



Agro-town Development as a Technology of Life Support and Socio-economic Policy of the Country

Victoria V. Prokhorova¹, Elena N. Zakharova^{2*}, Alexandr V. Gladilin³, Alexey S. Molchan⁴

¹Kuban State Technological University, Krasnodar, Russia, ²Adyghe State University, Maykop, Russia, ³North-Caucasus Federal University, Stavropol, Russia, ⁴Kuban State Technological University, Krasnodar, Russia. *Email: zahar-e@yandex.ru

ABSTRACT

The paper suggests an idea of agro-town (agro-territory) development in Russia be considered and a tendency of development of successful projects in this sphere be analyzed. The material uses such definitions as "agro-town," "agro-territory," "infrastructure," "agro-industrial complex." When investigating the issues concerning agro-town formation and development it is important to draw on experience of foreign countries. Creation and promotion of the project "agro-town" demands capture of young researches scientific being on agrarian technical colleges, theorists and practitioners of agribusiness and also corroboration of statutory instrument base state support. Agro-business development is an important condition for life support in the country. Agro-towns are one of the priorities of agro-business investment appeal (agro-industrial complex).

Keywords: Agro-town, Agro-industrial Complex, Socio-economic Appeal, Competitiveness, Innovative Projects of Agriculture Development

JEL Classifications: Q01, Q18, Q28

1. INTRODUCTION

Success of an idea to develop an agro-town consists in such peculiarities of Russia as geographical, climatic, political, and other ones. Also the concept "agro-town" possesses important issues concerning additional workplaces, national product growth, activation of development of the scientific and technical base for agro-business realization. All of these are connected with the need for urgent social and economic issues to be solved.

The material describes technologies of agro-industrial territory, agro-town, and new social and economic development of the country.

The research goal is to analyze tendencies of agro-town development in Russia and also to form indicators of agro-territory infrastructure development stability. The research tasks are to analyze materials, to study the concept "agro-town" theoretically, to research foreign experience of agro-territory development and modernization, to analyze advanced experience of the infrastructure formation of the Russian projects-agro-town.

2. MATERIALS AND METHODS

Monographs of the Russian authors, research publications, researchers' papers in the field of agro-business, issues concerning agro-town territory modernization present the methodological and theoretical base. Works of such Russian and foreign researchers as Abalkin (2000), Yu.L. Baikin, Blednykh (2009), Stepanov (2014; 2013), T.N. Medvedev, Motrevich (2008), Novikov (2004), Nosova (2008), Savchenko (2013), F.A. Sychev, and others formed the research basis in the field of agro-town territory development stability.

3. DISCUSSION

The modern agrarian reform lasts already about a quarter of the century and have not still bring great results. In this regard, there is the question concerning research of alternative measures to a private rural agricultural producer. It should be noticed that the country of the former USSR of Belarus, as compared to Russia, that is not comparable on scales, does not put an emphasis on agriculture fermirization. There the projects of construction more

than two thousand rural settlements are carried out. This way is insufficient for Russia.

Today it is paid special attention to agriculture development and its organization. The future of countries and their people depends on solution of the agrarian question. Russia offers numerous ways for agribusiness development in the state. The projects based on borrowed technologies therefore having no prospects for development and considering no peculiarities of the country are generally offered. Some of them will be now considered.

4. COURSE ON URBANIZATION OF THE COUNTRY, WAYS OF SOLUTION IN FAVOR OF THE VILLAGE

The process of urbanization and also natural losses of population from rural areas in Russia increases (Figure 1). In our country about 35% employees in the sphere of natural economy are occupied in the agro-industrial sphere. In this sphere there are more than a quarter of business assets and about 15% of gross domestic product are created (Iokhin, 2005). Agriculture is capable to consume a large number of cars and agricultural machinery made in Russia that promotes metallurgical production development in the country avoiding the purchase of foreign equipment. Agriculture poorly depends on fluctuations of business cycles because of low elasticity of demand for output. At the same time it is the least developed branch of the Russian economy. One of the problems of this sector is increasing population outflow from villages to cities. Economic and social degradation of agricultural territories proceeds.

