



RURBAN: STRATEGIC, SMART AND INNOVATIVE DEVELOPMENT MODEL

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Abstract: A large number of authors, organizations, and institutions have addressed the issue of uneven regional development over time. As a result of their research, numerous theories have been developed that examine and analyze the field of regional development from various perspectives. The evolution of economic thought on regional development has led to changes in understanding the most significant factors and drivers of regional growth and development. In contemporary research, there is an increasing dominance of certain intangible factors such as knowledge, innovation, strategic management, smart specialization, intellectual capital, and modern digital technologies. Thus, current research in the field of regional development, as well as regional realities, confirm that these factors play a dominant role in achieving more equitable regional development in modern conditions. Accordingly, this paper will analyze the theoretical foundations of contemporary approaches to regional development that emphasize the importance of strategic planning, smart specialization, innovation, and modern digital technologies, aiming for a better understanding and incorporation into an integrated urban-rural model of regional development, as well as their application by economic and regional policymakers.

Keywords: Regional development, strategic management, smart specialization, regional innovation system, rurban model.

JEL classification: R11, R23, R51, R58

1. Introduction

Development, as a natural tendency and fundamental need of every individual and society as a whole, always occurs unevenly, triggering a series of (direct and indirect, material and immaterial, obvious and subtle) changes, both in the space where it occurs, and in the positions and relationships of all social actors and

subjects that exist in that space during a certain period of time. In this regard, space, observed in a broader sense, as a specific result of a long-term action of natural and social factors and laws, largely determines and influences the course of all developmental processes, both economic and non-economic in nature. In this sense, considering the indigenous spatial unevenness of economically significant natural resources, potentials, and conditions, which have directly influenced the creation and spatial distribution of socially derived developmental potentials since the earliest days of human civilization, we can empirically confirm that the process of development always occurs unevenly to a greater or lesser extent, without an exception.

All subjects and factors of the socio-economic system as a whole (from the individual level, through households, institutions, organizations, to the level of economic entities) inherently possess a dominant tendency to maximize their position, both in the market and in the entire system. In the process of maximizing their position, these subjects primarily and permanently do not take into account the spatial dimension and evenness of development, but aim to position themselves as close as possible to the areas characterized by more pronounced natural, institutional, infrastructural, and economic development potentials. Through such natural and spontaneous movements of socio-economic subjects, and thus of capital, extreme concentration and conduct of economic activities occur only in certain, "economically attractive" areas, with complete economic and demographic exodus of social subjects from all other, less attractive areas. Ultimately, as a consequence of the extreme concentration of social subjects in a certain "economically desirable" area, it becomes impossible to maximize their position in that area, and also extremely difficult for them to return to economically and demographically underdeveloped (devastated) areas.

However, everything flows and everything changes. The world itself is changing. The twenty-first century represents an era of dynamic changes. Indeed, the world is changing more dynamically than ever before. On one hand, intensive development of science, technology, and innovation creates numerous inventive and innovative solutions to the problems faced by human civilization, connecting the world into a so-called "global village"; the flow of information, people, and capital becomes increasingly intense, while on the other hand, so-called "blank spaces" are opening up for the emergence of crises. This fact is unequivocally confirmed by events marked by the economic crisis of 2008, as well as socio-economic trends resulting from the influence of the health crisis (COVID-19 pandemic) and current armed conflicts in various parts of the world.

All crises, depending on their nature, reveal the existence of various imperfections, both in the natural and in the socio-economic system. In this sense, the health crisis caused by the COVID-19 pandemic has brought to the surface various problems faced by the modern world. These problems are numerous. Some of them, such as uneven regional development and global socio-economic

inequality, have been neglected for a relatively long time. Therefore, on a global level, it can be noticed that both underdeveloped and demographically depressed regions, as well as the most developed and demographically overcrowded regions, have paid the price for their (under)development. On one hand, underdeveloped regions have faced various infrastructural and institutional problems that significantly hinder the implementation of necessary health and economic measures, while on the other hand, developed and often overcrowded regions have faced, primarily, logistical problems in the process of "managing" the pandemic. In most countries, such problems have required the state intervention, both in the healthcare sector and in the stabilization of economic flows and the management of economic development.

In this regard, ahead of researchers, primarily from the field of economic science, lies a kind of challenge related to formulating and analyzing various alternatives, policies, and development models that will best address current economic problems. They must place a special emphasis on finding solutions to the problems arising from uneven regional development, both because of their negative effects on all spheres of the socio-economic system and in order to prepare and facilitate dealing with future crises, which are, however, historically inevitable.

