Development models of rural areas: theoretical approaches and formation specificity

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Abstract. The paper gives a scientific idea of rural areas’ development models. The critical analysis of both theoretical approaches towards the perspective models of rural areas’ development and their various scenarios is given. The territorial disproportion of rural areas’ development conditioned by the long-term dominance of the national rural areas’ development model are identified. Based on the outcome of both domestic and foreign practice, the article gives a survey that shows certain ways of how to modernize and correct the rural areas’ development model. Analyzing the theoretical aspect of rural areas’ steady development, the correlation between a variety of rural economy structure and multifunctional character of rural areas is found out which necessitates the diversification of rural economy by means of different businesses stimulation. It’s proved that rural economy is a complex socioeconomic system and its diversification is conditioned by object-subject interconnection. The authors define the structure of diversified rural economy capable of mobilizing the areas’ available resources and accumulating their major spheres and businesses: agricultural (traditional and lost); non-agricultural (industry and construction, forestry, folk craft and handicrafts; service industry (education, health care system, recreation, service occupation). On the basis of the three-pronged approach - “function-structure-target”- the model of rural areas’ diversified economy which has either some predominant industry or combination of different industries is worked out. The perspective directions of restructuring rural areas’ economy based on expert assessment are also defined in the article.

1. Introduction

The modern state of social and economic environment of rural areas in Russia is characterized by a lot of accumulated problems that impede transition to the steady development which can be accounted, to some extent, for the crucial breakdown of the domestic rural areas’ development model which happened in the previous century as a result of the economic paradigm transformation in an agrarian sphere. Nowadays, there is a great deal of reason to state that a new reality is coming with its agriculture that successfully provides food security for the domestic economy on the one hand, and that inevitably loses both its connection with a rural way of life and its influence on the state of rural areas. Rural unemployment level is high (more than 50 applicants for an individual working place in agricultural
business) and young people, as a consequence, leave for cities. By and large rural citizens just “live a life” not being employed. It is obvious that the existing model of rural areas’ development is imperfect and is equate with inefficient industry model of rural development. That’s why many Russian researches on vital agrarian problems [1-5] including ours [6,7], are devoted to the issues of well-balanced spatial and industrial development of rural areas and to the working-out of models that can objectively reflect the specificity of rural areas’ economy and contribute to its structural upgrade.

Despite the fact that the study of Russia’s agriculture and rural areas’ development is of special topical interest, there has been a recent trend among developed countries towards achieving the steadiness of rural areas’ development. This generalization is supported by the researches done by the foreign economists [8-10] who raise the issues of working out the policy of rural areas’ “smart” development which is aimed at levelling the disproportions in their development, at setting up technologically new and economically efficient agribusinesses. In this context, it is a differentiating approach towards working out rural areas’ steady development models considering the specificity of agribusinesses together with their social infrastructure level and environmental comfortability that is of great importance for both domestic and foreign practices. In this connection, the purpose of the article is to give a scientific idea of perspective rural areas’ development models considering both multifunctionality and variety of rural areas’ economic structure.

2. Methods
To make both theoretical propositions and practical conclusions well-grounded, certain logical methods and models were implemented (induction, deduction, abduction; hypothetic- deductive and deductive-nomological models) as well as general scientific methods.

While conducting the analysis, certain specific methodological means of economic working-outs were used. The selection of the most essential diversification directions of rural economy was made via the method of expert assessment. On the basis of the questionnaire outcome, 93 experts of the Voronezh region’s municipal authorities revealed the impact and importance of different kinds of businesses for rural areas’ development (43 directions) by 100-point grading scale: 100 – the most important, 75 – important, 50 – less important, 25 – hardly important, 0 – of no importance at all, then the results were grouped into 4 directions of rural areas’ further economic development.

3. Outcome

3.1. The basic models of rural development
Social and economic systems’ modelling is a critically important instrument that enables the understanding of the real objects’ essence, the identification of some patterns and the working out of development scenarios connected with doing an experiment. Provided that any model is viewed as a simplified image of reality allowing to single out the core essence in a compressed compact form, the rural development models can be divided into 2 types according to their targets: 1 – those that will reflect the reality shaped under the influence of market laws and patterns (positive models) and 2 – models that will be basic instruments of the authorities’ managerial influence (normative models).

