

# GENESIS OF RESPONSIBLE RESOURCE CONSUMPTION TOOLS IN RE-GIONAL DEVELOPMENT STRATEGY OF SOCIO-ECONOMIC SYSTEMS

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**Abstract.** At present, the issue ecological balance restoring and rational resource consumption is especially acute, which determines large-scale transformations at the world level, as well as the need to modernize the tools for socio-economic development systems of countries (macro-level), individual territories and regions (meso-level), a set of interacting economic systems and economic units (micro-levels). The article examines the problems of responsible resource consumption in regional socioeconomic systems, which led to change of effective growth paradigm to: 1) the sustainable development paradigm, society's informatization; 2) selective regional policy of interregional differentiation. Obviously, at the macro-level, there is an intensive search for effective management of regional resource consumption; development of mechanisms and tools for environmental responsibility management. That is why a decrease in the level of negative impacts, as well as the consequences of low socio-economic development, determines the genesis of responsible resource consumption tools in regions' strategizing as a key development task. However, the study of the ontology "responsible resource consumption tools" goes through the concept of sustainable development and is transformed into an integral, logically linked system of views, united by a common idea and aimed at achieving the goal of work.

## 1 Introduction

Research shows that the state strategizing foundations are a system of conceptual provisions related to the development of key directions of the country's foreign and domestic policy. [1], where the key characteristic of regions' socio-economic development is the quality of population life. Of course, strategizing involves the implementation of stages: goal-setting, forecasting, planning and programming [2] through special tools [3]. According to research by E.M. Buchwald substantiated strategizing as an important phenomenon in the economic formation and legal mechanisms and special institutions, is aimed at economic security and minimization of risks from the negative impact of destructive external factors on strategic plans [4].

The genesis of responsible resource consumption tools in the strategy of socioeconomic regional development systems is, by definition, characterized by the duality: 1) social and natural; 2) state and territorial. Consequently, the dual nature of the region determines the conjugation and contradictions in regional development, including the conflict of interests of the state and region, contradictions in the interests of regional social development and natural systems. In the mainstream of responsible resource consumption in regional social and natural systems, the peculiarities of

the region's territorial markets are especially clearly manifested, which are characterized by various structures that affect the innovative development of socioeconomic systems [5]. The region as a territorial natural-social complex unites the interaction of natural, social and economic elements.

## 2 Discussions

The study shows that the natural subsystem that unites landscapes, natural resource system and the environmental management system should be considered at the same level with the social and economic subsystems, therefore, should not be relegated to simple factors of regional development. Consequently, in the economic sense, the natural resource system should have indicators of natural resource consumption in the strategic development of socioeconomic systems, where regulatory support is a regulatory mechanism that establishes the rules and impact area of the strategic tools for responsible resource consumption.

However, insufficient attention is paid to the normative regulation of responsible resource consumption in region's strategic socio-economic development. The need to strategize socio-economic development determines the adoption by national

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economies at the macro level of the relevant regulations. Thus, Russia has adopted a federal law "On strategic planning in the Russian Federation" [6], imperatively defining the foundations of strategic planning in Russia with the aim of role-based setting, the powers of federal, regional and local authorities

Territorial management is the main part of the current population's daily activities, where society and business structures in the territorial organization play an important special role, firstly, in providing regional funding, secondly, in regional ownership formation, third, in the development of innovative technologies; fourth, in improving and creating the necessary infrastructure. The implementation of regional monitoring functions, forecasting, and analysis exerts a significant influence in the territorial hierarchy of public administration. Of course, the development of the region is under pressure, mostly from internal factors, including the peculiarities of the territorial community of the population, the region's socio-economic situation, the productive forces development, and the resources provision.

### 3 Materials and methods

The study used the methods of deduction, induction, analysis and synthesis, logic and analogy, as well as the method of a systems approach.

