Introduction of the Approach for Reviving the Sub-Municipal Level as a Spatial Aspect of Decentralization in Serbia

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Abstract: Decentralization is a globally accepted concept of separation, the diversity of structures within the political system, the transfer of resources, activities, and powers in the decision-making process, and the division of tasks from the central government to lower authorities. It is implemented in both developed and developing countries, with different aims and consequences. In Serbia, the urban-centric development model and centralized governance caused rural settlements to become non-viable, and services and opportunities were deprived. This research has been undertaken in order to provide a deeper understanding of the territorial aspect of decentralization in Serbia and how it affects rural areas. It strives to offer a methodological framework for the identification of central settlements in rural areas of Serbia that will serve as a focal point for settlements networking in order to facilitate the spatial integration of rural areas and governance at the local level. This research encompasses (i) the identification of rural nodes as bearers of balanced governance and spatial development; (ii) the delimitation of their gravity sphere; and (iii) the determination of the relationship between settlement organization models and decentralization in Serbia. The research results indicate that identified rural nodes can be valuable to developing a holistic understanding of rural issues, supporting a bottom-up approach and regional disparities mitigation.

Keywords: decentralization; spatial dimension; sub-municipal level; rural settlements; Serbia

1. Introduction

The term decentralization has had various meanings in different eras and in different research fields, with inconsistency in the definition and its understanding among researchers and practitioners [1]. However, decentralization is an essential political, social, economic, and territorial issue that directly affects various relations in society, allowing for the harmonization of central and local government, with a more significant influence of local self-government institutions on the formation of public policies [2]. As Faguet [3] highlighted, it is one of the most important reforms of the past generation in terms of the number of countries affected and the potential implications of governance. It induces a concept of separation and diversity of structures within the political system, the transfer of resources, activities, and powers in the decision-making process, and the division of tasks from the central government to lower authorities [4]. Likewise, this power transfer gives citizens a greater sense of belonging to a local community, increased local participation, and transparency of the government authorities, which is considered to be more responsive to local needs and mitigates decreasing poverty and spatial inequalities [5]. Decentralization has different aspects, including administrative, political, fiscal, formal, and informal decentralization [6]. However, it is important to pay attention to the decentralization of the resources directed toward concrete interventions. It should be added that there is a divergence between the political–administrative territories and the functional regions in terms of the local labor market and economic activities, which affects local development through the relations between political and spatial scales [7]. For development strategies on
a local level, their “multidimensionality” is a prerequisite for successful implementation [8], which implies the linking of different sectors and coordination between various social actors and different interests.

Most often, decentralization models advocate for the introduction of the regional level and the transfer of responsibilities to the regional structures that figure between national and local [2,7]. The transfer of authority and resources to subnational governments has been widely applied, especially in the last few decades, albeit highly unevenly between countries or within them [9]. As various empirical studies have shown, decentralization, as a process, and its effects could be different depending on the level of development achieved. In high-income countries, decentralization led to a reduction of regional inequalities, while in low- and medium-income countries, fiscal decentralization has led to significant regional disparities [9,10]. Through decentralization, developing countries can improve the distribution of income and rural areas’ development [11].

Recent research has treated decentralization in the context of “localism”, territorial development, place-based and bottom-up approaches in development strategies [12–17], and the maximization of development potentials [12]. Hermelin and Trygg [7] stated that the need to work from the bottom-up has been introduced in a top-down approach since the local development policy has received little attention in national political and planning systems. As Rowland [18] noticed, the increasing variety in local government practices could be considered a cause and, at the same time, a consequence of decentralization policies implementation. Some research has shown that the approach applied in regional development policies sometimes fails to be sufficient toward rural areas and rural settlements within disadvantaged areas [10,18–21]. Wong et al. [17] characterized power restructuring in China from the state toward villages as a shift from the “decentralization of governance” to the “governance of decentralization”. The shortcoming of the mentioned approach, which generates the insufficient effectiveness of regional policy in the most vulnerable areas, is reflected in the impossibility of adequately “experiencing” rural settlements [5,19,20]. Some authors argued that particular issues like spatial dispersion, heterogeneity, and lack of application reduce the efficiency of production in rural areas in developing countries and can be improved by decentralization [22]. Over time, concepts such as decentralized rural development or municipalization of rural development were introduced. The importance of decentralization and its primary role in the development of rural areas is emphasized, mainly through a participatory approach, bringing services closer to citizens, respecting diversity and local characteristics, reducing poverty in rural areas, and mitigating spatial and social disparities [2].

Decentralization is treated differently in developed and developing countries [7,10]. For developing countries, it is a source for delegation in the process of planning, implementing development goals, evaluating, and participating in decision-making, as well as the transfer of administrative powers from the central government to the local government. In this sense, the process of competence transfer to lower spatial and hierarchical levels is very significant [1]. Planning for the population’s well-being requires a proper understanding of the local context, including economic, social, and cultural issues relevant to the local communities.

On the other hand, local territories and rural communities need more adequate policy interventions. The urban-centric model of development and the centralized governance system have had negative consequences regarding the development of local territories, especially in rural areas. Focusing on growth supported via the core–periphery model [23] and growth pole theory [24], territories have become intensively polarized, which still characterizes developing countries.