Models of cause-and-effect relationship that reflect different social and economic processes of rural areas can be called models of a positive type. They are presented in their classic form in the works of A Granberg [11], G Myrdal [12], A Lesh [13], T Högerstrand [14], F Perrue [15], M Porter [16], that are focused on the idea of spatial development. Mainly these are models of interaction between the centre and the periphery; models that align the displacement subsystem and the system of rural areas; models of development axes and cluster models.

Models that represent the desirable condition of socioeconomic system and the combination of corresponding actions can be referred to normative ones. F Mantino [17] presents detailed characteristics of such models and their holistic classification in line with 3 frameworks of rural areas’ development. The basis of the industry model is a framework that “identifies rural development with general modernization of agricultural and agroindustrial complex” which prioritizes the significance of an
agrarian sector of economy. Meanwhile an agrarian policy is directed towards investments stimulation into agroindustrial businesses development and direct support of commodity producers’ earnings. The redistributive model is based on the conception of differentiation gap reduction between depressed and developed rural areas by means of supporting redistribution financially via direct amends that neutralize adverse effects together with giving grants on structural transformation of rural economy. The budget support mainly is limited to compensation payments to depressed rural areas, to an increase of investments into the development of agroindustrial businesses in order to diversify profit sources. The territorial model is guided by a framework of rural development which is directly connected with the complex usage of a diverse resource potential with production integration on a local level. The budget support is directed to the boosting of earnings diversification from agroindustrial businesses and to the development of non-agricultural businesses, infrastructure and service industry for the rural population. This model presumes multidimensional nature of rural areas due to their multifunctionality, heterogeneity and the necessity to reduce the diversification gap.

The above mentioned models of rural areas’ development based on the EU practice generalization were used in Russia in order to articulate foreign experience [18,19]. Kovalenko E.G. and et al show that these basic models prevailed in agrarian policy of the Western Europe and the EU countries in 1950-1950, 1970-1980 and 1990-2000 [20].

3.2. National model of rural development

The present-day model of Russia’s rural development is based on the idea of simultaneous functioning of 4 major agricultural modes: big agricultural holdings of a vertical type; businesses with various organizational and legal foundations; farmers’ households and individual households based on different types of economies (market, distributive and reciprocal).

Z I Kalugina [1] specifies the following distinguishing features of the Russian model: industries coexistence of various agricultural, technological and institutional modes; rural areas that vividly differ from one another in their social and economic development; the resistance of the key agricultural industries to innovations; the structural aggravation of human capital; the proliferation of informal economic relations; the controversy of implementing agrarian policy; the absence of coordinating instruments directed towards the interests protection of major agricultural entities.

L A Ovchintseva [21], analyzing the key features of the agricultural development model carried by the state according to 6 groups of indices proposed by F Mantino [17], comes to the conclusion that this model is sectoral including “along with the other measures, the development of infrastructure elements aimed at creating first and foremost favourable conditions for the life of agricultural producers”. Besides, the author points out that the given model meets the urgent demands of the country’s agroindustrial complex, but “differs from the generally implemented policy of Russia’s agricultural development and can’t be characterized as sustainable”. Within the innovation and modernization framework of the state economic stimulation, this model is likely to aggravate further social and economic discrepancy between urban and rural areas as well as within different types of rural areas.

Despite the fact that existing problems of agriculture rural areas’ development in the Russian Federation are officially recognized by the state and stipulated in legal acts that detail objectives, tasks and means of the state support, the current model of agricultural development doesn’t meet global challenges and risks, neglects the needs of the rural population and therefore can be characterized as imperfect. First of all it is conditioned by the state’s multidirectional agrarian policy strategic goals defined by Federal Law No. 264 “On agriculture development: the provision of food security and steady development of rural areas. According to the management theory propositions, strategic goals are considered to be complementary but in practice they are competing and even conflicting ones, which can be accounted for those funds that federal and regional budgets provide [21]. Thus, in 2013-2020 93.6 % of federal funds were allocated to maintain food security and only 6.4 % were intended for sustainable development of rural areas. Not taking into consideration budget financing it is vivid that the goals of agrarian policy contravene the ways how rural areas are used, how land resources are allocated and how state support is prioritized. (Table 1).
Table 1 Contradictions in key strategic goals of the state’s agrarian policy

