

Model for the development of design solutions in the framework of strategic planning for the development of rural areas

*Aleksey Ruchkin**

Ural state agrarian university, Institute of Economics, Finance and Management, 620075, 42 Karl Liebknecht street, Yekaterinburg, Russia

Abstract. The authors present a model for analyzing the current state of rural areas and developing design solutions for strategic development. Based on the analysis of the methods used in the course of strategic planning, the authors highlight the advantages and disadvantages of the methods of analysis used. The essential characteristics of the model are revealed from the standpoint of strategic planning and actions of local governments. The purpose of the study is to offer a unified model for effective strategic planning for the development of rural areas, which increases the efficiency of local governments. The proposed indicators and steps of step-by-step strategic planning are revealed in a meaningful way, the need to take them into account in strategic planning is substantiated.

1 Introduction

In recent years, the problem of sustainable development of municipalities in general and rural areas as certain guarantors of food security in particular has taken a central place in the policy of strategic and spatial development of states. Public authorities, government agencies and non-governmental organizations, local governments and private companies are equally studying the development of strategic plans for the development of rural areas. Today, most of the public debate on sustainable development is focused on reducing carbon emissions and mitigating climate change, the so-called “climate agenda”, “Carbon agenda”, etc. Much attention is paid to the use of environmentally friendly technologies to help reduce energy consumption and keep air and water clean.

The researchers emphasize that technology is important and will continue to be a key tool for solving many technical problems related to the sustainable development of both individual enterprises and rural areas as a whole. However, sustainability can only be achieved through a holistic and integrated approach. This starts with strategic planning decisions that move on to formulating innovative policies, developing breakthrough projects and then implementing technologies to solve rural problems. Sustainable development includes ensuring economic growth and social well-being without depleting limited natural resources or subjecting them to renewal when possible, for example,

* Corresponding author: alexeyruchkin87@gmail.com

through land reclamation and reclamation. Keeping every tree and bush intact is not sustainable planning, nor is building as many businesses in rural areas as we can call sustainable, even if it creates jobs and income for the population. Sustainable development requires a careful balancing of different needs and different priorities [1]. Within this broad planning framework, a systematic and integrated approach is needed, taking into account the interests of all stakeholders in the development of rural areas, the search for the most effective models and tools for analysis, planning, implementation and control of developed programs and projects.

S.N. Polbitsyn recommends that when forming a strategy for the development of entrepreneurship in rural areas (as part of the development and implementation of the strategy), one should rely on the diamond of M. Porter, taking into account the three-component infrastructure: physical, innovative and informational [2]. T.N. Prizhigalinskaya, offering a conceptual model of the strategic development of a company in the field of agriculture (using the example of poultry farming) and a model for maintaining competitiveness, does not take into account the specifics of the development of the territory (the external environment, for example, in the framework of the PESTEL analysis), except for those factors that also belong to the 5 forces M. Porter [3]. Also, the authors do not consider issues of cooperation and the creation of cluster structures to increase the competitiveness of the enterprise and the development of the territory. In this case, this approach is justified, since the authors did not set the task of considering the integrated development of the agro-industrial complex in the context of the strategic development of the territory, but this demonstrates the vulnerability of the proposed models, since opportunities, limitations and prospects are not taken into account, taking into account the influence of the external environment and potential partners.

A.V. Tebekin, V.S. Petrov, P.A. Tebekin and A.A. Egorova offer a set of methods related to the formation of strategies for the development of economic systems from the standpoint of their maximum adaptation to the conditions of the external environment [4]. In particular, as part of the generalization of the applied methods for developing a strategy, the authors indicate PEST analysis, SWOT analysis, SNW analysis, BKG matrix, McKinsey matrix, calculation of the company's market share, benchmarking, I. Ansoff's matrix of mutual support of strategic business areas, SPACE analysis, the Hofer-Shandel model, and others. These types of analysis are combined depending on the stage of the strategic process: analysis, development, implementation.