Analyzing economic science from a methodological-subject and historical aspect, it is possible to identify several different directions, or schools of economic thought, whose subject of research is (un)even regional development. Classical economic theory and its representatives, during the 1950s and 1960s, focused primarily on the sources of regional growth and the relationship between regional growth and regional inequality. These works emphasize that there is a so-called nonlinear relationship between regional growth and regional inequality, depending on the phase of development of a national economy. A special emphasis is placed on the market mechanism and certain locations that generate regional growth (growth poles) and their role in the process of regional development of the national economy (Arandžević & Gligorijević, 2008). The authors of neoclassical economic thought have also made a significant contribution to the field of regional development, emphasizing the analysis of economic growth models, resulting in the creation of the so-called neoclassical growth model and relatively recently developed endogenous growth models.

However, the economic practice has shown that the market mechanism, which according to these theories represents the dominant criterion for regulating regional relations, actually increases the regional disparities (Gligorijević & Manasijević, 2019). The practice shows that spontaneous economic movements are mutually cumulative: on the one hand, the development effects accumulate in already developed regions, while on the other hand, in underdeveloped regions, the effects of relative backwardness accumulate.

In contemporary conditions, innovative activities, which generate growth through the creation and application of innovative business solutions, play a dominant role in current development processes, both in developed and underdeveloped regions. In this sense, economic literature covering the field of regional development increasingly includes works analyzing the role and significance of innovations and innovative development models for more even regional development and more intensive regional growth. This leads to the emergence of new models of regional development that promote innovation and the use of modern information and digital technologies (especially in rural areas) in order to reduce regional disparities and intensify the development of underdeveloped regions.

Therefore, contemporary development models analyze various factors related to creating a stimulating atmosphere and environment, as well as institutional infrastructure that can support the existing innovations and encourage the emergence of the new ones, which represent a key factor in economic growth (Bošković & Manasijević, 2023). Unlike endogenous growth models, in which innovations are also a key factor in regional growth and development, these concepts have a descriptive character, without a formal model.

In contemporary conditions, the most rural settlements become almost completely depopulated and economically inactive. In this sense, it is necessary to formulate and implement new measures, instruments, and models of regional development in order to stop this process and enable a long-term sustainable regional development. The measures and instruments of regional policy must be anticipated by a long-term strategy of regional development, taking into account all relevant approaches and methods of contemporary regional policy.

Considering the above, the aim of this paper is to further expand and formally conceptualize the *rurban* development model by combining various theoretical-methodological characteristics and guidelines of contemporary models of regional development, in order to facilitate the synthesis of common characteristics of contemporary models of regional development, as well as to potentially apply this development model by regional policymakers.

2. Transformation in understanding regional development

At the beginning of the last decade of the 20th century, significant changes in understanding the issues of economic, and consequently, regional development emerged. Accordingly, regional development is now viewed from an entirely new perspective, where locational factors, although still significant, are no longer of paramount importance (Gligorijević, et al., 2020). In the last thirty years, numerous new models of regional development have been developed, placing strategic planning, smart specialization, digital technologies, and innovation at the forefront - a range of factors influencing innovativeness and thereby the economic growth and

development of a region. However, many of these factors are difficult to model mathematically, so they are mostly descriptive.

The quest for new, more compelling explanations of regional growth and development factors has led, among other things, to the theory of endogenous growth, offering a new perspective on the regional development process. The key factor in this growth model lies in knowledge and innovation. For the regional dimension of endogenous theory, it is important to emphasize the connection between the geographical proximity and the spread of knowledge. The interaction among people implies geographical proximity, from which it can be inferred that the chances of knowledge transfer are highest at the local level. This means that the larger the geographical scope and the greater the degree of homogeneity in terms of developmental characteristics, such as a high concentration of research institutions or mobility of highly educated workforce, the greater the chance for knowledge accumulation. This explains the regional disparities among different regions, as developed regions are precisely those where knowledge accumulation processes are most pronounced.

In contemporary conditions, therefore, a variety of new models of regional development are emerging that, unlike economic theories based on a formal approach or mathematical modeling as the basis for drawing fundamental conclusions, derive their conclusions from the analysis of various case studies. The essence of such approaches to regional development lies in stimulating, developing, and implementing innovations as the key factor in regional development. A special emphasis is placed on certain intangible factors that are not suitable for mathematical modeling. These approaches underscore the importance of institutional infrastructure and a conducive business and research environment, smart specialization, and strategic planning, all aimed at creating a favorable climate for networking various actors in the research and development process (researchers, enterprises, and the public sector) to strengthen innovative activities and foster innovation-based development.