The pyramidal model of decision-making and governance marginalized rural settlements in the form of the last instance of executive power without autonomy or authority, which resulted in selective governance, with growing disparities, and without respect for the peculiarities of local environments and the needs of local inhabitants. The practices and numerous studies confirmed that one growth center [25] needs to emit development
impulses in its surroundings sufficiently in order to facilitate urban–rural linkages that are vertically hierarchically oriented and to support the integration of the entire local territory. When the traditional top-down governance approach does not give positive results for the development of local communities and rural areas, the concept of decentralization should be applied, allowing local communities to independently decide on important issues at the local level [26]. This implies rethinking territorial decentralization in the context of adopting a spatial settlement organization that would foster spatial integration and development and enable the administration and decision-making transfer to a lower spatial level. As Illner [27] noted, an essential organizing factor of public administration and designing the structure and functions of government is the settlement system, which implies considering the settlement’s character or of the settlement sub-system that constitutes the government area. In this regard, the introduction of a development strategy with a more decentralized approach to urban–rural development at the local level is required [28].

The underlying theory for optimization of spatial settlement network, settlements hierarchy, and linkages is derived from several concepts beyond the central place theory (CPT) [29,30], focused on places that can act as focal points (nodes) for development and planning, as well as delineation of their spatial and functional impact on the surroundings. It implies that resources and development are concentrated in central settlements known as a model developed in several studies (rural towns by Johnson [31]; urban functions in rural development—UFRD by Rodinelli [32]; agropolitan approach by Friedman and Douglass [33]; key settlement by Cloke [34]). According to CPT, more geographically isolated areas are characterized by a smaller population, poorer infrastructure, and economic potential, which is under Friedman’s core–periphery theory that advocates for a settlement hierarchy. These small rural settlements became non-viable because the services and opportunities tended to gravitate up the settlement hierarchy [35], additionally encouraging spatial disparities. In this regard, CPT and similar theories underpin the settlement’s networking from various aspects and levels. This accords with the theory of spatial disadvantages, the principles of localism [36], and the regional network strategy developed by Douglass [28], who advocates multilateral horizontally oriented linkages of local territories organized around settlements and clusters of rural–urban linkages.

The spatial organization should support the decentralization of the administration and governance in local territories. It is initially advocated by Rodwin’s [37] concept of “concentrated decentralization” that induces investment in centers set up in the periphery, as well as by the concept of nodal regions that are based on functional networking in order to reinforce the integration of rural hinterland [38,39]. Settlements networking is fostered by central or key settlements, so-called “development nodes”, which grew into a mechanism for the effective planning and development of rural areas. Such central settlements usually underline an increase in population, population density, income, and facilities in potential service areas and require a demand threshold [40,41]. This usually plays a role in area delineation, in which their economic and social development impact is transmitted. Functional area is linked to flow and connection intensity and reflects the center’s impact on the surrounding area. This is derived from previous theories developed by Thuenen and Weber and later Hirschman, Isard, Ullman, and others [25], while others applied the modified gravity model [42,43] to delimit their impact area. In order to foster rural area development, such a concept should be implemented on local territories and imply the identification of nodes at the sub-municipal level, which possess certain capacities for the integration of rural areas and to become bearers of administration and power decentralization.

Following the recent trends in territorial reforms and the principles of localism, this paper represents an effort to create mechanisms for decision-making transfer to geographic areas within the municipal boundary. Respecting the territorial aspect of decentralization, the proposed methodological framework should contribute to functional and spatial networking in Serbia. It is focused on the decentralization issue, addressing the possible territorial reforms and spatial organization in Serbia. In this regard, this research starts
from the premise that decentralization should be supported by a well-balanced network of focal points based on functional associations at the sub-municipal level that fosters the integration of peripheral and rural areas in the development processes. Previous research on Serbia confirmed the premise; however, their results showed the uneven spatial distribution of sub-municipal networks, which would hinder the striving toward rural area integration. In this regard, this research strives to offer a methodological framework for the identification of central settlements in rural areas of Serbia that will serve as a focal point for settlement networking in order to facilitate the spatial integration of rural areas and governance at the local level. The main goals of this research are as follows: (i) identifying of the central settlements in rural areas, called “rural nodes”, that represent focal points of the settlements’ interlinkages; (ii) delimiting the impact area, called the “gravity sphere”, based on functional linkages with surrounding settlements; (iii) emphasizing the possible impact of the introduced methodological framework for the spatial organization and decentralization of Serbia on local development.

2. Overview of Territorial Decentralization in Serbia

2.1. Territorial Reshaping of Serbia

Serbia has a single-level local self-government system. According to the Law on Territorial Organization of the Republic of Serbia (OGRS 129/07), there are in total 174 local self-government units, including 145 municipalities, 28 towns, and the City of Belgrade (Figure 1). The territorial organization of Serbia relies on regionalization to some extent. It comprises two autonomous provinces as territorial autonomy units, 29 administrative districts, and the City of Belgrade (Law on State Administration, OGRS 99/14; Government Decree on Administrative Districts, OGRS 15/06). They represent a form of deconcentration, not decentralization [44]. According to the Law on Regional Development in 2009 (OGRS 30/10), five NUTS 2 regions were established as statistical functional territorial units, with one or more districts equal to the NUTS 3 level.

Figure 1. Administrative division of the Republic of Serbia.
Local self-government in Serbia has a long-lasting tradition of historically rooted self-government practice in the rural areas (i.e., before the creation of municipalities). The territory of municipalities and towns can be divided into so-called “mesna zajednica” as a particular form of sub-municipal-level government and territorial organization that is present in the countries of the former republics of the Socialist Federative Republic of Yugoslavia (SFRY). This concept is based on administrative units with legal subjectivity, financial independence, and own property; however, it has a weak impact due to limited capacities [45]. Today, the sub-municipal level of governance in these countries implies certain varieties: forms of urban governance (e.g., Slovenia); legal advisory entities (e.g., Croatia, Bosnia, and Herzegovina); and instruments for participation in local affairs (e.g., Montenegro, North Macedonia). It is formally present in Serbia as a legacy of the Law on Local Self-Government (OGRS 111/2021). Sub-municipal units play an essential role in the functioning of rural communities. They are recognized in many European countries, as well: stadtbezirk (Germany), parish (Spain), freguesia (Portugal), solectwo (Poland), synoikia (Greece), kmetstvo (Bulgaria), kmetij (Slovenia), concejos, pedanías or parroquias (Spain), autonomous villages (Turkey), little town-halls (Czech Republic), neighborhoods, etc. [10,45–50]. They have been seen as identity- and community-keeping institutions or tools with which to facilitate the implementation of service delivery and mitigate the adverse effects of amalgamation reforms. Alternatively, they could be an area of common interest that induces the creation of neighborhood bodies [51].