The crisis has showed insolvency of the Russian economy that is based on development only of raw opportunities. Countries where a considerable part of population is engaged in production of essential commodities were affected less than others.

In Russia, owing to climatic conditions they were only food products and medicaments but also residential property, communal infrastructure, transport, social services, and so on. Therefore, these branches must be improved to boost the economy. Because the future of Russia is in effective application of renewable natural resources. But the main thing is that it will cause further development of the territories of Russia good for effective land use that will provide uniform population density and integrity of the state will connect the East and the West of our country.

Migration of young specialists to cities and population loss lead to the decreasing level of agricultural output, the lack of investment raising and, as a result, unprofitability of the sphere. Unattractive rural way of life is caused by:

1. Adverse economic conditions-low salaries
2. Impossibility of solution of housing problems
3. Obsolete technical base
4. Decadent infrastructure, and so on.

A number of these negative aspects do not promote full development the agricultural branch. An agro-town can be the main

structural link “village-city” (Oleinikova et al. 2016; Oleinikova et al., 2016). Such territories will be suitable for effective environmental management and life. To make such territories attractive it is necessary to construct schools, kindergartens, hospitals, communications to adjust transport performance, to provide with the developed infrastructure, residential property, sports grounds, museums, theaters, and to create all favorable conditions for the inflow of young specialists from cities. Schematically an idea of an agro-town can be considered on the example of Figure 2.

5. DEFINITION OF “AGRO-TOWN” AND ITS ECONOMIC JUSTIFICATION

According to Sharipov (2012), an agro-town is a large territorial unit that possesses:

- Individual grounds corresponding to the average area of a private farm in Russia (about 100 hectares) or by smaller area. An inhabitant of an agro-town can unite several individual territories into a unified farm proceeding from the requirements of business
- The infrastructure (characteristic for modern dormitory districts in large cities) for comfortable life support and social environment within the city: Polyclinics and hospitals, schools and kindergartens, police and fire protection departments, shops, cafes and restaurants and other infrastructure objects
- The infrastructure for storage, primary operation and sale of agricultural commodities.

As the production infrastructure will be available for all users, unit costs of each agro-producer for its upkeep will be low. It is a peculiarity of agro-towns as distinguished from the modern Russian village where development of the unified infrastructure of sale and storage is impossible owing to a disperse nature of its location in the country (Medvedeva and Sycheva, 2013).

Figure 1: Ratio of Russian population

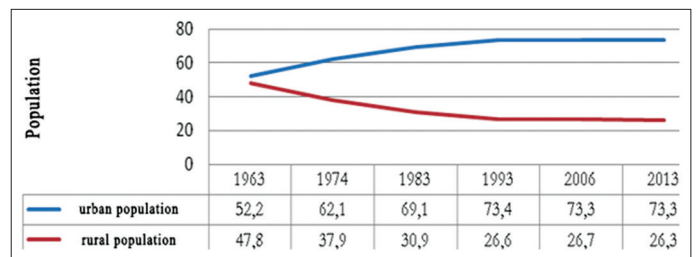
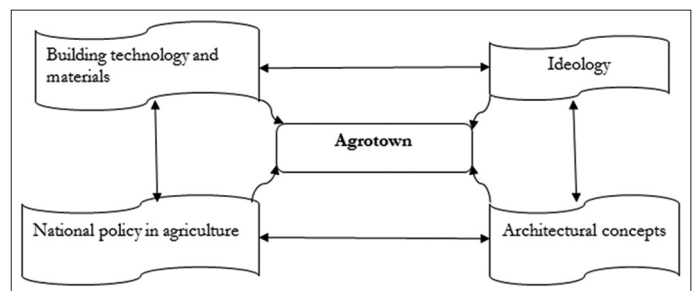


Figure 2: Main components of agro-town development



The state takes responsibility for necessary infrastructure facilities for a chosen territory (adjustment of the gas pipeline, roads, supply with power, capacities for storage and primary operation of agricultural output) and development of standard projects for small or medium enterprise development. Thus, the construction of houses is not supported by the state that saves considerable budgetary funds.

