the concept of economic growth. The purpose of the article is to substantiate the necessary and to compile recommendations for improvement of the process of development and conduct of cluster policy in agrarian sphere during realization of the concept of economic growth by the example of modern Russia.

2. Materials and Method

Fundamental foundations of development and realization of cluster policy on the whole in agrarian sphere, in view of experience of its practical realization by the example of various countries, are set in works of such authors as (Yang *et al.*, 2015), (Laur, 2015), (Tsathlanova *et al.*, 2015), (Wolman & Hincapie, 2015), etc.

Theoretical and methodological aspects of formation of agro-clusters, national and global tendencies of their development, and issues of management and increase of effectiveness of functioning of agro-clusters are studies in works of such scientists as (Beciu *et al.*, 2011), (Maya-Ambía, 2011), (Partiwi *et al.*, 2014), (Zhukonov, 2014), (Firsova *et al.*, 2014), etc.

Sense of the concept of economic growth, its evolution over the recent decades, and peculiarities of its implementation under the modern conditions are reflected in various scientific publications of many scientists, among which it is possible to distinguish the works of such researchers as (Leonida *et al.*, 2015), (Popkova *et al.*, 2013), (Popkova & Tinyakova, 2013), (Zeira & Zoabi, 2015), (Lesay, 2011), (Ivanter & Ksenofontov, 2012), etc.

As methodological provision, this research offers to use specially developed proprietary methodology of development of agrarian sphere of economy. Within this methodology, indicators of development of agrarian sphere are evaluated with the help of a special scale (Table 1)

Table 1. Scale for evaluation of indicators of development of agrarian sphere of economy

Indicators	Assigned values		
	0	1	2
NA ₁ /NA ₀	<0.95	0.95-1.00	>1.00
IP	<0.95	0.95-1.00	>1.00
AN ₁ /AN ₀	<0.95	0.95-1.00	>1.00
BF	<0	0	>0
PP	<0	0-1	>1

The table uses the following keys:

NA – number of agricultural enterprises (by the end of the year), million

IP – index of production, in per cent as to previous year

AN – average annual number of employees of agricultural enterprises, million people

BF – balanced financial result (profit minus loss), RUB million

PP – profitability of sola products or services, per cent

As is seen from Table 1, five key indicators are analyzed within the offered methodology. Dynamics of the number of organizations allows determining tendencies of strengthening or weakening of competition in agrarian sphere. Index of production reflects efficiency of agro-enterprises.

Dynamics of the number of employees of agricultural enterprises reflects their productive capabilities and general disposition in agrarian sphere. Balanced financial result of activities of agro-enterprises reflects attractiveness of agrarian sphere for conduct of business and for investors.

Profitability of production reflects effectiveness of conduct of business in agrarian sphere. All the given indicators are evaluated with the help of the given scale and assigned certain values. After that, integral indicator of development of agrarian sphere is calculated according to the following formula:

$$Iagr=(NA_1/NA_0+IP+AN_1/AN_0+BF+PP)/5 \tag{1}$$

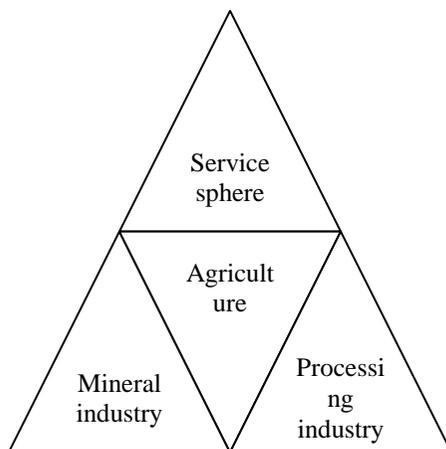
where Iagr – integral indicator of agrarian sphere development

As is seen from formula (1), integral indicator of agrarian sphere development is a direct average of all the above indicators. The higher the integral indicator is, the better. If integral indicator varies from 0 to 1, it shows low level of development of agrarian sphere and domination of negative tendencies. If integral indicator varies from 1 to 2, this means that agrarian sphere develops actively and features positive tendencies.