Contemporary approaches to regional development, therefore, focus on two key principles of the so-called fourth industrial revolution - innovation and knowledge, with the spatial aspect of regional development retaining its significance. In many developed countries, alongside industry concentration, there is also the localization of the education industry in major industrial centers. Although they have two completely different roles in the economy, these two industries are complementary. On the one hand, the industry as the primary driver of economic development directly influences economic growth and the creation of gross domestic product, while on the other hand, the "education industry" creates the necessary knowledge and innovations for further technological development of the industry. As examples of the implementation of modern approaches to regional development, in the era of knowledge and the fourth industrial revolution, certain expressive forms of business infrastructure emerge: science and technology parks, clusters, incubators, and so-called knowledge enterprises. (Gligorijević, 2022)

Science and technology parks represent an efficient mechanism for stimulating industrial development because, as intermediaries, they encourage networking between one or more universities and industry, all with the aim of promoting knowledge-based industrial production and innovation and creating new enterprises known as knowledge-based enterprises. Why is this important? Without the application of the results of scientific research, none of the economic activities can survive in the market, while the scientific research is not an end in itself. Therefore, if a scientific research does not undergo a phase of commercialization, investments in science lose their meaning. Such a model of linking the economy and education is very significant for achieving the goals of economic development, both for the region where the science and technology park is located and for the entire territory of a particular national economy. In fact, this model makes the industry (a crucial economic activity) and the education sector (one of the most important segments of society) significantly more competitive in modern global economic conditions.

Clusters represent another model of exceptional importance for achieving the goals of economic and, consequently, regional development. Clusters are defined as groups of enterprises associated for mutual benefits, enhancing competitiveness in the market and complementing each other. (Gligorijević, 2014) In the literature, various forms and models of clustering can be found. However, the understanding that is present among most authors leads to the conclusion that one cluster must consist of three key groups of enterprises: first, enterprises with key competencies for the production of a particular product; second, supplier enterprises, and third, enterprises based on the application of innovations and knowledge. It is believed that by uniting such economic entities, optimal results can be achieved, both for the cluster as a whole and for individual enterprises, the members of the cluster.

3. The concept of strategic planning and regional development management

If we consider society a large system with dominant characteristics, elements, actors, and goals, we can conclude that it consists of a large number of different, hierarchically grouped and structured subsystems (Stojanović, 1970). Each of these subsystems can be seen as a system in itself. In doing so, its goals must be compatible with the goals of the entire system. Otherwise, conflicting developmental interests arise within the system, which, in various ways, complicates the normal functioning of the system and, in the worst case, leads to its complete vertical and horizontal disintegration. However, the spontaneous movement and actions of different subsystems are not always homogeneous (often tending towards heterogeneity) and focused on achieving the goals of the entire system. In this sense, by the logic of things, there is a need for management of both of the system as a whole and of its subsystems.

If we apply the aforementioned observation to the economy, as one of the largest and most complex subsystems of society, the strategic management of its development becomes even more of a logical necessity. In this regard, economic, and therefore regional, development must be managed, and its course must be strategically planned in the long term (Gligorijević et al., 2020). This means that in order to manage the economy more effectively and strategically efficiently, as a subsystem of society and a large economic system, it is necessary to create an adequate strategy for a long-term development.

The process of strategic management of the economy must begin with a detailed, precise, two-way hierarchical and comprehensive analysis of the potentials, opportunities, weaknesses, and developmental possibilities of a national economy. Then, based on the analysis of the situation, the vision and goals to be achieved, the developmental direction of the economy, and finally various alternatives for achieving the stated goals should be determined. The choice of development alternatives depends on a large number of factors (internal, external, subjective, objective, endogenous, and exogenous), as well as on the size of the economy, the degree of its openness, the current economic theory, technological progress, economic and political systems, etc (Cvetanović, 1999).

Before the essential determination of the regional development strategy, it is necessary to analyze the phenomenon of regional development more precisely. Namely, the process of economic development can be characterized as one of the most complex sub-processes of the overall societal development. In doing so, economic development, as part of a unified developmental process, can be viewed from different aspects, which are interdependent rather than separate, independent developmental processes (Arandelović, Gligorijević, 2014). Since the social reality is unique, its development occurs as a unified but extremely complex process. However, the economy develops in a certain space, and that space, through its feedback and specific conditions, influences the acceleration or deceleration of the pace of development (Mihajlović, 1962). Thus, it can be said that economic development, as the most significant part of the unified process of societal development, has two inseparable aspects: sectoral and regional, and it always occurs and is realized as uneven development under the influence of numerous relevant factors (Gligorijević, 2018).

Given the complexity of the phenomenon of regional development and the large number of its different theoretical explanations, it is not possible to derive a single unified definition of regional development. For the purposes of the analysis in this paper, regional development is defined in a broader and narrower sense. In a broader sense, regional development can be defined as one aspect of observing economic development by regions, i.e., through the so-called "regional prism." This means that economic and regional development are not two separate processes, but only one process observed in different ways. In a narrower sense, regional development can be defined as a process in which a large number of

actors, of different hierarchical levels, under the influence of a large number of factors, work to achieve a more even development of an economy.