| Ways of achievement | Agrarian policy goals of the state |
|----------------------|-----------------------------------|
|                      | Food security maintenance          | Rural areas’ sustainable development maintenance |
| Budget financing     | Prioritized                        | By a leftover principle |
| Rural areas’ usage   | For making profit                  | For rural lifestyle maintenance |
| Land resources allocation | Major concentration in agroholdings | Land resources’ dispersal among businesses |
| Prioritized businesses support | Enhanced support of agroholdings’ development | Small businesses support |

Today agriculture as an economic sector and the main donor of rural areas is losing its leading position and is no longer a strong incentive for rural development. The national economy’s agrarian sector has been dynamically developing over the last 5-10 years, and some indices of food security have increased in Russia, some of them have even exceeded. Meanwhile food production is moving into larger holdings whose operation interferes with the process of rural areas’ development (competition in land resources, budget funding, workplaces, etc.). Only 35.0% of rural population consider their lives and work connected with agriculture, which leads to a decrease in a number of those engaged in agriculture despite the fact that the share of the rural population remains approximately unchanged (26.0 %). Besides, agroholdings development heats up social tension in rural areas.

3.3. Perspective models of rural development

The analysis of foreign and domestic models has necessitated the transition to a model that could stimulate not only the production capacity increase but also high standard of living in rural areas as well as stability in number of rural population and labor force. At present many researches are focused on establishing perspective approaches and parameters of rural areas’ development models that can harmonize the interests of both agricultural production and rural areas of the RF as a whole.

Some scientists see the solution to this problem in working out rural development models theory based on differences between technological ways of production: A A Anfinogentova [22], I N Buzdalov [23], E E Chayanov [24], S Ella, R N Andari [25], L Naldi, P Nilssonb, H Westlund, S Wixe [8], T Marsden, R Sonnino [26] etc.

A number of researchers focus their special attention on the key aspects of agricultural development - as the fundamentals of agricultural policy: V M Bautin [27], P M Pershukevich [3], A V Petrikov [28], A F Serkov, I G Ushachev [29] etc.

Others scientists, such as R H Adukov [30], Z I Kalugina [4], E G Kovalenko [21], A I Kostyaev [5], V A Kundius [32], L A Ovchintseva [21], N Ward, P Lowe, T Bridges [10], etc., within the framework of the agrarian policy put special emphasis on the complex development of rural areas due to their multipurpose nature that can boost economic development of agricultural industries, expand human reproduction, improve living standards and the environmental state.

Z I Kalugina [1,4] has articulated certain fundamentals of the perspective model of Russia’s rural development: making no use of the universal model for managing both agriculture and rural areas; making use of an integrated approach towards the development of rural economy, rural areas and human capital as the system constituents of rural development; accepting the paradigm of agricultural development based on the transition from state paternalism to self-development with the help of internal resources and well-balanced partnership between the state, business and population.

E G Kovalenko’s model of agricultural development [20, 31], assumes a priority role of sustainable development of rural areas by means of social-engineering infrastructure functioning, the improvement
of rural population's living standards, the establishment of an institutional environment and local self-government, the development and diversification of agriculture by small business stimulating, crafts revival, tourism, large-scale development of agricultural cooperation, etc. Therefore we think that the major directions of the state's current model transformation can be the following: the diversification of rural economy, the improvement of living standards in rural areas and the development of local self-government. Consequently the model of diversified rural economy must be based on an environmental approach and take into account rural areas’ peculiar natural, production and resource features.