3. Results

Recent global financial crisis showed that important role belongs not only to quantitative indicators, such as increase of GDP, but also to qualitative sense of economic growth. This research offers the Pyramid of optimal economic growth which reflects its structure and stipulates stable and sustainable economic development (Fig. 1)

Figure 1. Pyramid of optimal economic growth



As is seen from Fig. 1, the pyramid of optimal economic growth is based on real sector of economy – mineral and processing industry. They are responsible for stability of economic growth and sustainability of the pyramid.

Agriculture is located in the center of the pyramid. It ensures independence of economic system and its food security, and is an important condition for diverse and harmonic economic development.

The top of the pyramid features the service sphere, which reflects its special importance under the conditions of post-industrial economy and necessity for founding on real industrial and agricultural production. In Russia, the service sphere

has been developing actively over the recent years. It dominates over other spheres, which violates the balance of the pyramid of the optimal economic growth. Industrial production is very developed. That's why most interest is posed by agriculture.

Let us determine the level of development of agrarian sphere of modern Russia with the help of the developed methodology. For that, let us use the data of official statistics from the Federal State Statistics Service (Table 2).

Table 2. Main indicators of work of organizations in agrarian sphere

Indicators	Years					
	2005	2010	2011	2012	2013	2014
Number of agricultural enterprises (by end of the year), million	20.8	15.6	13.6	12.2	11.4	10.6
Index of production, in per cent as to previous year	100.8	114.5	103.2	98.5	95.3	99.8
Average annual number of employees of agricultural enterprises, million people	248	157	144	134	119	51
Balanced financial result (profit minus loss), million people	-2,800	-5,420	-3,769	-3,818	-8,465	-12,187
Profitability of sold products or services, per cent	-1.7	-0.9	-0.6	-2.8	-3.6	1.9

Source: (Agriculture and forestry, 2015).

As is seen from Table 2, there has been observed negative dynamics in the Russian agrarian sphere over the recent years. The number of agricultural enterprises is reduced from 20.8 million in 2005 to 10.6 million in 2014. $NA_{2014}/NA_{2013}=10.6/11.4=0.93$. That's why this indicator is assigned the value "1". Production index also reduced from 100.8% in 2005 to 99.8% in 2014. In 2014, this indicator was assigned value "1". The number of employees of agricultural enterprises reduced by five times over the recent 15 years, from 248 million people in 2005 to 51 million people in 2014. $AN_{2014}/AN_{2013}=51/119=0.43$. That's why this indicator is assigned value "0".

Balanced financial result of activities of agricultural enterprises over the recent 15 years has been negative, which shows low attractiveness of agrarian sphere for business and investments. That's why this indicator is assigned value "0".

Profitability of production has been also negative over all years, save the last, the 2014. It is impossible to speak about positive tendency based on one year, but this indicator is assigned value "2". Let us calculate integral indicator of development of agrarian sphere: $I_{agr}=(1+1+0+0+2)/5=4/5=0.8$.

The received value of integral indicator <1 , which shows low level of development of agrarian sphere in modern Russia. This sphere is dominated by negative tendency of reduction of competition level and reduction of productive capacities. Necessity for state regulation of agrarian sphere for normalization of situation is obvious. A perspective direction in this context is realization of cluster policy in agrarian sphere.

Creation of agricultural clusters will ensure the creation of competitive environment in agrarian sphere of Russian economy and increase its investment attractiveness due to improvement of financial results of agro-enterprises' activities and increase of their profitability level.

At present, process of clustering gains momentum in the Russian economy. In agrarian sphere, clusters haven't yet received sufficient distribution. This is caused primarily by underdevelopment of regulatory and institutional basis, which significantly hinders the process of clustering in agrarian sphere by lack of statistical information on agricultural clusters and lack of state support.