The fact that development cannot occur without unevenness has been accepted by numerous authors. However, unevenness in development stimulates economic development only if it remains within certain socially acceptable limits. When the regional differences become pronounced, they represent one of the crucial and existential problems of a country's economy. In this sense, the task of economic policy makers is to maintain regional differences within the limits of social acceptability through strategic measures and instruments of regional policy (Marjanović et al., 2020).

All measures and instruments of regional policy, therefore, cannot be implemented haphazardly, but rather through the application of a long-term strategic aspect. This means that the strategy of regional development is nothing more than a cohesive and coherent whole that integrates data, information, and analyses necessary for making strategic decisions in one place, as well as the measures and instruments that need to be implemented to achieve the strategically determined goals of regional development in the foreseeable future.

In addition, when creating the strategy of regional development, various approaches can be applied. However, global, highly dynamic, and turbulent conditions necessitate the creation of a unique and clearly structured combination of different approaches when creating the strategy of regional development. By applying the mentioned combined approach to creating the strategy of regional development, the optimization of the process of strategic management of regional development can be achieved, leading to a more efficient achievement of strategically determined long-term goals of regional development.

The process of choosing the strategy of regional development is conditioned by a large number of different factors, conditions, and variables. In this sense, the choice of the strategy of regional development is a very complex process in which various social subjects, as well as relevant and reference organizations and institutions, participate (Čobeljić, 1975).

However, the fundamental strategic dilemma lies in choosing one of the two most basic methods of creating the strategy of economic, and therefore regional, development. These two (extreme) methods represent theoretical and empirical opposites in the process of creating a development strategy. The first, namely, tends towards an extreme comprehensiveness when identifying all developmental potentials and factors (from rainfall to politics). The second approach starts from very rigidly and narrowly defined and clearly delineated socio-economic priorities and goals of a country, without going into all the details and other factors that can influence these priorities and the achievement of developmental goals (Stojanović, 1977).

In today's highly turbulent and dynamic conditions, it would not be rational to strive for the application of such (extreme) methods of creating the strategy of economic and regional development. In doing so, elements of both the first and second methods of creating a strategy can be useful in choosing and creating an adequate strategy for regional development. This does not mean that although it is not possible in modern conditions to identify, analyze, and/or predict all factors, potentials, and conditions that can influence development tendencies, both in individual regions and at the level of the entire economy of a country, they can be ignored and subordinated to one or only a small group of dominant and easily predictable development factors. On the contrary, it is necessary to identify key developmental factors, both internal and external, and to act as proactively as possible in choosing the strategy of regional development and its implementation. In this sense, the strategy cannot be rigid and fixed in all domains, but it must work on its functional flexibility, with unambiguous and fixedly determined ultimate development goals that are sought to be achieved by implementing the strategy.

Taking into account all of the above, it can be concluded that the process of choosing the strategy of regional development is a very complex, multidimensional, and multi-variant process during which it is necessary to analyze all available natural and socially-derived potentials of a national economy at all levels of the horizontal structure of the economy. In doing so, at each of these levels, macroeconomic planning and investment should strategically stimulate the course of structural changes in the vertical structure of the economy in the direction and for the sector for which a particular region has the necessary and dominant comparative and competitive advantages, all with the aim of raising the level of aggregate material production and regional and national competitiveness. When it comes to defining the set of goals of the strategy of regional development, it is necessary for it to be hierarchically two-way in order to satisfy the developmental interests of the greatest number of goals of all subsystems of the economy and society. In this way, smooth and long-term sustainable development of the economy and society of a country and its horizontal and vertical structures of the economy can be achieved.

4. The concept of smart specialization

The phenomenon of specialization, both in a microeconomic sense (at the level of individual firms) and at the level of the economy, has been addressed by numerous authors since the earliest days of the development of economic science. Specifically, when discussing the specialization of the economy, early works of David Ricardo contain views on the necessity of specialization and its impact on economic growth and development. Among other significant ideas to which David Ricardo made an outstanding contribution to economic science, his theory of comparative advantage stands out, according to which countries can benefit from international trade by specializing in the production of only those goods for which

they have relatively lower opportunity costs, even if they do not have an absolute advantage in the production of any particular good (Ruffin, 2002).

When it comes to smart specialization, in contemporary conditions, although it finds some of its foundations in David Ricardo's theory of comparative advantage, it has entirely new, highly innovative postulates that look at the need for specialization of economic activities in a modern way. Considering that the process of smart specialization is a relatively recent phenomenon, various authors through their research raise a large number of new questions. For the purposes of this work, an analysis of economic literature dealing with smart specialization has been conducted, so it is necessary to mention certain conclusions, both from foreign and domestic authors.

If adequately implemented, the process of smart specialization can have significantly positive effects on all spheres of the economic life of a national economy. This assertion was demonstrated by the global economic crisis of 2008, which increased pressure on countries to actively address structural problems in their economies through public investments in knowledge-based capital (firms) in a "smart way," thereby contributing to productivity and competitiveness. Smart specialization aims to do just that, stimulating growth potential in the context of rapid technological changes and globalization (Kyriakou, 2014). In the process of smart specialization, the role of economic policy makers, knowledge-based institutions, and entrepreneurs is emphasized because they all "smartly" influence specialization, thereby increasing national competitiveness.