Existing studies on the use of SWOT analysis of regional agriculture or rural development are based on statistical data without taking into account the opinion of agricultural producers, their plans for a strategic perspective, potential opportunities to increase competitiveness, quality or volume of production. Researchers also do not take into account opportunities and limiting factors, for example, transport accessibility, innovations being introduced, support measures from state authorities and local governments, the arrival of a new enterprise on the territory or the bankruptcy of an existing one. They are taken for granted and are not studied in terms of their impact on the efficiency of agricultural development, since municipalities can only indirectly influence these factors or cannot at all. This leads to the fact that the proposed forms of further development, for example, cluster structures [5] or forms of vertical / horizontal cooperation, in practice [6], turn out to be unviable due to the lack of long-term plans and projects of agricultural producers. T.A. Zabaznova also focuses on the problematic points of using SWOT analysis for organizations, which are also valid for territories when forming strategic planning by the forces of municipalities:

1. Lack of a sampling system of indicators for building a SWOT matrix. This is a key problem, since the outcome of the entire analysis depends on the correct selection of factors. The specificity of the territories is revealed in these indicators, ranging from

whether the territory is borderline, ending with the market saturation coefficient for food products produced in this territory.

2. To conduct a SWOT analysis, it is necessary to create a special working group. This will require certain time and financial costs from municipalities, which may at the initial stage adversely affect the results of the implementation of SWOT analysis, since this type of analysis involves the involvement of the maximum number of specialists to consider all strengths and weaknesses, opportunities and threats. The creation of a special group will require not only the involvement of the expert community on the part of enterprises, but also on the part of farmers, agricultural cooperatives, who have their own strategic projects and views on development.

3. Currently, there is no clear methodology for conducting a SWOT analysis in domestic practice. The available recommendations, both in theoretical studies and in regulatory legal acts, are of a general nature and do not contain targeted practical guidelines. Taking into account the fact that from different positions (large-small enterprise, crop-livestock breeding, etc.) the factor can be both positive and negative (a group of hybrid factors by analogy with risks [7]), it is necessary to cover as large expert groups and opinions as possible, representatives of certain parties for the subsequent choice of a compromise when using or leveling one or another factor (for example, the Delphi method) [8]. For example, when analyzing the environmental and economic factors in the development of rural areas, as a rule, strengthening the environmental component requires greater financial investments for the purchase of environmentally friendly materials, the installation of treatment facilities, or the refusal to build production or reduce its production capacity, which negatively affects the economic indicators of development [9]. The search for this kind of balance can only be ensured by qualitative research methods.

Similar problems are also typical in the application of PESTEL analysis, since 1) there is no specific set of indicators to be evaluated and analyzed; 2) there is no response tool when identifying certain negative factors. For example, the authors note that the opposition of political parties and changes in legislation have a negative impact on the development of territories. At the same time, in practice, a change in legislation can be positive, discussed, supplemented, the disadvantage of the change is only in the transformation of the interaction procedure, for example, when receiving a subsidy, proof of belonging to a certain industry according to all-Russian classifier of types of economic activity, etc. Opposition of political parties can be used both in competitive struggle in the territory and to attract the electorate through the creation of priority party projects implemented with the support of the administration of the rural territory. The decline in the rural population is also often indicated as a negative factor in section S, however, if this is highly qualified personnel who owns certain technologies that are in demand at an enterprise doing business in rural areas, then this is a positive factor due to the competitiveness and solvency of the population [10].

It is relevant to use the BCG matrix, 5 forces of M. Porter, Ansoff or McKinsey only when analyzing single-industry towns, where the core of the economy is the only city-forming enterprise and there are no other points of growth, either to assess the positions of municipal sector enterprises that compete with commercial organizations, or to evaluate prospectively promising industries [11, 12]. The use of the Boston matrix as a whole for the municipality, as well as comparison with other municipalities, will not give an objective picture of development, especially if the ratio indicators for the matrix are determined by the objectives of the strategy, respectively, they can be selected for a specific municipality or compiled in such a way that the municipality education is among the leaders of socio-economic development.