A person who decided to participate in the project receives for temporary use (the term depends on a region) the land plot with underpinned communications, the model project (several projects are provided at choice, for example, meat or dairy farming or an object in the field of ecotourism) and the loan in the Rosselkhozbank for its realization (a complex of constructions made by the model project is security for the loan). A plot of land passes into the ownership of a new resident in case of successful functioning of the enterprise and full repayment of obligations after the rent term.

Agro-town settlement will become one of the solutions of the problem concerning provision of employment and housing to national servicemen, reserved men, and the housing certificate can become payment for the loan.

People being greatly motivated by their development self-realization probably will be the first immigrants as they will not be elbowed aside by the lack of the city infrastructure (Borodacheva et al. 2016). The problem concerning employment in the conditions of crisis will be partially solved thanks to increased number of workplaces mostly in agriculture and corresponding branches developing in new cities.

One of the advantages of an agro-town is solution of the problem of sale of agricultural products at the fair prices which at the moment cannot be fixed due to the lack of relevant institutes (integrity of buyers, informational transparency of the market). The fair price of products in this case is defined at the agro-exchange house that is created along with an agro-town. The mechanism of its functioning is as follows: A number of centers accumulating data on remaining products and obtaining products which meet the requirements of the exchange house are formed in the city. The exchange house carries on the reception of traders' demands and makes deals. Development of the exchange market can stimulate the market of commodity derivatives subsequently (development of the market of derivative financial instruments began with grain futures).

An agro-town is a residential place supplied with a function of food and life support determined by functionally production agricultural products, an idea of urban environment with all characteristics of the city, its process which is economically thought and culturally equipped is the cornerstone (CyberLeninka scientific library).

A modern agro-town has to include (development of research, creative and innovative activity of young people, 2012):

- Inhabited objects in an environmentally friendly zone
- The social infrastructure characteristic for modern dormitory areas of cities

- Individual plots of land corresponding to the average area of a farm in Russia
- The production infrastructure on processing of agricultural raw materials and production of goods with a high added value
- The infrastructure of storage and sale of agricultural products.

Such agro-towns become especially interesting in present social and economic conditions. Growing cost of foreign currency and, as a result, increasing prices for import goods, imposition of sanctions for import and export of products from and to the territory of our country, creates favorable conditions for development of new forms of agricultural activity, and also support of development of new agro-industrial complexes and innovative approaches (Ksenofontov et al. 2016).

An agro-town will support to national economy, making goods and thus using technology of the Russian production and introducing a ready-made product to the market with worthy quality cultivating attachment and trust to its own product in potential consumers. The main advantage of an agro-town is solution of the problem of sale of agricultural products on reasonable prices which at the moment cannot be fixed due to the lack of relevant institutes (integrity of buyers, transparency of the market). The fair price in this case is defined at the agro-exchange house which is created along with an agro-town.

Within the territory of Russia agro-town development on land awaiting settlements of the country along constructed power lines, federal roads are urgent. It is also important to assign rivers, forests, reservoirs and so forth. Proceeding from a climatic landscape own cultures must be put up. Such distribution will give uniform resettlement of population and rational use of natural resources.

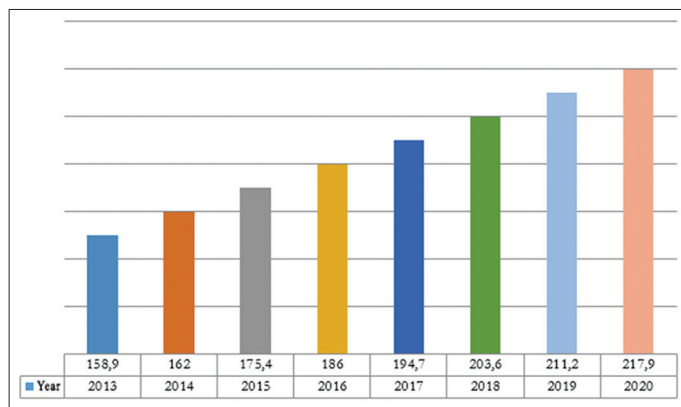
For the first time an idea of an agro-town was nourished in the USSR by N.S. Khrushchev having suggested to develop cities where there will be multi-story type houses in the center, and arable lands, haymaking's, pastures, and so on will be concentrated around. Then, so large-scale project was not realized because of shortage of budgetary funds.