Remnants of the former regime on a local level in Serbia must therefore exist. In 1955, in Serbia and other former republics of the SFRY, the socialist commune system was introduced. The commune was seen as the fundamental socioeconomic unit, with extensive jurisdiction and a place where the local population met all essential needs and addressed public demands [52]. The national liberation committees were replaced by, and later reorganized as, a “mesna zajednica”, according to the Constitution of SFRY in 1963, and this was confirmed as a required form of sub-municipal government with the Constitution of Yugoslavia in 1974 [44,45]. The “mesna zajednica” was represented by an administrative unit established as a tool for establishing stronger integration of local communities without their budget and public administration [53]. It is an institution of local self-government that represents a form of self-organization of citizens according to the territorial approach [54]. Their organizational structure was managed as an assembly of local self-government and under the umbrella of the local budget, with some additional financing sources (voluntary taxes, donations, income from property, and others). These units had an important role in initiating changes at the local level of the community. Many services of “mesna zajednica” were established during this period of social development [45]. Unfortunately, tendencies towards emphasized centralization in governance and territorial organization led to the diminishing of local self-government competencies and the neglecting of the sub-municipal units, which, in the functional sense, have been abandoned.

2.2. Administrative Reforms in Serbia

In Serbia, a period of almost two centuries could be recognized as a constant struggle between centralization and decentralization [44]. After the Second World War, small municipalities predominated; however, their enlargement soon started. This transformation was in line with the aspiration toward building a more empowered local government level, i.e., the intention for municipalities to become competent to overtake a broader range of self-government and administrative state functions. The socialist system was introduced, and many local communal services were established during that period of social development. The sub-municipal administration became an additional institution for the development of local administration and the promotion of direct local democracy [45]. This process was finished in the 20th century during the 1960s, and their number has only slightly changed since then.

At the beginning of the socialist period, efforts were made to create a more significant level of local government capable of assuming a more comprehensive range of
self-governing and administrative state functions [44]. According to the 1990 constitution, Serbia has been viewed as a decentralized country with balanced and vertically organized state governance [55]. Unfortunately, the implementation of this idea failed. Under the Law on Assets in the Property of the Republic of Serbia in 1995, all property of local authorities was confiscated and declared as property of the Republic of Serbia, and a centralized property governance system was established [56]. Local authorities receive a wide range of tasks that demand the development of their capacities in financial and budget management. The centralized governance system in Serbia has incurred negative consequences regarding the development of local territories. Since 2000, in Serbia, the focus has shifted to territorial decentralization, where territorial self-government units were established [55]. Serbia was characterized by poor governing quality expressed by the amount of public spending and pronounced regional disparity [57]. Based on previously conducted analyses, numerous systemic weaknesses in Serbia were identified, especially the quality of the administrative division, citizen participation, public services, the efficiency of the funds’ usage due to limited market mechanisms, the quality of governance, creation, and implementation of public policies, etc. [56]. Decentralization became a vivid topic in political and public discourse in 2008–2010 [57], and after 2014, it was set as one of the key priorities of the Serbian public administration reform [44]. However, the societal dialogue has not been well-established, nor has the societal consensus on the key reform directions been reached [58].

The changes were introduced by the Law on Local Self-Government in 2007 (OGRS 129/2007-41, where certain competencies were returned to local self-government to establish more complete political, administrative, and fiscal decentralization. The legal framework provided the “mesna zajednica” as the form of organization of citizens on the part of the territory of the local self-government unit, with legal personality. At the same time, the new Law of self-government (OGRS 111/2021) foresees other forms of local self-government, leaving room for prescribing and creating sub-municipal forms in parts of the local territory. According to this Law (act 74), the number, jurisdiction, and scope of functions of the “mesna zajednica” are defined under the statutory act of municipalities and, if applicable, by the statute of the local communities. The legislative framework ensured that some local public tasks can be entrusted to sub-municipal units [44]. However, this concept has not been implemented in practice.

3. Materials and Methods

The multi-step methodological framework of the proposed research is based on the determination of relevant and exact criteria for the identification of development and administrative nodes of rural areas in Serbia that potentially represent sub-municipal government units, as well as their spatial distribution. It is essential to point out that the first segment, which refers to the identification of rural nodes, arose from the Model for the determination of central settlements in rural areas in Serbia developed by Drobnjaković [59]. This model is considered as a basis for the development of the methodological framework used for rural node identification in Serbia. All methodological steps derived from the mentioned model [59] are presented in blue in Figure 2, while all subsequent methodological segments built in this research are presented in yellow in Figure 2. The overall goal of define rural nodes, presented in green color in Figure 2, involved the mentioned methodological steps.
3.1. Study Area

The spatial dimension of the research conducted for the territory of the Republic of Serbia, has a national scope. The study area has been chosen, respecting the aforementioned highly centralized administrative division of Serbia and the necessity of the introduction of a sub-municipal level into local governance and the spatial organization of the local settlements network. It includes four statistical regions (NUTS 2)—the Vojvodina Region (VR); the Belgrade Region (BR), as a region with a special status that embedded 17 municipalities; the South and East Serbia Region (SESR); and the Šumadija and West Serbia Region (ŠWSR) (Figure 1). This implies that a total of 168 municipalities and 4709 settlements have been incorporated into this research. According to official statistical categorization in Serbia, the settlement network consists of two different categories—urban settlements (3%) and other settlements (97%). The presented methodological framework for identifying rural nodes includes settlements categorized as other, non-urban, or rural. Such rural nodes are not randomly selected settlements but those that possess the capacities on which the model is initially based: population size, functional capacity, diversified rural economy, location and accessibility, centrality expressed through developed public-social infrastructure, etc. [59–61].