2 Method

L.A. Malysheva notes that strategic analysis models (all kinds of matrices: SWOT, PEST, BCG, McKinsey, etc.), as well as strategy models (7S, Porter's competitive strategy model, Shell model, Hofer-Shandel model, etc.), belong to the instrumental apparatus rather than specific models of strategic planning. To unify approaches when going through the full cycle of strategic planning and development of rural settlements, a number of shortcomings must be eliminated [13]:

- Lack of a common vision and a clear distinction between the model and tools and technologies.
- Lack of complexity and the possibility of using the model for both analysis and forecasting.
- Lack of situationality, i.e. linking the model to the conditions of the external and internal environment.
- Insufficiency of algorithms for using.

Domestic researchers, focusing on the current strategy of socio-economic development of Russia, doctrines and state programs (together with national projects), indicate that in order to achieve the indicated benchmarks, a transition to a new growth model is required, for which two conditions must be met, such as macroeconomic stability and higher quality of public administration (project management, advanced training of civil servants, application of new information technologies).

The most important areas in the framework of the transition to the new model are the increase in labor productivity, the mass creation of new small and medium-sized enterprises and the intensive growth of those operating in the import substitution sector and the development of non-primary exports, the development of competition in domestic markets, increasing the investment and business attractiveness of the economy, strengthening the innovative component of development, active use of the advantages of international integration [14]. That is, the authors replace the understanding of the model with the next benchmarks tied to political, economic, social, technological and regulatory factors, essentially a SLEPT analysis. This does not mean that the available analytical matrices should not or cannot be used in the process of analyzing the current situation or updating the strategy, but a systematic approach is needed in the context of rapidly changing conditions of the external and internal environment of rural areas, which the rural strategic planning model is able to provide. territories based on the principle of business modeling. Reformulating the identified L.A. Malysheva [15] requirements for business models, taking into account the specifics of strategic planning of rural areas, the model should take into account the following:

1. The presence of logically related elements of territorial administration that are subject to modeling. In the case of rural areas, these are indicators of socio-economic development, and cascade programs and projects, that is, the desired future at the level of the Russian Federation and the region, implemented through state programs and national (regional) projects. The logical connectivity is determined by the administrative-territorial division in the case of the population and the location of industries and proximity to other municipalities with the coincidence of interests and development tools in the formation of a system of inter-municipal interaction projects.

2. The presence of the limits of applicability of the model, determined by the specifics of the production of agricultural products or their processing. In this case, the boundaries are also of an administrative-territorial nature, and the specifics only affect the tools and areas of support for agricultural producers. Meanwhile, the model should not and can be extended (in our case) to industrial territories due to the specifics of the industry and,

accordingly, the management methods following it (often indirectly), support tools, monitoring and control, including those determined by law.

3. The need for tools for analysis, planning, as well as the transition from the existing to the desired state in the models.

4. The possibility of designing not only the ideal state of the model, but also the desired state, taking into account the limitations of the external environment and the resources of the rural area (according to the principle of VMOST analysis), taking into account the scenario approach provided for in the current legislation.

Situations and conditions are determined by a different set of external and internal factors, the requirements of cascade planning (taking into account strategies and strategic documents of a higher level), focus on results in terms of project management with a pronounced situation of macroeconomic and political instability. In addition, this environment changes depending on the requests and needs of consumers of municipal services and the results of the exercise of power (population, commercial and public organizations), investors (public authorities, commercial and public organizations) and competitors (rural areas applying for funding). within the framework of the implementation of state programs and national/regional projects). In essence, the interaction model is similar to the market situation, where success depends on the transparency and involvement of all actors influencing development [16].

3 Study detail and result

It should be noted that the models and analysis matrices used and proposed as mandatory at the level of legislation or recommended by researchers, for example, MOLAND [17], do not contain implementation technologies, that is, the transition from the theoretical part of the analysis to the practical application of the results obtained in the form of specific programs and projects. Meanwhile, the analysis of the strategies adopted for implementation in municipalities and rural areas of the subjects of the Ural federal experience, the current legislation and the practice of strategic planning involves the use of the following cyclic strategy development technology:

- analysis of the current situation;
- development/adjustment of the desired future;
- comparison and decision-making on the necessary changes;
- selection and justification of projects;
- planning;
- implementation;
- motivation;
- monitoring (return to the beginning of the cycle).