Dominique Foray (2009) argues that smart specialization can only be achieved by creating a large area of research and innovation that allows for unlimited competition. His research predicts that with the implementation of the European Research Area (ERA), Europe will move closer to such a reality. Regions can then engage in the "entrepreneurial process" of aligning the production of local knowledge with appropriate specialization processes in the region.

This process will demonstrate its relevance with the appearance (mostly exogenous) of general-purpose technologies. Foray argues that while the leading regions (in terms of economic development level) invest in finding innovative general-purpose technologies, less developed ones must invest in the process of entrepreneurial discovery. Regions engaging in smart specialization enjoy high incomes only when they enter the competitive arena comprising a small number of "smartly" specialized players. According to Foray, the role of the state is based on systemic responsibility in terms of research and development, as well as providing appropriate incentives to entrepreneurs involved in discovering, so to speak, the right investments for smart specialization.

When it comes to the probability of smart innovations emerging, there are different opinions. By examining various statistical processes and tools, especially indicators of national and regional specialization in specific areas, it can be

concluded that modern statistical tools offer very little explanations that are verified in practice. However, relying on rich evidence from the regional economics, Cooke shows that there is a greater likelihood of innovations emerging in regions that best utilize various types of "proximity" - including not only spatial but also sectoral types. Specifically, he argues that regional innovation rates and economic growth are positively correlated with the presence of related industry diversity, understood as the collocation of connected (complementary) industrial sectors, and the transfer of knowledge that such diversity generates (Cooke, 2009).

Andrea Bonaccorsi (2010) argues that poor results in European science over the past quarter-century are one of the long-term reasons behind Europe's loss of competitiveness. Bonaccorsi presents evidence indicating that the relative importance of a strong and dynamic scientific base for achieving economic growth and development goals has been constantly increasing. Therefore, the application of contemporary scientific discoveries, including innovations, and new approaches to economic development has a significant impact on economic activity. "...for example, the poor performance of the European IT industry can be directly linked to the weaknesses of an underdeveloped scientific base and inadequate scientific cooperation between industry and scientific institutions..." (Bonaccorsi, 2010).

Some authors, on the other hand, believe that the state should not influence the process of smart specialization in any way but that this process should occur through the market mechanism and individual entrepreneurial skills. In this regard, Harrison emphasizes that the concentration in research and development and innovative activities stimulated and guided by the state policy in the long run is unproductive. The burden of his argument is based on the harmful effects caused by the lack of competition and the state's connection with all the institutional structures whose creation and development it stimulates. Harrison takes the position that the ambivalence of economic policy makers between pluralism on the one hand, and concentration stimulated by state measures and strategy on the other hand, occurs in cycles (Harrison, 2009).

Anastasios Giannitsis (2009) attempts to explain the relationships between the research specialization, the economy, and the public policy. In this sense, he states that the phenomenon of specialization is multidimensional and that policies aiming to provoke specific patterns of specialization carry risks but also opportunities. On the one hand, opportunities include productivity improvement, the advantage of being a first mover in technology development (pioneer), as well as significant future challenges related to the impact of smart specialization on energy, the environment, and climate change.

In an attempt to identify sustainable options for economic policy action, Giannitsis makes a distinction between the proactive and reactive policies and presents a strong argument for combining the best elements of both. He concludes that policies to strengthen specialization in research and development must include

strategies to improve the entrepreneurial discovery process, efficient functional coordination of research activities, as well as timely adjustment of institutional and economic structures, all aimed at raising the level of economic development and national competitiveness, which is of high interest to the society of a country as a whole.

Therefore, smart specialization is a very complex and dynamic concept developed by a group of academic experts in 2008. Although this approach to economic development is relatively recent, from its inception to the present day, it has aroused great interest on the global economic scene. "Such a success story in such a short period is a perfect example of 'policy (practice) ahead of theory': although smart specialization seems to be extensively theorized and represents one of the current pillars of economic and regional policy, this concept, still, is not completely solid and fully developed, especially as an academic concept" (Foray et al., 2011).

Many statements and arguments about smart specialization have not yet been based on complete and unambiguous empirical verification. In this sense, the process of implementing a smart specialization strategy must be flexible and open to changes in line with trends in global economic practice. Smart specialization, therefore, requires setting vertical priorities and is extremely selective. The main characteristic of smart specialization, as can be seen from the foregoing, is the definition of a limited set of priority areas for public investments that can best provide opportunities for economic growth and development and respond to social and economic challenges (Gianelle et al., 2019).