Positive experience of agro-town development in Russia is presented by cluster projects. Cluster projects are supported by the state, public and private financing. The state consciously wends the way of development of depressive regions of the country attracting investors, providing the region, first of all, with the infrastructure, the developed engineering network and also recommends local administration to create tax privileges. Funds for agro-town development are also allocated from the federal budget (Figure 3).

All agro-towns can be divided into several types which the authors describe in Table 1 (Ministry of Transport of the Russian Federation, 2016).

Agro-town development is reasonable in that situation which Russia experiences today:

- Recent accession to the World Trade Organization
- Imposition of sanctions
- Aggravation of the international situation

Figure 3: Financing of the state program of agriculture development**Table 1: Types of agro-towns in Russia**

Based on location	Based on a type	Regional centres
The territories of the Far East	Agro-towns near sales markets of large urban agglomerations	To develop the infrastructure in existing promising regional centres
The territories of the East Siberia		
Abandoned villages in Central Russia		

- Increased exchange rate
- Increased import goods prices, and so on.

In such conditions Russian attention is paid to increasing power of own production and import substitution. Experts offer a set of solutions including agro-towns. By an agro-town is understood the organized system of accommodation with good communications and conditions favorable for life.

Research of the project of agro-towns is urgent because Russia is in food security not in full because of imperfection of the agro-industrial complex. Since 6 August 2014 Russia has refused delivery of a large number of food from the USA and the European Union (Decree of the President of the Russian Federation “On application of separate special economic measures for security of the Russian Federation,” 2014). In these conditions development of national projects on maintenance and development of the agro-industrial complex, which will meet the needs of the country fully, is reasonable, and will also make profit to the state (Kobersy et al., 2016).

Crisis in the agro-industrial complex is aggravated by the fact that investments to the city and village are absolutely asymmetric, thereby undermining own agricultural power. It is possible to point out the following basic approaches to agro-town development:

1. Ensuring full agro-production industrialization, use of the newest equipment and production, application of innovations
2. Agro-town development with a social platform where there are no borders between city and rural life at all levels of a social and economic acumen
3. To avoid using pesticides, genetically modified organism, DDT in production

4. “Polite” interaction of a producer with environment by using a humanistic approach.

Modern technologies give a chance to solve a number of problems due to use of the newest means and methods of problem overcoming such as application of fast-built buildings and constructions of a cottage type allows to provide economy almost by half on housing construction in rural areas. Thus, the main problem is not construction of the building, but formation of the necessary communal infrastructure: Electro-gas supply, sewerage, communication systems, and so forth. In this case effective realization of the mechanism of private and state partnership where housing construction is carried out at the expense of means of commercial organizations or individuals, and formation of the communal infrastructure is conducted at the expense of state resources is possible. This approach will allow greatly to reduce estimated cost of ready housing and to involve young specialists to rural areas from the city.

Saratov Region is the most important subject of food security of the country. Economic forecasts of development of this region are based on its value which it played earlier, and also on its prospects. Saratov Region has offered division into seven specializing areas which can become forward, “pioneer” agro-towns of Russia.

6. RUSSIAN EXPERIENCE OF AGRO-TOWN DEVELOPMENT

Only one of the territories of Saratov Region, Hvalynsky, on the basis of revival of the state farms which were in the territory of the Soviet Union will provide not only its region, but also considerable part of our country with agricultural products. Much attention of offered initiatives of the Saratov region is aimed at development of areas and their further integration into the all-Russian economy considering the features of regions, their specifics and opportunities. The same concerns Kurgan, Chelyabinsk, and Perm Regions, the Areas of Siberia and the Far East.

The project “Complex Development of Lower Angara Region” is a successful example. The purpose of such project is to strength industrial capacity of territories in the east of the country (Lower Angara Region) on the basis of construction and development of the transport and power infrastructure, exploitation of natural resources and active construction of industrial facilities. The total cost of the project is 173,757 million rubles for 1 January 2006 and 213,915 million rubles for 1 January 2015 (financial analytics magazine, 2016). This large-scale project based on the public-private partnership mechanism will allow to diversify economy of the whole Eastern Siberia (Far East Federal District) and will become a new point of the growth.