Thus, we will need exactly such approaches, methods, tools and in such a logical sequence, as the author suggests in the dynamic model of strategic planning for the development of rural areas ProMOST - Project Model for the Renewal of Rural Territories (Table 1).

Table 1. Project Model for the Renewal of Rural Territories [ProMOST, compiled by author]

Stage	Stage content
Stage I - Analysis of the initial state of the territory (AIST)	Factors that determine the development of the territory (FORT-1) Factors limiting the development of the territory (FORT-2) Opportunities for agricultural cooperation (VoSK-1) Possibilities of rural cooperation (VoSK-2)

	Legislative restrictions and opportunities (LRO)
Stage II - Value of goals and results	Building a goal tree Building a tree of results Building a system of tools for measuring the achievement of goals Definition of indicators and monitoring methods
Stage III - Drawing up a project and program matrix	
Stage IV - Planning and structuring the actions of local governments, taking into account the opinions and actions of stakeholders	
Stage V - Implementation of projects and motivation of stakeholders	
Stage VI - Monitoring (return to the beginning of the cycle to the first stage)	

The presented 6-stage model is a sequence of actions (technology) in the development of a strategy (strategic plan) for the development of rural areas. It begins, based on the requirements of the current legislation, with the Analysis of the Initial State of the Territory (AIST), which includes a structured set of factors affecting the development of rural areas:

1. FORT - 1 - Factors Conditioning the Development of the Territory
2. FORT - 2 - Factors Restricting the Development of the Territory
3. VoSK - 1 - Opportunities for Agricultural Cooperation
4. VoSK - 2 - Opportunities for Rural Cooperation
5. LRO - Legislative Restrictions and Opportunities

The TEST approach - Territory, Economy, Social, Technology - provides the context for the selection and analysis of factors.

The use of this framework is important for determining and selecting factors that really affect the territory, on the one hand, and on the other hand, ensure the implementation of projects that are planned for implementation in rural areas. For example, the factors "Presence of an extensive network of roads" and "Presence of several industrial enterprises" are often positioned as positive (in SWOT analyzes they are indicated as strong points), since the road network allows building a logistics chain from a manufacturer to a processing plant or direct consumer, and large industrial enterprises or many small (medium) guarantee income and employment of the population, as well as replenishment of the budget, including through tax splitting. However, when agricultural producers plan to develop a system for growing organic products in a given area, these factors can become limiting due to large traffic flows and emissions during production processes, which leads to a high concentration of exhaust gases, heavy metals, toxic gases in the atmosphere, water resources and soil [18].

The factor "Availability of potential for the development of sanatorium treatment, tourism" is also often positioned as positive for the development of the territory, investment potential, and the system of small business development. However, it is necessary to understand how industries are developing and will continue to develop, whether they will affect the recreational potential of the territory and what will give the greatest socio-economic effect. That is, this factor, when planning enterprises to expand and use water resources, land and forest funds, can leave the list of factors associated with the development of tourism. Therefore, we propose to consider FORT-1 and FORT-2 as a whole, taking into account potential advantages and disadvantages, legislative restrictions and opportunities, opportunities for agricultural cooperation and rural cooperation in order to search for optimal development projects with the highest socio-economic efficiency, taking into account the designated TEST contextual framework.

As we have already noted, FORT-1 and FORT-2 by the municipal authorities of rural areas should be considered in a complex, depending on the projects and strategic plans of all actors - stakeholders in the development of the territory: state authorities, commercial organizations, public organizations, universities and scientific institutions, investors, including potential ones, population [19]. However, the set of indicators itself is quite static

and has already been considered repeatedly in the works of researchers. We took as a basis a set of indicators developed by A.E. Shamin, O.A. Frolova and N.V. Yashkova [20], but in the author's interpretation [21, 22, 23], since the scientists took the SWOT analysis as a basis, which, as we proved earlier, does not take into account the specifics of the territory, the project approach and the strategic plans of all stakeholders.