A regional approach is applied in methodological framework building in order to mitigate the heterogeneity of the observed settlement group and respect the local specificities of the study area. More specifically, descriptive statistics used for the determination of threshold values were conducted for each region separately (Figure 1).

Spatial analysis and mapping are carried out in a QGIS (3.16.5) environment. The temporal dimension of the research that was conducted relies on the latest available official data at the settlement level (2011) for all observed indicators, except for dynamic indicators, which are calculated for the period 1981–2011 in order to present the trend of the population changes. The used datasets reflect the actual situation regarding settlement development and their position in the local settlements network. The current changes were reflected equally in all settlements of Serbia, while crucial differences were recorded in the earlier period during the collapse of the national and local economy in the 1990s and the beginning of the 2000s. The selection of demographic changes and the deterioration of the population structure of the settlements were registered with the 2011 census and earlier. In this regard, the obsolescence of data would not critically affect the research results.

3.2. Basis for Methodological Framework Building

In terms of clarification and acquiring a better understanding of the methodological framework of the conducted research, it is important to acquire an insight into the approach
and main deliverables of the Model for the determination of central settlements in rural areas in Serbia. The mentioned model was previously developed by Drobnjaković [59] for the purpose of deriving a central settlement in rural areas (Figure 2). The model was initially developed for Central Serbia (BR, SESR, ŠWSR). Accordingly, it is used as a basis for establishing and developing the upgraded model for rural node identification, which is presented in the following sub-section.

The typology of rural settlements in Serbia was conducted with cluster analysis, encompassing a set of 35 variables (Figure 3). The variable set was chosen based on international and national practice and official data availability in Serbia in order to comprehensively encompass all dimensions of rurality in Serbia [59]. The hierarchical aggregative cluster analysis was used for grouping settlements with relatively homogeneous characteristics. It is the most common technique for rural typology performing, for establishing the spatial patterns, and for examining the significance of the interrelation between variables [62–64]. Ward’s method is widely applied in geography [65].

![Figure 3. Basis for building a model for the identification of central settlements (source: adopted from Drobnjaković [59]).](image)

This approach identified five types of rural settlements: sub-urban settlements, progressive, sustainable, endangered, and devastated. It is recognized that within three types
(progressive, sustainable, endangered), potential central settlements were embedded. Further identification of the central settlements in rural areas was carried out based on relevant rural indicators, which were selected using the CART method (classification and regression trees) (Figure 3). Threshold values were defined for each of the indicators based on the mean values in the observed settlement groups, and the identification of central settlements was performed.

According to Drobnjaković [59], in an established multi-level hierarchy settlements network, central settlements are one of the lowest recognized spatial levels. The identified central settlements in rural areas are very heterogeneous. Some of them are settlements with agricultural orientation, tourist centers, mining settlements, traditional administrative and service centers, suburban settlements, and settlements with specific functions [59]. They respond to the needs of the local, permanent, and seasonal populations [66,67]. Centers were concentrated mainly in the large river valleys, on the development axis, in the vicinity of regional centers, etc. [59].

3.3. Building of Upgraded Methodological Framework

This process is based on two successive segments: (i) the detailed selection of the rural nodes; and (ii) the delimitation of the rural nodes’ gravity sphere.

3.3.1. Selection of the Rural Nodes

In order to achieve greater accuracy and compatibility with real situations in the settlement network in Serbia, significant modifications of the basic model were made. The modifications implied consultation of the corrective factors, which enabled a rigorous settlement selection toward the establishment of a more realistic and spatially balanced rural node network. The applied corrective factors were as follows (Figure 2):

- Morphometry: (i) terrain, i.e., relief that indicates potential natural objects (mountain, river valleys, etc.) that could be considered potential obstacles for flow directions; and (ii) a morphology of settlements that reflects directions of spatial integration.
- Accessibility, as measured by the mean travel time distance between settlements and centers based on the road network and calculated at the municipal level. Accessibility has been considered an important factor that induces rural change typologies.
- Daily mobility, with a spotlight on workers, indicating the degree of functional self-sufficiency or dependence on the higher-ranked center;
- Population potential, which implies the total population in the catchment area of the selected rural nodes.

The selection of the rural nodes relies on following methodological steps:

1. Urban settlements and non-urban municipal centers were excluded (208 settlements) since the research is focused on rural areas and rural settlements.
2. In order to exclude the suburban settlements from the group of rural nodes, a selective approach is used due to a lack of an official methodology for identifying suburban settlements in Serbia. The reason for the exclusion of suburban settlements relies on the fact that they are more populated and functionally stronger but not economically and socially independent since they belong to the daily urban system of high-ranked centers. Their selection was based on daily mobility, calculated using official statistical data [68]. The threshold was determined according to the mean value of the indicator within regions (see Section 3.1).
3. An additional step is carried out to make a more precise distinction between rural nodes and suburban settlements. When the daily mobility value was close to the threshold value, and all other indicators were in an established interval for rural nodes, the observation was conducted using aerial photogrammetric imaging, i.e., orthophotography. This enables the recognition of the spatial integration directions of settlements with their surroundings. The used orthophotos have a resolution of 30 cm and are based on satellite imaging data from the period 2020–2021 obtained from the portal GeoSerbia (https://a3.geosrbija.rs/, accessed on 1 October 2022).
Imaging was performed with a digital, multispectral aerial photogrammetric camera UltraCamXp in line with the INSPIRE directive and defined by the parameters of the SRB_ETRS89/UTM reference system. The mean square error of the positional coordinates is $\pm 20$ cm.