Experts’ estimates show that mastering only an agricultural part of the program will allow to have more than 20 million cattle heads, the same number of pigs, more than 40 million heads of goats and sheep in the East regions of Russia, to make more than 50 million tons of grain, 15 million tons of milk, meat processing on a commercial scale will reach 2 million tons per year. In addition

the East regions of the Russian map will be added by about 400-500 new settlements, on average 15-20 per region. Development of effective environmental management which is connected with development of the plots of land of the East regions of the country can and has to become the program of development of the whole Russia (financial analytics magazine, 2016).

Looking into the foreseeable future, economists and politicians, and also landowners of our country have chosen a course agro-town and technology park symbiosis development in the territory of Bakhchysarai Area of the Crimean Peninsula. The is the main idea of delivery of food and consumer goods (Our Village Council newspaper).

According to experts, the project gains special relevance because of intense relations with the West, the country imposes response food sanctions, therefore, the Republic of Crimea seeks ways of its own food security. There is great interest of Russia to environmentally friendly products. Except grapes, traditional for the peninsula, in the territory of the Crimea it is possible to make and grow up almost all products, and their prime cost will be lower than the average one in Russia.

For today in the territory of the Bakhchysarai Area the organization of an agro-town takes hundred hectares, fish farm development will be the priority direction which refuse will be applied to soil fertilizer and providing by that a continuous cycle of management.

Stable development of rural territories is connected with creation of living conditions which are most approached to city ones in the village. In this regard, development of the social infrastructure is of great importance. Creation of conditions for stable development of rural territories is one of the most important strategic objectives of the state policy which achievement will allow to ensure food security, to increase competitiveness of the Russian economy and citizens' wellbeing. A basis for realization of actions for increased stability of social and economic development in the village is the Concept of Stable Development of Rural Territories in the Russian Federation for the period till 2020. A considerable part of rural settlements is characterized by household disorder. Many of them have no systems of central heating, sewerage, constant road message meeting the modern requirements. Educational institutions located in rural areas make a considerable part of all educational institutions of the area. Now the rural school in many respects defines whether a concrete settlement has the future. Stability of development of rural settlements and in general the sphere of the agro-industrial complex depends on the existence of school and a condition of education in the village.

The main direction of development of the health system in rural areas is real decrease in the incidence of a disease of population by means of improvement of the quality and availability of medical services. Realization of this objective is provided by improvement of access to medical services for residents of the village, activation of actions aimed at healthy lifestyle. Thus, there is a need for deep analysis of the issues concerning increasing stability of development of the social infrastructure in rural territories. Agro-town development in Russia is a great example.

7. CONCLUSION

The present condition of the social sphere of rural areas does not allow to meet the requirements of country people at the city level. The mechanism of public and private partnership allowing to solve a number of important problems in rural areas is urgent, thus, the state solves social problems and preserves settlements, and non-state companies receive qualified employees who are necessary for hi-tech farming that then provides stable profit markup and gives a chance to compete with foreign organizations on equal terms. Stable development of the social infrastructure in rural territories represents the process of improvement of the quality of life of country people with the competitive level of development of trade service, sporting venues, development of road and transport and housing and communal services, cultural and leisure establishments, hospitals, educational institutions on the basis of realization of the mechanism of public and private partnership. Here it is worth to rely on the world and domestic experience of stable development of rural territories which will allow to reveal the following trends: Implementation of joint public and private projects, support of nonagricultural types of employment of country people on the basis of agro-towns in rural areas under the terms of life as in the city, development of distribution networks in the village, and also integration of educational and medical institutions.

To sum up, it is possible to note that a fundamental factor for support of social and economic development of rural territories of Russia which are based on creation of the conditions in rural areas are the conditions as in the city, development of the transport, trade and household, housing, sports infrastructure, the system of health protection, and the conditions for involvement of business representatives to work in the village. Realization of offered actions will allow to increase prestigious of rural areas for young specialists greatly, to reduce intensive migration of country people to the city, and to create the necessary conditions for promotion the area with labor sources of agricultural enterprises.