### 4 Research part

Contradictions monitoring (tools) in the sphere of responsible resource consumption MPORP, which affect the full development of clusters by industry and socio-economic nature, is important for strategizing regional socio-economic development. Contradictions monitoring (tools) of in the sphere of responsible resource consumption MPORP can provide identification and directions for mentality formation of the population, which is classified in the regional economy as households fully participating in the region development. The main functions of MPORP will be: methodological assessment and clarification of the philosophy and ideology of responsible resource use in regional strategizing; approaches clarification of regional control quality process of managing responsible resource consumption in strategy; technique clarification for ensuring the balance of responsible resource consumption system for socio-economic development; mechanisms clarification of responsible resource consumption in the strategy of partnership and relationships with the world, macro- and micro-environment of the region; the function of responsible resource consumption methodological assessment and the formation of internal ties between regional authorities, business, public organizations, and households, "the rest of the world"; the function of working out methods for eliminating the problems of responsible resource consumption distortions in strategizing.

When clarifying the functional features and interrelationships of an effective MPORP, it is advisable to single out the technology carried out in stages, including: 1) preliminary MPORP hypothesis stage; 2) general plan and programs of MPORP's stage; 3) clarifying procedures stage in MPORP tools; 4) the stage of clarifying the schedules and composition of working documents, reports on MPORP in regional strategizing; 5) specifying the MPORP indicators stage for the analysis and assessment of results quality ; 6) the main stage of using the MPORP tool; 7) the stage of clarifying the MPORP 's operational sections composition of analytical reports; 8) correcting the identified distortions stage that is based on the results of MPORP in the strategic and tactical management of country development; 9) implementation of re-use MPORP; 10) formation of the final report on the results of MPORP.

The effectiveness aspects study of MPORP shows the need to use quantification of indicators that can affect an opinion formation about the feasibility, organization rationality and the application of this systemic process. In a simplified general form, the economic efficiency assessment of MPORP in the strategic planning of the region can be quantified by the level of indicators growth: reduction in resource consumption of water, electricity, natural energy resources; reduction in the volume of public services due to the use of resource-consuming technologies; improving the quality of households life ; decrease in the incidence rate of the population; an increase in the working population in environmental spheres (Formula 1).

$$Eff\_MPORP = (IARCC_{MPORP} + IOSR_{MPORP} - (-IPRR_{MPORP})) \quad (1)$$

where  $E_{ff}$  MPORP – additional socio-economic effect formed by results MPORP;  $IARCC_{MPORP}$  – identified additional regional income of country constituent entity, net regional income based on the results MPORP;  $IOSR_{MPORP}$  - identified opportunities for saving regional resources in the implementation process MPORP;  $IPRR_{MPORP}$  – identified potential losses of regional income based on the results of MPORP.

Nowadays, the genesis of responsible resource consumption tools is determined from the standpoint of socioeconomic involvement systems in the mutual influence and relationship "nature-population-economy", which is characterized by a spatial aspect from the standpoint of territorial social systems internal definition. The human capital accumulated by society as the essence of the socioeconomic system, according to many researchers, is part of the basic productive forces of society. In increasing competition context, the attitude towards a person as a central link, accumulating and using knowledge of new post-economic system has also changed. That is why, in the conditions of Industry 4.0, the emphasis is on adaptation and reproductive integrity of socioeconomic systems [7]. So, it is important to note that since the time of Plato, one of the most progressive and popular concepts of constructive, the development of society is the technocratic concept. From the Greek "Technocracy" meant "the power of skill" (from the

Greek tech-no - craft, skill and kratos - power). The need for competencies formation and the development of technologies in the management of society was traced as a central idea in technocratic trends [8]. Of course, aspects of socioeconomic values in social relations are formed directly in the very economic activity, and in the external environment. The development vector of territorial and local socioeconomic systems is aimed at consistently building up the aggregate capital, including: natural, financial and production resources (raw materials, fixed assets, labor force); infrastructure and innovation and investment component; social capital; knowledge; institutional environment [9].