4. The final set of rural nodes for territory of Serbia has been established.

3.3.2. The Delimitation of the Rural Nodes’ Gravity Sphere

The delimitation of the rural nodes’ gravity sphere implies several methodological steps:

1. Identification of the potential physical obstacle for settlement linkages and flow functioning. For this purpose, aerial photogrammetric imaging—orthophotography—was used, which overlapped with the network of the recognized rural nodes, the existing road network, and the public amenities in settlements. We observed how these obstacles influenced the flow of daily circulation and settlement interlinkages regardless of the distance.

2. Accessibility has been used as a basis for the further delimitation of the gravity sphere. At the local scale, frequent corridors play an important role in territory division, physically separating the land parcels, while local and regional road networks affect remoteness and peripheralization. This was observed separately for regional units in order to take into account the specifics in terms of the type of settlement, infrastructural equipment, and terrain morphology, which significantly determine the accessibility of the centers. The accessibility analysis between settlements and municipal centers was performed using the Open Street Map (OSM—www.openstreetmap.org, accessed on 1 October 2022), car speed limits officially established for different road categories (local and regional), and the coordinates of the settlement centers [69]. This method is recognized as efficient for detection of rural areas with low-density road networks [70]. It is based on raster GIS network analysis performed in the software package QGIS 3.16.5. The accessibility zone of rural nodes was calculated based on the median values of the travel time to the municipal center as a referent threshold for the networking of rural nodes and the nearest settlements. The regional approach was applied for threshold determination. The zone threshold radius is set at a distance of 7.2 km for Central Serbia (BR, SESR, ŠWSR) and 6 km for the Vojvodina Region.

3. The population potential of the rural nodes’ gravity sphere was calculated according to their catchment area, which was presented as the total number of permanent residents in the gravitating settlements.

4. Mapping and classifying the two different types of rural nodes was performed: (i) those that integrate smaller or larger numbers of settlements within their gravity sphere; and (ii) those self-sufficient ones that do not have a gravity sphere but possess capacities to act as independent units.

4. Results

The existing spatial inequalities in the territory of Serbia arose from intensive polarization and administrative centralization as the leading causes, manifested through economic imbalances and devastation, social exclusion and poverty, limited infrastructure accessibility, peripheralization, public–social marginalization, etc. Certain rural areas are affected by the synergistic effect of the mentioned processes, drawn into a vicious circle of underdevelopment with limited capacities for change. In previous decades, attention has been focused on urban areas, while turbulent structural changes, interventions, and control of the development of rural areas have been neglected. Pressures on rural areas and rural communities have become increasingly pronounced over time, as well as excessive expectations related to competitiveness in the labor market, respect for the principles of sustainability, and the creation of responsible, flexible, and multifunctional rural communities. Such effects were visible in the 20th century during the 1980s, manifesting through
demographic exodus, economic devastation, sociocultural deprivation and pauperization, structural isolation, and political–administrative marginalization [59].

4.1. Structural Problems in Rural Areas of Serbia

The common structural problems facing the rural area of Serbia include:

1. Difficulties caused by population shrinkage and fragmentation of the rural settlements network. Due to the continuous reduction of demographic reservoirs, the average size of rural settlements rapidly decreased from 951 in the post-war period to 639 inhabitants in 2011 [71]. Zones of sparsely populated areas (up to 20 people/km²) are peripherally located, showing a trend of expansion from 192 settlements in 1961 to 1584 settlements in 2011 [72]. Negative natural growth in rural areas has been recorded since 1989 [73]. The lowest values were registered in the rural areas of southeast Serbia. On the contrary, demographically vital settlements are concentrated along development axes.

2. Declining production activities. Only 26.7% of the working contingent in rural areas is employed, while approx. 40% of the total population is inactive [74]. On average, 36.8% of the rural population is engaged in agriculture [75]. There is a process of intensive deagrarization. In the last inter-census period, it is most pronounced in the area of Southern and Eastern Serbia and most dynamic in the Region of Western Serbia and Šumadija [76]. Diversification of activities in settlements is low, with an average of 7.7% employed in secondary and tertiary activities in the place of residence [77].

3. The devastation of the villages as a local community. A small number of rural settlements have satisfactory communal and spatial organization, except certain former towns and settlements with a tourist function. Almost 15.8% of buildings in rural areas do not have a regular water supply network, 7.7% of buildings are covered by a sewage network, and only 10.3% of buildings are equipped with electrical installations [78]. On the other hand, larger settlements and former boroughs are better equipped with public and social infrastructure facilities, while in rural settlements, there are usually no institutions (or only one). Almost 35.7% of the rural population is faced with some form of deprivation [79].

4. The obsolete sub-municipal administrative system. The sub-municipal level of governance is slightly neglected in Serbia, as it is in many other countries, such as the Czech Republic, Greece, Portugal, Poland, Slovenia, etc. [48,49,52,80–82]. In the territory of Serbia, a large number of “mesna zajednica” are registered (4054, i.e., 23 local communities per municipality (Table 1)) [83], which corresponds approximately to the number of settlements. The significant fragmentation of the administrative sub-municipal system proved to be dysfunctional and inert. The excessive disunity of the local territory lacked mechanisms for organized governance, so this concept became fictitious.

Table 1. Existing sub-municipal administrative division.