3.4. Multifunctionality of rural areas – basis of diversified rural economy

A rural area is often examined in the context of its sustainable development which includes a rural community and the territory itself with its conditions and resources together with the totality of its natural facilities, social and economic objects. Within the framework of certain theoretical propositions, one can come to the conclusion that a rural area’s development is steady provided it keeps its existence as long as it can (with objective economic laws not being broken), adjusts to environmental changes by means of its self-transforming (flexibility), efficiently counteracts the environment's aggressive external and internal disturbance (development safety), possesses self-development potential, doesn’t destroy its natural existence (environmentally friendly). Proceeding from all these, rural areas being spatial and territorial units, are treated as a complex socioeconomic system including multifunction and interconnected constituents: social (rural settlements, rural population, social environment and infrastructure), economic (land, production and household, business entities, workforce) and ecological (natural conditions and the environment reproduction) [33]. So the modelling of rural areas’ development has its own specificity as it simultaneously combines not only their economic, but also social, demographic, environmental and other peculiarities.

The significance of rural economy as part of rural areas’ system implementing socioeconomic transformations is directly connected with performing functions. This complex approach towards rural areas accounts for dual contents of "multifunctionality of rural economy". On the one hand, "multifunctionality" conditions performing various functions by rural areas, on the other hand it conditions rural areas’ diversified development. Therefore multifunctionality and a variety of rural areas’ economic structure determine the necessity for its diversification by stimulating various businesses.

3.5. The model of diversified economic development of rural areas

The research performed by the authors has justified the use of the following approaches towards creating a diversified rural development model.

Firstly, nowadays the development of rural areas is not supposed to be monofunctional at the expense of one industry (in most cases agriculture) which cannot be treated as the main source of both employment and earnings of the rural population as well as means of creating resources and providing guarantees for the state.

Secondly, the basis of the suggested model, on the one hand, is the structure of rural areas’ economy together with their multifunctionality, and on the other hand the diversification level that characterizes both the real state of the development potential and a possibility of introducing new businesses in rural areas.

Thirdly, the social sphere affects labor reproduction and has the considerable diversification potential for new types of economic activities' development involved in the system of social services aimed at satisfying needs of the rural population.

Fourthly, diversification doesn’t only stimulate economic development, but also ensures social development of rural areas in line with the following socially oriented criteria: employment rate of rural population, average monthly salary, standard of living.

The Voronezh region, Russia’s developing region with a high scientific, innovative, educational and economic potential, with 2 urban districts, 30 areas, 445 rural settlements and 1699 rural localities, has
been chosen as an object of modelling. The share of the rural population of the Voronezh region is 33.3%.

The study of rural economy's structure enables to define three groups of business activities: agricultural (traditional and lost); nonagricultural (industry and construction, forestry, crafts and handicraft industry); service occupation (education, health care, recreation, consumer services). Based on the assessment of the existing diversification potential and economic structure of rural areas the model of diversified rural economy of the Voronezh region with both a sector-specific and multi-sector configuration has been developed.

The sector-specific configuration model unites 20 regional areas with not diversified economic structure where agriculture being a key industry is nearly underdeveloped. This configuration type is characterized by a low level of diversification and resource provision, employment rate fluctuates between 15%-30%, salary is 25-37 thousand rubles.

The multi-sector configuration model includes 2 blocks: poorly diversified and diversified structure of economy. The first block embodies 6 areas where agriculture is a key industry (its share makes about 25-35% of the general production), the average monthly salary doesn't exceed 25 thousand rubles. The second block includes 5 areas, 75% of these areas are occupied by agriculture that is less than 30% of the general production. The employment rate is more than 30%, the resource provision is average, the level of average monthly salary is higher than 30 thousand rubles.

The analysis of the sector-specific and multi-sector configuration models of the Voronezh region's rural economy shows that it is possible to draw a conclusion that the multi-sector configuration with diversified rural economy is more efficient as it is based on the rational use of natural resources aimed at an income increase and implementing of various combinations of business activities.

3.6. Diversification directions of rural economy

In order to define the most vital types of business activities for rural economic development the expert assessment has been implemented and it has proved that non-agricultural activities and service industry have a top priority for rural economic development (education, health care, culture, leisure and consumer services). Therefore it is obvious that under modern conditions rural economy needs restructuring that can be provided by its transition to the industries alternative to agriculture. For each block of the suggested model in accordance with the expert assessment the priority development directions of rural economy's diversification have been defined.