From the standpoint of the institutional approach, the socioeconomic system determines the principles, methods, conditions of relationships and patterns of business on the platform of economic factor analysis and social processes in the context of innovative development in the space of certain regions. It is important to note that many contemporaries share the point of view of socioeconomic, defining the economy as an economic activity in an economic space (physical geographical location, carrying out activities), where many different social relations and interactions take place [10].

The construction of a responsible resource-consuming socioeconomic system is one of the topical of a progressive society thought directions, which strives for a high quality of population life. The social security level and personal or average income is always and will be the main subject of scientific, theoretical and methodological discussions. It is obvious that society is a nonlinear system that is not very predictable at bifurcation points <sup>a</sup>, which presupposes the desire to control chaos (turbulence) for the transition to a more differentiated and high level of order according to the theory of self-organization.

As a super-complex self-organizing system, the economic system gravitates towards the economic life principles, the socio-moral principle of designing humanistic oriented models of economic management [11].

Even Hegel, the formulated laws of dialectics clearly characterized development from three sides. First, special attention was paid to the law of dialectical contradiction as a source and impulse of development. Secondly, transition law from quantity to quality characterized the mechanism of the emergence of new qualities. Thirdly, dialectical synthesis law that characterized the form and direction of the changes taking place. All the development laws formulated by Hegel were already the genesis of the analysis beginning of the synergetic provisions [12]. Understanding the self-organization complexity of a socioeconomic system as non-linear, in which fuzzy sets prevail under the influence of numerous factors, make thinkers deny the possibility of its existence. Numerous studies determine

<sup>a</sup> Points at which the critical state of the system is defined as an unstable position relative to the set parameter (fluctuations), causing uncertainty

the variety of different approaches to economic space based on "territorial" principles. However, the area of responsible resource system consumption in the strategic planning of a regional region that can be represented as production and reproduction activity, where, as in all systems, a person acts from different positions, but in the socio-system he occupies a key responsible role, namely:

- 1) in entrepreneurial resources;
- 2) in labor resources;
- 3) from the perspective of production results consumer;
- 4) from the perspective of a third person who has psychological emotions and attitude to the process and results of production;
- 5) from the position of influence object from positive or negative externalities in the production of the economic system process;
- 6) from the position of a representative of state authorities;
- 7) as an agent that performs many functions in the economic and socio-economic systems.

Consequently, from the standpoint of human domination as an actor of the socioeconomic system, it is advisable to expand the economic space to the socioeconomic system. According to the research of Matveev M.M. the term social space was used by P. Bourdieu [10] in the work "Physical and Social Space" to denote abstract space. In the study of the socioeconomic space, it is important to take into account regional localization, which is included in the unity of constitutional principles, constitutional and legal institutions, norms governing the main socioeconomic aspects, the essence and content of the constitution [13].

In each country and region, the basis of socioeconomic provisions is the constitution, which regulates the essential specifics of normative expression form. It is necessary to recall the statement of I. Kant "Proceed so that the maxim of your will can at the same time have the force of the principle of universal legislation" [14].

Consequently, in the socioeconomic system, according to the author's research, it is necessary, as a non-economic indicator, to apply an expert assessment on the level of constitutional principles unity development, constitutional and legal institutions, norms regulating the main socioeconomic sides of a country, region, local education for a function that describes non-the system in the ontogeny of the socioeconomic regional system.