<table>
<thead>
<tr>
<th></th>
<th>Vojvodina Region</th>
<th>Belgrade Region</th>
<th>ŠWS Region</th>
<th>SES Region</th>
<th>The Republic of Serbia</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Mesna zajednica” (Total)</td>
<td>546</td>
<td>208</td>
<td>1564</td>
<td>1711</td>
<td>4054</td>
</tr>
<tr>
<td>Average number of “mesna zajednica” per municipality</td>
<td>12.1</td>
<td>16</td>
<td>30.7</td>
<td>33.5</td>
<td>23.1</td>
</tr>
<tr>
<td>Min number of “mesna zajednica” per municipality</td>
<td>3</td>
<td>1</td>
<td>10</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Max number of “mesna zajednica” per municipality</td>
<td>47</td>
<td>42</td>
<td>78</td>
<td>139</td>
<td>139</td>
</tr>
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Source: [83].
4.2. Rural Nodes as a Core of Sub-Municipal Units

As Hlepas et al. [48] noticed, most sub-municipal entities correspond to older communities and old historical paths; this sentiment of belonging to a geographically defined community has been the underlying basis for their development [47] and encourages the self-organization of the local population. On the other hand, demographically weakened areas are characterized by smaller population coverage. However, due to the current depopulation trend and economic devastation in such areas, the importance of applying the model is numerous. Certain types of “amalgamation” of depopulated settlements are necessary in order to give an adequate answer to similar questions, where one of the solutions is the functional grouping of settlements around one dominant rural center, i.e., a node.

In the territory of Serbia, rural nodes are recognized through former boroughs, municipal centers, some functional, prosperous settlements, and those located on the traffic axis. In total, 242 rural nodes have been identified, or 1.5 nodes per municipality, with an average of 5.6 rural settlements. Their sphere of influence covers 661,248 rural inhabitants, with an average population potential of 3140 inhabitants per node. The results show that the 42 nodes do not have associated gravitating settlements; however, they possess capacities that enable them to function as separate sub-municipal centers.

Rural Nodes through the Lens of Regional Disparities

The genesis of the settlements network, predisposition to natural features, overall development, and infrastructure corridors, caused the uneven distribution of rural nodes per region and the differences in the coverage of their gravity sphere (Figure 4, Table 2):

Figure 4. Spatial distribution of rural nodes and their gravity spheres (source: authors).
Table 2. Characteristics of rural nodes network in Serbia at regional level.

<table>
<thead>
<tr>
<th></th>
<th>Vojvodina Region</th>
<th>Belgrade Region</th>
<th>ŠWS Region</th>
<th>SES Region</th>
<th>The Republic of Serbia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural nodes (total)</td>
<td>34</td>
<td>12</td>
<td>111</td>
<td>85</td>
<td>242</td>
</tr>
<tr>
<td>Rural hubs per municipality</td>
<td>0.8</td>
<td>1.2</td>
<td>2.2</td>
<td>1.7</td>
<td>1.5</td>
</tr>
<tr>
<td>Settlements number per gravity sphere</td>
<td>126</td>
<td>35</td>
<td>805</td>
<td>720</td>
<td>1686</td>
</tr>
<tr>
<td>Average settlement number per rural node</td>
<td>3.7</td>
<td>2.9</td>
<td>7.3</td>
<td>8.5</td>
<td>5.6</td>
</tr>
<tr>
<td>Min settlements per rural node</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Max settlements per rural node</td>
<td>7</td>
<td>6</td>
<td>21</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>Total population in the gravity sphere</td>
<td>144,268</td>
<td>42,333</td>
<td>287,204</td>
<td>187,443</td>
<td>661,248</td>
</tr>
<tr>
<td>The average population per gravity sphere</td>
<td>4243.2</td>
<td>3527.7</td>
<td>2587.4</td>
<td>2205.2</td>
<td>3140.8</td>
</tr>
<tr>
<td>Min population per rural node</td>
<td>377</td>
<td>439</td>
<td>235</td>
<td>175</td>
<td>175</td>
</tr>
<tr>
<td>Max population per rural node</td>
<td>9443</td>
<td>9023</td>
<td>8695</td>
<td>5255</td>
<td>9443</td>
</tr>
<tr>
<td>Self-sufficient rural hubs (total)</td>
<td>20</td>
<td>4</td>
<td>5</td>
<td>13</td>
<td>42</td>
</tr>
</tbody>
</table>

Source: authors.

The Vojvodina Region is characterized by a highly homogeneous rural settlements network, especially in terms of type, genesis, population size, centrality level, and functional features [67,84]. This region is characterized by the largest settlements by territory scope and population size, which is analogous to the configuration of the terrain and controlled and planned settlement development [72]. This is reflected in the relatively small number of rural nodes (just 34). The smallest number of rural nodes per municipality is recorded in this region (0.8) (Table 2). In six municipalities, we did not identify settlements with rural node’ features. These municipalities are small by population size and coverage area that encompass several settlements, where the integration and governance could be managed from municipal center. Only one rural node has been recognized in 44% of the total municipality number. The higher number of settlements that could be treated as a rural node in the local settlements network could be found in cities and municipalities that are characterized as densely populated and developed areas (Figure 4). The highest number (20) of self-sufficient nodes compared to the other regions is registered in this region (Table 2). Approximately 37% of the municipalities have this type of rural node, which is related to the region’s settlement pattern. There are 126 gravitating settlements in total. On average, a rural node covers 3.7 settlements, which roughly reflects the existing sub-municipal administrative organization. A maximum of seven settlements in the gravity sphere were registered. The catchment area of identified rural nodes includes 144,268 inhabitants, i.e., 18.4% of the rural population of the region. The average population potential of the node is estimated at 4243 inhabitants, which is the largest sphere of the rural node in Serbia. In this region, the rural node with the most pronounced population potential is also located (9443 inhabitants) (Table 2). The smallest population potential of rural nodes is estimated at 377 inhabitants.