REFERENCES

- Abalkin, L. (2000), Russian School of Economic Thought: Self-determination Search. Moscow: Unity.
- Blednykh, M. (2009), Will agro-towns save Russia? Rural new. Available from: <http://www.novsel.ru/news/full.php?nid=48>. [Last retrieved on 2016 Apr 11].
- Borodacheva, L.V., Goloborodov, A.F., Guseva, A.I., Drozdova, A.A., Glyzina, M.P. (2016), The impact of the global financial crisis on the banking system of Russia. International Journal of Economics and Financial Issues, 6(1S), 306-311.
- Cyber Leninka Scientific Library. Available from: <http://www.agro-town-kak-odin-iz-putey-razvitiya-selskohozyaystvennogo-proizvodstva-rossii>. [Last retrieved on 2016 Jul 11].
- Decree of the President of the Russian Federation. On application of separate special economic measures for security of the Russian Federation. (2014), Russian Newspaper.
- Development of Research, Creative and Innovative Activity of Young People. (2012), In: IV All-Russian Research-to-practice Online Conference of Young Scientists. Kurgan. p112.
- Financial Analytics Magazine. (2016), Available from: <http://www.finanal>.

- ru/004/page=0,1. [Last retrieved on 2016 Apr 08].
- Financial Analytics Magazine. (2016), Available from: <http://www.finanal.ru/node/3899>. [Last retrieved on 2016 Apr 09].
- Iokhin, V. (2005), Economic Theory Textbook. Moscow: Yurist.
- Kobersy, I.S., Khasiyeva, L.G., Yakhina, V.D., Ignatyeva, O.V., Goloshchapova, L.V., Shkurkin, D.V., Sadykova, L.R. (2016), Approaches to implementation of motivation as the complex conditions of increase of efficiency of social and labor relations: International experience. *International Review of Management and Marketing*, 6(1), 208-217.
- Ksenofontov, A.S., Savon, I.V., Serba, V.Y., Shkurkin, D.V. (2016), Basics of modeling the probability of corporate borrowers' default. *International Journal of Economics and Financial Issues*, 6(1S), 14-18.
- Medvedeva, T., Sycheva, F. (2013), Agrarian reforms in Russian agriculture in the XX-XXI centuries. *Agrarian Bulletin of the Urals*, 10(116), 87-90.
- Ministry of Transport of the Russian Federation. (2016), Available from: http://www.roszeldor.ru/invest_project/in_pr_priangar. [Last retrieved on 2016 Apr 11].
- Motrevich, V. (2008), Issues concerning social and economic history of the Urals. *Selected papers and speeches* (p. 492). Yekaterinburg: USAU.
- Nosova, S. (2008), Economic theory. Textbook for Higher Education Institutions. Moscow: Vlados.
- Novikov, V. (2004), Course of Lectures on the Economic Theory. Saint Petersburg: Piter.
- Oleinikova, S.A., Kravets, O.J., Silnov, D.S. (2016), Analytical estimates for the expectation of the beta distribution on the basis of the known values of the variance and mode. *Information (Japan)*, 19(2), 343-351.
- Oleinikova, S.A., Kravets, O.Y., Zolotukhina, E.B., Shkurkin, D.V., Kobersy, I.S., Shadrina, V.V. (2016), Mathematical and software of the distributed computing system work planning on the multiagent approach basis. *International Journal of Applied Engineering Research*, 11(4), 2872-2878.
- Our Village Council Newspaper. Available from: <http://www.novsel.ru/news/full.php?nid=48>. [Last retrieved on 2016 Apr 11].
- Savchenko, V. (2013), Mechanisms of development of small cities in the regions of North Caucasus Federal District. *Modern problems of science and education. Economic Sciences*, 6, 11-18.
- Sharipov, M. (2012), Development of depressive regions. *Economy and Management of Innovative Technologies*, 5. Available from: <http://www.ekonomika.snauka.ru/2012/05/803>.
- Stepanov, V. (2013), State farms of the Urals in domestic historiography. *Agrarian Bulletin of the Urals*, 9(115), 61-65.
- Stepanov, V. (2014), Innovative Project of Development of Rural Economy-agro-town. In: *X Research-to-practice Conference*. Prague: Chakona. p47-52.