The world experience in the formation of a responsible resource consumption tools in strategizing the regional development of socio-economic systems shows the strengthening of the strategic thinking of the political landscape responsibility or national development priorities. World experience, reflected in many foreign publications, is manifested in the works of I. Ansoff [15], G. Mintzberg [16], R. Simons [17], M. Porter [18] and many other world foreign authors. Justifying the specifics of the strategy of Iran's planning system, Pajukhan singled out three introductory stages of regional strategy: 1) the "resource development tool" stage; 2) stage "concept of regional welfare"; 3) the stage "smoothing uneven regional development". The

factors and methods of strategizing regional socio-economic development are due to the revolutionary change of paradigms, of which the most relevant is the paradigm of sustainable development, aimed at responsible resource consumption. It is obvious that the economic systems crisis, determined by the cyclical nature of development, manifested itself in a destructive impact on the ecological balance. Violation of the ecological balance has always affected a person and his healthy and working lifestyle. The leading industrial territories were distinguished by an increased incidence rate in off-season periods of time, the presence of a significant number of chronic congenital and acquired diseases. The constant race for the economic growth of firms directed managers to different ways of management, which often violated legislative norms and harmed the ecological balance and health of regions population, countries, and the planet. Environmental pollution not only damages people and all living things in various territories, but also endangers food security at the local, regional and federal levels.

That is why it is necessary to take into account that the economic growth race, which determines the technical progress for increasing production capacities, causes significant damage not only to the regions of physical implementation of economic activity, but also to other territories in communication along various routes and directions.

Patterns, factors and methods of strategizing regional socio-economic development are determined by new paradigms of sustainable development and socioeconomics. Of course, the development tools available in the economy require modernization and new approaches to the strategy of socioeconomic development.

The course for sustainable development was set in 1987 in the work of the International Commission on Environment and Development (ICED). Chairman of the Commission G.Kh. Brundtland made a report in which directions were outlined for «long-term continuous development that meets the needs of people living at the present time, without prejudice to meeting the needs of future generations». The next evolutionary round of sustainable development paradigm takes in 1992 in Brazil in Rio de Janeiro at the UN World Conference on Environment and Development. The Action Program for the XXI century was supported by about 180 countries of the world. The concept of "sustainable development" was consolidated and supplemented as a direction to increase the level of socio-economic development of society while preserving the environment as a habitat for humans and society.

The main factors that have determined the new methods of strategizing regional socio-economic development in world and Russian practice are factors that disrupt ecological balance, affecting and negatively affecting human health. Such factors pass not only as factors of direct negative impact, but can also be conditioned as intersectoral externalities, that is, be factors of indirect impact.

Factors of harmful effects were studied in ancient states, back in the 6th – 4th centuries BC. So, Aristotle

and Lucretius in their writings paid attention to the symptoms of severe illnesses of workers who worked in silver mines.

Ovid and Plutarch were interested in the conditions of negative influence on the economy's development. So, in their research, one can find the problems of early mortality of workers who worked in metallurgy. The writings of Hippocrates (460-377 BC) describe "lead colic" in workers employed in the mining industry. Pliny (1st century BC) raises problems and reveals the harm to the human body and all living things from mercury and sulfur. The hard and harmful work of artisans and workers, accompanied by occupational diseases in mining and metallurgy, is described in the writings of Agricola (1556), Paracelsus (1493-1544), Bernardino Ramazzini (1700). The studies of doctors reflect the impact on people of the production processes of mines, caissons, tobacco factories. The writings of the doctor Levitsky reflect the symptoms of mercury poisoning of workers employed in handicraft felt industries.

In the world community, Soviet Russia made a significant contribution to environmental and economic security. In the period from 1923 to 1924. there is a general fight against epidemics, as well as a mood for improving work and life. Opened in Moscow on the initiative of V.A. Obukha, N.A. Semashko research institutes that study the risks of acquiring occupational diseases from exposure to hazardous industries. Until 1993, in Soviet Russia, active research was conducted on the effects on health of various toxins, electromagnetic waves [19, 20, 21].

It is important to note the negative factors, socio-economic development that formed after the collapse of the USSR and during the transition of Russia from 1993 to a market economy to the present time, have an impact on the development strategy of the region. Negative factors of the wasteful attitude of society towards the environment and labor resources have significantly reduced the level of health, increased the level of mortality, disability, caused by a violation of the ecological balance.