Thus, the most perspective development directions for the areas with not diversified rural economy are considered to be traditional agriculture and the development of service industry; crafts, forestry and the lost types of agriculture are referred to as unpromising ones. The expert assessment results have shown that the perspective directions for rural areas with poorly diversified economy are industry and construction, education and health care, recreation. The following industries are likely to develop more efficiently: production of industrial and construction output, timber; processing agricultural products; production of bricks, sledges and carts; hay preparation; woodcarving, production of utensils, toys, felt products; forest renewal. The unpromising directions are thought to be the following: wood procurement of soft resins, minor forest resources, collecting of wild plants and herbs; forest beekeeping. The block with the diversified structure of rural economy is distinguished by completely different outcome: the most perspective directions are industries related to education and health care, recreation; perspective – lost agricultural activities, industry and construction, culture, leisure and consumer services; less promising – traditional agriculture, forestry and crafts; unpromising directions are not defined.

Thus, in all rural areas of the region there are certain prerequisites for the implementation of gradual transition from primarily sector-specific configuration model of rural economy's development to the multi-sector configuration model based on the environmental approach which takes into consideration natural resources' internal potential of rural areas.

4. Discussion
The rural development model suggested by the state with its raw materials dominance and disproportional structure of rural economy makes the country’s agriculture unsustainable during economic crises and noncompetitive in the period of economic growth, which is a debatable issue for many modern researchers. Therefore it is important to provide a gradual transition of the rural areas with diversified development model from primarily sector-specific development model to multi-sector one by means of introducing a maximum full variety of economic forms and businesses. The model practically applied to the Voronezh region has contributed to unbiased assessment of modern structure of rural economy and its diversification potential. It also helps to define alternative industries stimulating rural areas’ development. The research outcome can be used by government bodies in order to work-out a differentiated policy of rural development on the regional level and to adopt correct managerial approaches aimed at rural economic restructuring on the local level. From this perspective of the territories of Russian macroregions classification which is based on sector-specific and multi-sector configuration models of rural economy and featured by a different usage of nature and resource potential and perspectives for economic development has much interest.

5. Conclusion
The study of international practice of rural development models has been carried out in line with the objectives that define the current policy and territorial features. The analysis of Russia’s multi-sector model of rural areas’ development has enabled to disclose its distinguishing features and characteristics and to justify the perspective models of rural development that meet demands of the development of agricultural production and rural areas.

The territorial disproportions of rural areas’ development caused by the long-term dominance of the existing model of rural areas have been revealed: the contradictions of the main strategic objectives of the state agrarian policy; the process of narrowing, differentiation and polarization of rural economic space, the degradation of rural human potential, rural poverty and unemployment, social infrastructure crisis.

The interconnection between the multifunctionality of rural areas and diversified character of economy that embodies agricultural, nonagricultural industries and services sector that contribute to jobs creation and social strain ease has been defined.

The suggested model of the diversified rural economy takes into account the scale of industrial dominance in the structure of industries and their combinations: non-diversified economy makes up more than 50%; poorly diversified economy - one/two industries make up 30 to 45% and the rest have an even development; diversified economy - all industries have an approximately even development.

The perspective directions of economic restructuring of rural areas based on the expert assessment have been justified and their new character aimed at implementing alternative industries has been provided.

References
[1] Kalugina Z I 2010 Vector of post-crisis development of the Russian village Region: Econ. and Social. [Region: Ekonomika i sociologiya – in Russian] 3 115-135
[2] Kostyaev A I, Shepeleva E A, Yurchenko T V 2018 Rural development models: types, options for building (Saint-Petersburg: Publishing house of Saint-Petersburg State University of Economics) p 68
[3] Pershukevich P M, Kharitonov A V 2018 Sustainable development of rural areas of the region based on agglomerations (Tomsk: National Research Tomsk State University) p 312
[4] Kalugina Z I, Fadeeva O P 2011 The Development of Agriculture in the Siberian Communities of Russia Eastern European Countryside 17 55-71
[5] Kostyaev A I 2018 Identification of the Russian model of rural development Economics of Agriculture of Russia [Ekonomika sel'skogo hozяйства Rossii – in Russian] 10 88-103
[6] Merenkova I N 2018 Formation of a territorial model of rural areas based on economic diversification FES: Fin. Ec. [FES: Finance. Economy – in Russian] 9 17-22
[7] Smyslova O Y 2015 Special economic zones of the regional level as a tool for socially oriented development of rural areas FES: Fin. Ec. [FES: Finance. Economy – in Russian] 7 53-56

[8] Naldi L, Nilssonb P, Westlund H, Wixe S 2015 What is smart rural development? J. Rural Studies 40 90-101

[9] Leon Y 2005 Rural development in Europe: a research frontier for agricultural economists Euro. Re. Agr. Econ. 3 301-17.