The Belgrade Region includes the smallest number of rural nodes (12) identified in 10 suburban-type municipalities. The average number of rural nodes per municipality is estimated at 1.2 (Table 2). The Belgrade Region is characterized by a sparse rural nodes network due to the strong influence of the capital, which relativizes their vicinity to central settlements. In two municipalities, which are considered as a part of the capital, rural nodes could be not recognized, while in four municipalities, only one rural node has been identified, which was affected by strong influence of the capital. A higher number of rural nodes is noticed in municipalities remote from the central part of the region. Only four self-sufficient nodes are recognized (Figure 4, Table 2). The rural nodes’ gravity sphere encompasses 35 rural settlements, which are 2.9 settlements per node (maximum 6). This is significantly less than the existing administrative sub-municipal division with five “mesna zajednica” on average. The reduced number of functional rural units is compensated for by
a significant population potential of 3528 inhabitants on average. The catchment area covers 42,333 inhabitants, which is 13.5% of its total rural population and encompasses 24.8% of the region’s rural settlements (Table 2). The highest population potential is estimated at 9023 inhabitants, while the lowest is 439 inhabitants (Table 2).

The Šumadija and West Serbia Region is characterized by the largest number of rural nodes (111), as well as by their gravity spheres with 805 rural settlements (Table 2). It could be seen in relation to the large territorial coverage of this region and a fragmented settlement network as a result of the predominantly mountainous morphology and frequent division of family holdings [85]. It affects a high-density-rural-nodes network, with more than two nodes per municipality (2.2) on average and predominantly 3–5 rural nodes per municipality. Only 19.2% of the municipalities recorded one of the rural nodes or none. These are small by population size and those that encompass only a few settlements that are well integrated by the municipal center. Significant heterogeneity of the settlements network in terms of their economic development, terrain predisposition, demographic vitality, and ethnicity [59] determined a small number of the self-sufficient rural nodes, which are registered in only four municipalities. The functional linkages between settlements in the rural nodes network reflect a more realistic picture of the services organization and functions in the local area. In their gravity sphere, an average of 7.3 settlements is registered, with a maximum of 21 settlements in the sphere (Figure 4, Table 2), twice as many as the existing administrative sub-municipal system (Table 1). The average population potential of total rural nodes is 2587 (Table 2). In this region, the largest population potential (287,204 inhabitants) is registered, which is 26.9% of the total number of inhabitants. The rural node with the highest population potential is estimated at 8695 inhabitants, while the smallest is estimated at 235 inhabitants.

In the South and East Serbia Region, 85 rural nodes with 720 gravitating settlements are identified, which is 1.7 nodes per municipality (Figure 4, Table 2). The region is characterized by an insufficiently developed network of rural nodes. This is a result of an extremely fragmented settlements network, weak demographic potential, and the long-term depopulation process noticed in rural areas and smaller urban centers [86,87]. In 46.3% of the municipalities, up to one rural node is registered. Only highly developed and densely populated regional centers recorded 3–6 rural nodes in their surroundings. This part of the country is influenced by the emigration process and extremely low fertility, which resulted in a dramatic population drop, with an aging index higher than 1.8 [88]. In this regard, the capacity of the settlements are very weak. The self-sufficient rural nodes are identified in 10 municipalities, which are located in the river valley and well-developed. The highest number of gravitating settlements (8.5 on average) and the most extended gravity sphere represented by 28 settlements are recorded in this region. Peripheral rural parts of this region are faced with intensive shrinkage, forming a continuous abandonment zone at the borderline with the neighboring country (e.g., Stara Planina Mt. region with Bulgaria) and a contact zone with Kosovo and Metohija Region [67,84,87]. In this depopulated region, a more functional integration of rural areas through a rural nodes network is proposed, in contrast to the existing fragmented division into the lowest administrative units (3.5 average), which is ineffective due to low population coverage. The average population potential of this region is 2205 inhabitants. The catchment area encompasses 187,443 inhabitants, which is 25.1% of the rural population of the region (Table 2). There is a rural node with the lowest population potential (only 175 inhabitants), while the highest population potential is estimated at 5255 inhabitants.

5. Discussion
5.1. The Expected Impact of Applied Approach

The sub-municipal level is an important supportive mechanism for better integration of local territories and decentralization strategies. Theoretically, the foundation and straightening of the sub-municipal level could be viewed as a tool of “voluntary amalgamation”. This could lead to an increase in the opportunities for citizens to be directly involved in the political
decision-making process and to ensure spatial proximity for solving problems that affect their everyday life [49]. Their impact could be recognized through several areas of interest:

1. Territorial organization of Serbia should be supplemented at the sub-municipal level, represented by identified rural nodes. Since the applied approach is based on local specificities, it is crucial to implement a place-sensitive development policy and to incorporate it into spatial planning documents.

2. Achieving a more balanced spatial organization through the network of the proposed rural nodes, which underpin the concept of functional networking, and striving toward sustainable, functional rural areas [89].

3. Representative offices network formation in rural nodes for mediation between the local population and the local and state authorities with a broader range of activities. This should be treated as a symbiosis between the rural municipalities and the de-concentrated field offices of the central state [90]. Even more, it could be considered through multifunctionality with dual bases: self-government (independent competencies) and administration (delegated competencies) [49, 90].

4. Rural institutions reform through the implementation of an applied approach based on efficient and flexible local administration. The decentralization of public services is necessary to facilitate overall administrative processes that can benefit the local population through better mobilization of local resources, provision of appropriate information, better use and maintenance of services, use of local expertise, and local coordination [91, 92].