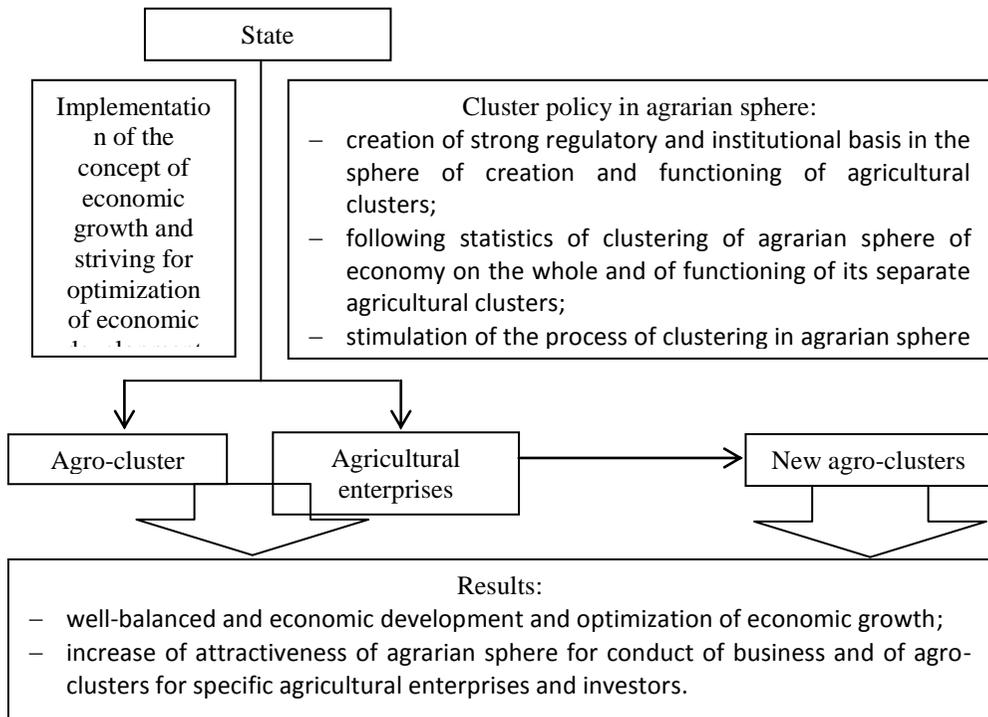
The following are the recommendations for improvement of the process of development and conduct of cluster policy in agrarian sphere within realization of the concept of economic growth by the example of modern Russia:

- creation of reliable regulatory and institutional basis in the sphere of creation and functioning of agricultural clusters – setting the simple and clear rules of the game in the sphere of clustering and the accessible and reliable supporting institutes will create stimuli for establishment of agricultural clusters;
- following the statistics of clustering of agrarian sphere of economy on the whole and of the functioning of specific agricultural clusters – this will allow tracking results of clustering of agrarian sphere of economy and conduct monitoring of activities of agricultural clusters, show the effectiveness of clustering, and motivate them for creation of new agricultural clusters;
- stimulation of the process of clustering in agrarian sphere – provision to agricultural clusters of preferences regarding other agricultural enterprises in

the form of tax subsidies, access to cheap credits, and leasing resources will also stimulate agricultural clusters to participate in the process of clustering.

As realization of the given recommendations, this research offers proprietary model of implementation of the concept of economic growth on the basis of conduct of cluster policy in agrarian sphere (Fig. 2).

Figure 2. Model of implementation of the concept of economic growth on the basis of conduct of cluster policy in agrarian sphere



As is seen from Fig. 2, conduct of cluster policy in agrarian sphere corresponds to purposes of realization of the concept of economic growth and stipulates formation of new and development of existing agricultural clusters, as well as ensures the well-balanced economic development, optimization of economic growth, and increase of attractiveness of agrarian sphere for conduct of business and agricultural clusters for specific agricultural enterprises and investors.

4. Conclusion

Thus, the results of the conducted research allowed proving the offered hypothesis and achieving the set goal. Expedience of the conduct of cluster policy in agrarian sphere within implementation of the concept of economic growth is confirmed by the example of modern Russia. The conducted research makes a significant contribution into development of the concept of economic growth by means of reconsideration of quality of growth and development of the Pyramid of optimal economic growth.

Taking into account that agriculture constitutes the core of the Pyramid of optimal economic growth, agrarian sphere of economy deserves increased attention. As the Russian economy is dominated by service sphere with significant development of industry, it is necessary to develop agrarian sphere in order to achieve balance and harmony.

The developed model of implementation of the concept of economic growth by the example of conduct of cluster policy in agrarian sphere shows advantages of the offered recommendations. However, its theoretical nature and generalization of recommendations are limitations of the results of the conducted research.

As a direction of further research in the sphere of development of the concept of economic growth and improvement of the policy of clustering in agrarian sphere, it is possible to offer practical realization of the offered model for the purpose of experimental verification of its effectiveness.

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