5. Concept of regional innovation system

At the beginning of the 21st century, economic literature witnessed the emergence of various theoretical approaches to regional development, primarily based on innovation as the key developmental factor. Unlike the neoclassical theory, which employs a highly formalized mathematical approach to analyzing regional growth and development, these approaches to regional development are based on the analysis of intangible developmental factors, and their methodology is descriptive in nature.

The aim of these approaches is to create what is known as a regional innovation system or innovation ecosystem, which, in collaboration with industry at the regional and national levels, could be one of the key drivers of regional development (Cheshire & Malecki, 2005). Different authors have explained the term "regional innovation system" in various ways; however, they commonly agree that a regional innovation system represents a form of collaboration among all stakeholders aimed at the most efficient development and implementation of

innovations within a region to enhance its competitiveness and the level of development (Lavson, 1997).

Practically, the application of the regional innovation system approach means that the process of regional development is primarily based on the development and even concentration of high-tech and highly innovative companies in line with the developmental potentials of a region. These companies have multiplicative positive effects on regional development as they continuously invest in new technologies, stimulate and produce innovations, thus creating new innovative and competitive products (Mitra, 2012). It is assumed that concentrated highly innovative and high-tech companies will continuously collaborate with other elements of the regional innovation system, such as educational institutions, science and technology parks, local governments, etc.

The regional innovation system requires a specific interdisciplinary approach, meaning that it involves a very broad spectrum of individuals, organizations, and institutions from different fields and hierarchical levels, including economics, engineering, electronics, robotics, law, psychology, sociology, governmental systems, and educational institutions that produce human resources for all these fields (Landabaso, 2006). Each element of the regional innovation system represents a separate factor and can influence regional development in various ways. Therefore, if we consider the regional innovation system a mechanism, its smooth functioning requires that all elements individually operate at an optimal level and that the relationships and collaboration between them are clearly defined and operates smoothly.

Given the above, if we methodologically consider these areas (elements of the regional innovation system) as factors, we can notice that they and their relationships fall into the category of intangible or difficult-to-measure factors, such as mutual trust among stakeholders, quality of institutions, entrepreneurial spirit, business environment, motivation of elements of the regional innovation system, and so on. Moreover, the adequate and properly developed regional institutional infrastructure (research centers, institutes, universities, regional development agencies, science and technology parks, development funds, and incubators) play a significant role in the functioning of the regional innovation system (Bošković & Manasijević, 2023).

Considering the above, it can be concluded that a developed regional innovation system, along with the strategic concentration of high-tech and highly innovative enterprises (knowledge-based enterprises), provides significantly greater opportunities for the emergence and spatial spread of innovations, which positively affects the entire process of regional development in a national economy.

The regional innovation system, as an approach to regional development, also provides many positive external effects. One group of them, relates to specific localization effects because various complementary stakeholders are located within

a region. In this sense, companies gain an access to qualified labor and have the opportunity for a specialization and clustering, institutes have the opportunity to apply their innovations with a very rapid response from the real sector, educational institutions have the opportunity to create market-competitive educational programs open to constant innovation, and the workforce gains access to high-tech jobs, among other benefits. Another group of external effects involves urban development effects. Namely, the regional innovation system indirectly, through increasing the standard of living and enhancing the region's competitiveness, influences attracting other investments, developing other activities, as well as developing transportation and economic infrastructure, which has a positive effect on the quality of life, productivity, and motivation of the population, including the workforce (Gordon & McCann, 2005).

Therefore, the regional innovation system represents one of the contemporary approaches to regional development with extremely high potential. However, this approach requires strategic, timely, targeted, and adequate government intervention aimed at enabling all necessary conditions for creating institutional and economic infrastructure without which the basic elements of the regional innovation system cannot be created and applied. Such government action is reflected primarily in funding the development of institutions, as well as in creating an institutional system of rules that applies to all stakeholders (laws, regulations, etc.). Ultimately, the market evaluates all elements of the regional innovation system (Arandžević & Gligorijević, 2014).

6. The rurban development model

The aspiration towards achieving the goals of balanced regional development is common to most countries, regardless of their level of economic development. However, it should be noted that, despite this, the level of economic and social development achieved in the process of achieving the goals of balanced regional development is a significant factor. In contemporary conditions, with the development of digital technologies, there are opportunities for the application of new models of regional development. One of the key characteristics of these new development models, alongside enabling effective and efficient development, is sustainability. In this regard, it is necessary to use all available approaches and modern measures and instruments of regional policy to formulate the concept of sustainable balanced regional development.

In addition to classical or traditional approaches and methods, the development of digital technologies, especially in the last decade, has enabled the conceptualization and implementation of modern models of regional policy. One such model is the *rurban development model*. In this context, the rurban development model should be distinguished from spatial planning models that include the term "rurban" in their name, as well as from rurban clusters found in

the works of some authors, mainly from India. According to the Cambridge Dictionary, the term "rurban" in the English language refers to the boundary area between urban and rural environments. However, in the context of regional development, the rurban approach involves the application of modern digital technologies in rural areas of a national economy to reduce regional disparities and develop rural areas.