List of FORT-1 and FORT-2 for further interpretation and comparison with the desired future [compiled by author]:

1. Resource potential
 - 1.1. Geographic Position
 - 1.2. Natural resource potential
2. Quality of life
 - 2.1. Demography
 - 2.2. Standard of living, wages and incomes
 - 2.3. Social protection of the population
 - 2.4. Engineering infrastructure and landscaping
 - 2.5. Housing construction
 - 2.6. healthcare
 - 2.7. Education
 - 2.8. Culture, physical culture and sports
 - 2.9. IT resources
 - 2.10. Consumer market
 - 2.11. Fight against crime
 - 2.12. social infrastructure
 - 2.13. State of the environment
 - 2.14. Social and political life
 - 2.15. Youth policy
3. Economic potential
 - 3.1. Industry
 - 3.2. Agriculture
 - 3.3. Small business [infrastructure and property of city-forming and city-service enterprises]
 - 3.4. Personnel potential and employment of the population
4. MO control system
5. Budget potential
6. Investment potential
 - 6.1 Availability and importance of transport infrastructure
 - 6.2. Availability and direction of investment projects
 - 6.3. business climate
 - 6.4. Innovation and investment infrastructure
 - 6.5. Entrepreneurial infrastructure
 - 6.6. Technological infrastructure

4 Discussion

At the first stage, after the factors influencing the territory as a whole (FORT-1, FORT-2, VoSK-1, VoSK-2 and LRO) have been identified, it is necessary to create an image of the future, not ideal, but desired, taking into account the existing restrictive and positive factors. Various methods can be used for this: benchmarking, strategic sessions, problem sessions, VMOST analysis, foresight sessions [24], and others. It is important that at this stage the final result is determined, which is further amenable to qualimetry. It is also necessary, as mentioned earlier, to involve local communities in the development of the

desired future on the principle of the LEADER [25, 26] program, since it is local communities, public organizations, voluntary associations (the same agricultural cooperatives) that decide on the territorial delimitation of their activities, establish formal partnerships, and participate in pricing on produced goods, works and services (especially cooperatives) [27], define and implement local development activities [28]. This will allow in the future to clearly and reasonably carry out goal setting, develop a tree of goals and a tree of results, and then create a project matrix (project register), the content of which will clearly correspond to the analysis of the initial state of the territory.

References

1. Cheong Koon Hean. Achieving Sustainable Urban Development [e-resource]: <https://knowledge.csc.gov.sg/world-cities-summit-issue/achieving-sustainable-urban-development/> (2023)
2. S.N. Polbitsyn, Economic and social changes: facts, trends, forecast., **14 (6)**, 126-140, (2021) DOI 10.15838/esc.2021.6.78.7. (In Russ.)
3. T.N. Prizhigalinskaya, L.V. Teplova, A.A. Tkacheva, Bulletin of the Belgorod University of Cooperation, Economics and Law, **6 (85)**, 9-22, (2020) DOI 10.21295/2223-5639-2020-6-9-22. (In Russ.)
4. A. V. Tebekin, V. S. Petrov, P. A. Tebekin, A. A. Egorova, Business strategies, **8, 1 (69)**, 4-16 (2020) DOI 10.17747/2311-7184-2020-1-04-16. (In Russ.)
5. I.M. Dolgova, N.R. Alexandrova, Russian electronic scientific journal, **5(5)**, 31-40 (2013) (In Russ.)
6. A. E. Shamin, O. A. Frolova, N. V. Yashkova, Vestnik NGIEL., **12(139)**, 102-114, (2022) DOI 10.24412/2227-9407-2022-12-102-114 (In Russ.)
7. E.M. Kot, *The concept of strategic management of sources and risk factors in the integrated structures of the agro-industrial complex: specialty 08.00.05 "Economics and management of the national economy"*: dissertation for the degree of Doctor of Economics, Yekaterinburg, 370 p. (2022) (In Russ.)
8. T. A. Zabaznova, Transport business of Russia, **4**, 24-25 (2009) (In Russ.)
9. O. I. Panteleeva, N.M. Belyaeva, Regional economy: theory and practice, **19**, 45-51 (2011) (In Russ.)
10. A.A. Sokolova, Management of a modern organization: experience, problems and prospects, **1**, 117-122 (2016) (In Russ.)
11. I.D. Turgel, E.V. Karpov, Regional economy: theory and practice, **36**, 61-68 (2008) (In Russ.)
12. A.S. Vanyushkin, Economics and Management, **7, 2**, 13-24 (2021) (In Russ.)
13. L.A. Malysheva, O.G. Kharlamova, Modern problems of science and education, **1-1**, 578 (2015) (In Russ.)
14. N. I. Vasilyeva, Economics and Management: Problems, Solutions **2 (9)**, 85-92 (2017) (In Russ.)
15. L.A. Malysheva, O.G. Kharlamova, *Modern approaches to designing business models in the digital economy*, Russian regions in the focus of change: Collection of reports of the XV International Conference, Yekaterinburg, **1**, 371-375 (2020) (In Russ.)
16. S.A. Makovkina, A.V. Ruchkin, Management consulting, **8(68)**, 88-99 (2014) (In Russ.)