## 5 Final part

At present, the problems of minimizing the impact of negative inter-sectoral externalities have become the most important for humanity. Studying the problems of individual regions of Russia, it should be noted that for the inhabitants of the region and adjacent territories, chemical plants that pollute the environment with mercury, which is caused by the work of the chlor-alkali industry, mining industries, become sources of negative impacts on the ecological balance [22, 23]. In such a situation, the monitoring (tools) of contradictions in the sphere of responsible resource use MPORP, carried out with the assistance of the United Nations Environment Unit, the United Nations Environment Program (UNEP), which studies worldwide sources of ecological imbalance. Of course, the method of ensuring the ecological safety of regions, taking into account the impact of negative intersectoral externalities, has



become a method of strategizing the development of the region. Chemical plants operating without the use of innovative, environmentally friendly equipment can discharge mercury from storage reservoirs within a radius of 10 kilometers from production, exceeding the permissible standards by 10%.

Increased attention to the health of residents living within a radius of 10 km from chemical plants showed that young women have a biological history, toxicosis during pregnancy, a high risk of natural interrupted pregnancy, an increased level of infectious and parasitic diseases, a low immune status [24].

The factor holding back the strategizing of regional development is the lack of available high-quality sanatorium and health resort services and recreation, which need to be developed, organized and stimulated.

A widespread method of strategizing regional development in the world and in Russia is the method of modernization. The modernization method presupposes the use of regional monitoring (toolkit) of contradictions in the sphere of responsible resource consumption of MPORP in socio-economic systems as the transformation of outdated metallurgical and chemical industries into a health-improving sanatorium-resort complex, which should pass the corresponding river beds. Studies show that if a socioeconomic society chooses the path of responsible resource consumption, it will no longer be able to abandon it, and will be aimed only at modernization [25].

The regularity of regional development strategizing is determined by favorable factors and methods of a progressive society. Intellectual evolution as a natural spontaneous strategizing of development depends on the mental activity of people, envisaged by the classical theory of evolutionism J.St. Mill. Likewise, psychological evolutionism was presented by L. Ward and F. Giddings as a result of the realization of the "conscious plan" and determined only a partial, fragmentary possibility of unconscious evolution [26, 27, 30, 31].

## 6 Conclusion

Of course, at all times, the MPORP method in strategizing regional development has been accompanied by ideas of progress as a recognized value. Understanding that the growth of social well-being is impossible without the growth of economic well-being and the emergence of opportunities for progressive development in society (individual, state and humanity as a whole). So, the philosopher and metaphysician Immanuel Kant (according to the research of R.V., Svetlov) proposed to consider progress as an obligatory and deterministic reality, the regulatory principle of our mind [28, 29, 32].

Discussing the methods of strategizing, can also highlight the commitment to passive behavior, where the crisis is positively substantiated as a driving force that stimulates (according to the author) the development of complex self-organizing systems. Any system in a crisis, as at a point of bifurcation, is extremely unstable,

making a choice of the further path of development by society of new methods of social thinking and economic activity, allowing it to adapt to the new conditions of its life.

However, it is advisable to disagree with this position. It should be noted that the characteristic of a crisis is always a halt, stagnation. The crisis manifests itself in all spheres of activity. Development stops. The study found that modernization is always development. The advanced countries are those in which strategizing methods are aimed at smoothing out the crisis, and any factor of its manifestation. In developed countries, methods are used to smooth out anxiety and discontent in society.

It is important to note that European countries with a high social component attach significant importance to the method of modernization in strategizing regional development, ensuring the rooted rates of social progress and the model of "technogenic civilization". The formed values of society's vital activity in Europe have determined the constant direction of modernization, where the main influences are: 1) the factor of active human activity in conditions of the nature over nature influence; 2) the factor of exhaustion awareness and non-renewability of natural resources; 3) the factor of a sovereign and active personality as a free individual value; 4) the factor of innovation and technical progress as a path to valuable rapid change; 5) the factor of understanding the responsibility of power in the process of regional strategizing as power over people and over objects.

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