Specifically, in the narrowest sense, the rurban development model involves the application of modern digital technologies in rural areas of a country. However, in a broader sense, the rurban development model incorporates elements such as strategic management of regional development, smart specialization, regional innovation systems, clusters, protection of product origin, cross-border cooperation, etc. By incorporating all these elements, the rurban development model represents an excellent tool in the process of revitalizing devastated rural areas of a country or group of countries.

Therefore, the emphasis is on maintaining the authenticity of rural areas while creating an urban digital and basic infrastructure, without which modern life is inconceivable. In this way, it is possible, over time, to transform purely rural settlements into modern smart villages, surrounded by nature. Such settlements, especially in contemporary conditions, attract a large number of tourists, as well as potential new residents. In this regard, the rurban model, as a combination of rural and urban development, can be one way of achieving sustainable regional development.

Balanced regional development is not an end in itself; its goal is to ensure long-term sustainable and equitable regional development while rationalizing the use of limited economic resources over an extended period. However, the possibility of underdeveloped countries achieving the goals of sustainable regional development without relying on the exploitation of limited and non-renewable economic resources is questioned. These modern views on the process of long-term sustainable regional development have led to the emergence of a large number of new development concepts and approaches, as well as organizations and institutions that define and operationalize them.

Considering the nature of the regional development process, it can be observed that the negative effects caused by an uneven regional development are most intense in rural areas. In this sense, the rurban development model can enable partial revitalization of these areas. Through the rurban model, a balance is created between modern technologies and nature, rural tourism, organic food production, ultimately promoting a healthy lifestyle. By combining urban and rural heritage, traditional and modern knowledge, younger and older generations, and people from rural and urban areas, multiplied positive results are achieved, both economic and non-economic in nature.

Therefore, the application of the rurban model, in contemporary conditions, can facilitate the revitalization of rural areas within a national economy. In recent years, especially amid the global COVID-19 pandemic, there has been a noticeable trend towards the revitalization of rural areas. With an increasing number of jobs being performed through digital technologies, many jobs are no longer strictly tied to a particular location. This allows people to relocate their business activities from predominantly environmentally polluted cities to rural and ecologically clean areas, provided they have the necessary working conditions (digital technologies). This is where all the principles of the rurban approach come into play.

In addition to all the aforementioned, the application of the rurban model has a kind of accelerator effect. There is a close connection between the rurban model and the development of rural tourism, organic food production, and so on. Also, the implementation of the rurban model in a particular rural settlement leads to the formation of a cluster network of rural areas, where each rural settlement specializes in a specific economic activity contributing to the creation of the overall rurban offer.

In this way, it is possible to stimulate both sustainable local economic development and the reduction of regional disparities, enabling the implementation of the concept of sustainable regional development. However, as with the creation of regional innovation systems, for the adequate implementation of the rurban approach, the state must strategically act with measures and instruments of regional policy to create a favorable and stimulating environment that inhibits the emergence and multiplication of positive economic effects at the regional level.

Particular importance in this process can be attributed to the comparative advantages of certain regions, which provide the basis for creating the necessary prerequisites for enhancing competitiveness. One of the significant comparative advantages possessed by certain regions of the Republic of Serbia, which can be transformed into a significant competitive advantage, is products with geographical indications - a concept that has been successfully implemented in Europe and worldwide for several decades.

7. Conclusion

Regional development represents a highly complex field. In doing so, the problems of uneven regional development affect almost all segments and elements of the social system. In this sense, the issues of uneven regional development occupy a high position in the hierarchy of socio-economic problems. However, resolving these problems is not possible in the short term. On the contrary, given the complexity of regional development issues, they must be approached strategically and with long-term planning, managing all the key strategic development processes.

Strategic management of economic, and thus regional, development involves creating a comprehensive and unified strategy for economic and regional development of a country. Although regional development represents only one dimension of economic development, it is necessary, in a strategic sense, to separately but complementarily plan the goals of economic and regional development. This means that, in contemporary conditions, alongside other strategies, a country must create long-term strategies for economic and regional development in line with all key factors and development potentials, both of individual regions and the economy as a whole.

Although in theory there are many different opposites in the choice of economic development strategy, in contemporary conditions, it is not possible to choose only one of the so-called pure or rigid economic development strategies. Namely, in contemporary conditions, it is necessary to apply a combined approach when creating an economic development strategy, which will have the best impact on the quality of economic development, the pace of economic growth, and ultimately, the level of national competitiveness.