17. A.V. Ruchkin, S.A. Makovkina, *Scientific Bulletin of the Belgorod State University. Series: Economy. Computer science*, **21(192)**, 5-11 (2014) (In Russ.)
18. O.A. Ruschitskaya, *Organization of the food market of agricultural organic products in the conditions of an industrial-agrarian region: specialty 08.00.05 "Economics and management of the national economy": thesis for the degree of Doctor of Economic Sciences (Yekaterinburg, 2019) 429.* (In Russ.)
19. Helena Kirki, *Sustainable Urban Development: Espoo, Finland. Ethos.*, **24** (2022) (In Russ.)
20. A. E. Shamin, O. A. Frolova, N. V. Yashkova, *Vestnik NGIEI*, **12 (139)**, 102–114 (2022) DOI: 10.24412/2227-9407-2022-12-102-114 (In Russ.)
21. I. D. Turgel, A. A. Pobedin, O. M. Trofimova [and others], *Assessment of the potential for self-development of municipalities: Theory and practice (Yekaterinburg, 2012) 212.* ISBN 978-5-8056-0260-4. (In Russ.)
22. N.G. Chevtaeva, A.V. Ruchkin, T.A. Sergeeva, *Management issues*, **2 (45)**, 138-143 (2017) (In Russ.)
23. O.M. Trofimova, A.V. Ruchkin, *State Counselor*, **4 (12)**, 26-33 (2015) (In Russ.)
24. Calvin Chong and Jeremy Tan. *Mainstreaming the Praxis of Foresight: The UK Example. Ethos*, **7**, 31-36 (2010)
25. Tools to support the development of rural areas in Germany on the example of the LEADER program https://agrardialog.ru/files/prints/instrumenti_podderzhki_razvitiya_selskih_territoriy_v_germanii_na_primere_programmi_leader.pdf (2022)
26. Towards Prospering Rural Areas. SARD LEADER for community driven rural development initiatives in Gagauzia, Taraclia and neighboring rural communities. Republic of Moldova 2016-2018 (2022) http://www.leadmoldova.eu/assets/sardl_en.pdf
27. Peasant-farmer cooperatives and forms of cooperation - comparison of various legal forms and analysis of activity models and their respective advantages and disadvantages (2022) https://agrardialog.ru/files/prints/krestyansko_fermerskie_kooperativi_i_formi_sotrudnichestva.pdf
28. S.G. Golovina, A.V. Ruchkin, I.N. Mikolaichik, *Agrarian Bulletin of the Urals*, **2 (217)**, 71-81 (2022) DOI 10.32417/1997-4868-2022-217-02-71-81. (In Russ.)