[10] Ward N, Lowe P, Bridges T 2003 Rural and regional development: the role of the regional development agencies in England Regional Studies 2 201-214

[11] Granberg A G 2000 Basics of regional economics (Moscow: State University Higher School of Economics) p 495

[12] Myrdal G 1972 Modern problems of the “third world”, Asian Drama (Moscow: Progress) p 767

[13] Lesh A 2007 Spatial organization of the economy (Moscow: Nauka) p 663

[14] Högerstrand T 1952 Innovation Forecasting (Moscow: Nauka) p 320

[15] Perrue F 2007 Economic space: theory and applications Spat. econ. 2 77-93

[16] Porter M E 2005 Competition (Moscow: Williams Publishing House) p 608

[17] Mantino F 2010 Rural development in Europe: politics, institutions and actors since the 1970-s up to now (Moscow: FAO) p 272

[18] Boschma R, Capone G 2015 Institutions and diversification: Related versus unrelated diversification in a varieties of capitalism framework Research Policy 44 1902-14.

[19] Sharma R, Khem R 2008 Measuring Economic Diversification in Hawaii. Research and Economic Analysis Division. (Hawaii: Department of Business, Economic Development and Tourism of Hawaii) p 36

[20] Kovalenko E G 2014 Conceptual model of sustainable rural development Standards and quality [Standarty i kachestvo – in Russian] 11 70-73

[21] Ovchintseva L A 2011 Russian rural development policy in the context of European rural development trends Nikon readings 16 200-202

[22] Anfinogentova A A, Yakovenko N A 2011 Theoretical and methodological problems of innovation development of the Russian agricultural and food processing complex Economy of Region [Ekonomika regiona – in Russian] 4 99-109.

[23] Buzdalov I N 2000 Agriculture under the pressure of intersectoral and macroeconomic deformations Economics of Modern Russia [Ekonominicheskaya nauka sovremennoj Rossii – in Russain] 3 28-40

[24] Chayanov A V 1991 Selected Works (Moscow: Finance and Statistics) p 432

[25] Ella S, Andari R N 2018 International Conference on ICT for Smart Society (ICISS 2018) pp 1-6

[26] Marsden T, Sonnino R 2008. Rural development and the regional state: Denying multifunctional agriculture in the UK J. Rural Studies 24 422–431.

[27] Bautin V M, Katkova E A, Dzhikiya M K, Zaruk N F, Ukolova A V 2018 Knowledge management in the system of ensuring the economic security for agricultural organizations Astra Salvensis 4 891-989.

[28] Brooks K, Krylatykh E, Lerman Z, Petrikov A, Uzun V 1996 Agricultural reform in Russia: a view from the farm level World Bank discussion papers. (Washington D.C.: The World Bank) 327

[29] Ushachev I G, Serkov A F, Maslova V V, Chekalin V S 2019 Actual directions of improvement of the agrarian policy of Russia AIC: economics, management 3 4-16

[30] Adukov R K, Adukova A N 2018 Rural territories: new approaches to assessing the potential and development reserves Ec. of Agricult. and Proc. Enterprises 12 10-14

[31] Kovalenko E G, Polushkina T M, Yakimova O Y 2018 Development of rural territories of Russia based on social standards Espacios 36 9

[32] Kundius V A 2011 Cluster approach to realization of innovation development strategy for the agroindustrial complex of the region Economy of Region [Ekonomika regiona – in Russian] 4 126-133
[33] Boschma R, Coenen L, Frenken K, Truffer B 2016 Towards a theory of regional diversification
_Papers in Evolutionary Economic Geography_ pp 16-17