Parallel and complementary to the choice and creation of an economic development strategy, it is necessary to choose and create a regional development strategy for a country. Considering the nature and essence of regional development problems, regions should not be seen simplistically as, figuratively speaking, organs of the economy, but rather as a kind of economic organism that has its goals, needs, and dominant development potentials that need to be utilized. The process of utilizing all natural and socially derived potentials of a region must also be managed strategically and with long-term planning.

One of the best ways to manage the utilization of the development potentials of individual regions lies in stimulating the flow of structural changes in a direction that will ensure the creation of a sectoral structure of regional economy in accordance with all available potentials. The sectoral structure of the economy of a region, thus formed, will, through its feedback, contribute to the optimal utilization of development potentials. In addition to the currently dominant activity for which a certain region has comparative and competitive advantages, it is necessary to plan and stimulate the development of those activities that could potentially be dominant in the future. In this way, it is possible to achieve the goals of long-term sustainable economic and balanced regional development of a country.

Based on the above, it can be concluded that in the rural model of regional development, besides focusing on knowledge and innovation, an emphasis is also placed on sustainability, modern digital technologies, as well as on the integration and cooperation of different stakeholders, in order to achieve both their goals and the goals of the entire environment in which they operate (region). From the perspective of regional development, this is very significant, because based on the potentials and the level of development of a particular region, the cooperation and collaboration of

different entities can be stimulated in a manner that is optimally complementary to a specific region. Such modern approaches to regional development, such as strategic management, smart specialization, and regional innovation systems, incorporated into the rural development model, can significantly contribute to achieving the goals of regional development in the long term.

Within the framework of the Fourth Industrial Revolution and the era of knowledge, as it is popularly called, further evolution of the existing models of regional development and the emergence of entirely new ones can be expected. However, it is important to mention that, in contemporary conditions, the state must be an active participant in the economic life of a national economy and strategic management must be applied to regional development. Such understanding and situation have been imposed by practical conditions that have confirmed that without the active role of the state, more balanced regional development cannot be achieved.

Therefore, in terms of management, it can be concluded that the rural development model represents a kind of combination of Keynesian state interventionism, a market approach, and modern knowledge acquired within the framework of the Fourth, and according to some authors, the Fifth Industrial Revolution. Such a development model represents one of the significant ways to achieve a more balanced regional development. On the one hand, developed countries have already advanced in the application of such and similar modern models to regional development and are already reaping the positive effects resulting from their adequate application, while, on the other hand, developing countries are only at the beginning of this process, so it seems that the application of the rural development model is a good tool for seizing their development opportunity.

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RURBAN: STRATEGIJSKI, PAMETNI I INOVATIVNI MODEL RAZVOJA

Abstract: Pitanjem neravnomernog regionalnog razvoja, tokom vremena, bavio se veliki broj autora, organizacija i institucija. Kao rezultat njihovih istraživanja razvio se veliki broj teorija koje sa različitih aspekata posmatraju i analiziraju oblast regionalnog razvoja. U procesu evolucije ekonomske misli o regionalnom razvoju došlo je do promene određenih shvatanja o najznačajnijim faktorima i pokretačima regionalnog rasta i razvoja. Naime, u savremenim istraživanjima sve više dominiraju određeni nematerijalni faktori poput znanja, inovacija, strategijskog upravljanja, pametne specijalizacije, intelektualnog kapitala i savremenih digitalnih tehnologija. Dakle, aktuelnija istraživanja iz oblasti regionalnog razvoja ali i regionalna stvarnost potvrđuju da navedeni faktori, u savremenim uslovima, imaju dominantnu ulogu u postizanju ravnomernog regionalnog razvoja. U tom smislu, u ovom radu biće analizirane teorijske osnove savremenih pristupa regionalnom razvoju koji naglašavaju značaj strategijskog planiranja, pametne specijalizacije, inovacija i savremenih digitalnih tehnologija, a u cilju njihovog adekvatnijeg razumevanja i inkorporiranja u integralni rurban model regionalnog razvoja, ali i primene od strane kreatora ekonomske i regionalne politike.

Ključne reči: Regionalni razvoj, strategijsko upravljanje, pametna specijalizacija, regionalni inovacioni system, rurban model.

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Aleksandar Manasijević is a PhD student (final year) at the Faculty of Economics, University of Niš, majoring in Macroeconomics. During his studies, he participated in numerous projects and competitions, of national and international character, where he achieved significant results. In addition, as a student representative, he actively participated in the work of certain bodies, commissions and teams of the Faculty, as well as in the organization of scientific gatherings, student conferences, seminars, forums, humanitarian actions, professional lectures, projects, competitions, summer schools of economics and Similarly. He is a member of the teaching-scientific council and council of the Faculty of Economics in Niš. He is the founder and manager of the Student Scientific Research Center of the Faculty of Economics in Niš and the editor of the collection of student papers "Regional Development and Demographic Trends". He is the creator of the professional competition in writing projects "Young economists - initiators of regional development". He published more than thirty scientific papers in the country and abroad.