5. Sub-municipal units have been seen as an “amalgamation” tool with which to mitigate the municipalities’ insufficient population size. One solution with which to overcome size heterogeneity without major territorial and administrative reform is sub-decentralization [52], which could be fulfilled through the settlements networking into gravity spheres.

6. The organization of local administrative units and its specialization in inter-municipal cooperation enabled the improvement of service provision through the introduction of soft municipal borders into the self-government organization in Serbia. This would enable strong spatial and functional connection between the settlements of neighboring municipalities, particularly when municipalities are too small or too weak to be able to manage local development [8].

5.2. Recognition of the Practical Relevance of Applied Approach

The focus of this research was on territorial decentralization, which relies on the adaptation and transformation of the existing administrative organization in Serbia. In the period of intensive industrialization and urban development, the policy and financial interventions and development control were focused on urban centers, and the planning attention was directed toward urban issues. This affected the amplification of pressures on rural areas and rural communities, so disparities have become more emphasized. Rural areas serve urban interests, and the interlinkages were predominantly in one direction, i.e., towards a central point. The situation mentioned has been characteristic not just for Serbia but also for various developing countries.

This research is not striving to derive a new paradigm in planning and sociogeographical theory and practice but to create and highlight an important input for the integral and strategic development of rural areas. It employs the place-based approach, which emphasizes the reality and the wide variety of rural areas in Serbia, encompassing various settlement functionalities and interactions. The applied approach embraced functionality as the principal for settlement networking, which is promoted within the EU’s proposed Functional Rural Areas [93]. The settlement network and rural areas’ provision of complex and diversified functions address the urban–rural gaps [94] and facilitate the governing of rural development.

Functional Rural Areas in the EU are created as a mechanism for achieving a more harmonized and functional view of territorial trends, such as changes in population and
density, and distances from basic services (e.g., schools, hospitals) [95]. Similarly, the applied approach in this research strives to offer balanced spatial development in the local territories, where rural nodes represent the center of community life. In this case, this would have significant practical relevance for the local community’s everyday life.

A precondition for the implantation of this approach and the given methodological framework is already specified in the current Law of Self-Government (OGRS 111/2021), which ensures that some local public tasks can be entrusted to sub-municipal units. This is a legislative framework for the possible introduction of rural nodes as barriers to a new decentralization model in Serbia. On the other hand, the Spatial plan of the Republic of Serbia (draft) advocates for the necessity of the implementation of the new model of the spatial organization of the settlement networks, which considers the sub-municipal level as a solution for better integration of the local territories.

The aforementioned tendencies regarding rural issues and territorial development highlight the possibility of implementing the approach applied in this research.

5.3. Limitations of the Suggested Methodological Framework

The main shortcoming of the proposed methodological framework is a limitation of the gravity sphere of the rural nodes within local territories imposed by the administrative division of Serbia. The introduction of soft municipal boundaries that are created in line with local community functioning—e.g., the range of their daily needs, rural node distance, etc.—would be a sustainable solution.

6. Conclusions

As we presented, the governance and administrative system in Serbia is highly centralized. There is a single-tier and dominant monotype structure of local government. The model of decentralization and polycentric spatial organization is fictitious and presented in the form of legal and organizational forms, i.e., the concept of so-called secondary centers, sub-municipal centers, “mesna zajednic”, etc. In this regard, gaps between the peripheral and central areas of local territories are pronounced; their interactions are weak and induce a prolonged, timely, and spatial marginalization of rural areas.

Comparison with a highly fragmented network of sub-municipal units, as a result of the existing administrative division in Serbia, highlighted the essence of the applied approach, which is recognized in the functional background for settlements networking. In the territory of Serbia, 242 rural nodes have been identified, represented by various types of settlements. The rural node gravity sphere encompasses, on average, 5.6 rural settlements, which is in accordance with fragmented settlement network in Serbia. The average population potential is 3140 inhabitants per node, which could be considered as optimal for territorial amalgamation. On the other hand, the 42 nodes do not have associated gravitating settlements, which means that they represent a single sub-municipal center.

The implemented regional approach supports the idea of settlement interlinkage based on common features and interests, which underpin the sustainability of local communities and overall development. These findings showed a pronounced distinction between the northern and southern part of the country. More precisely, the most dense rural node network is detected in the Šumadija and West Serbia Region (111) and the South and East Serbia Region (85), which is predominantly caused by physical factors and the mountain relief. The gravity sphere of these two regions encompassed the largest number of the settlements, determined by the territorial scope and weak demographic features. On the contrary, the lowest density of the rural node network is characterized for the Belgrade Region (12), due to the strong influence of the capital, and the Vojvodina Region (34), due to the settlement development pattern. The strongest population potential is registered in these two regions, which is in line with historical mobility and development trends.

The conducted research is one of the examples in the corpus of empirical studies that confirm the necessity of approaching the decentralization issue in an objective and exact way, using the quantitative approach in a prevailing narrative field. The benefit of the
proposed methodological framework for reviving the sub-municipal level is an attempt to identify the nodes in rural areas and their gravity sphere as the non-political, sustainable, and place-sensitive basis for future policy development in Serbia. This could facilitate territorial and governance reform and mitigate the spatial inequalities and the diminishing of rural capacities. This intermediary role of sub-municipal governance in the literature has been emphasized [90,96–98] based on the fact that trust in local government and the bottom-up approach is stronger than trust in central government [7,99,100].

As Martinović [101] claimed, “the meaning of decentralization is not in the destabilization and disintegration of the state, but in finding harmony between what is more narrow (local and regional level) and what is general (national level),” which is in line with results of the conducted research. In the creation of Serbia’s development policies, the main tendency is better integration within national social flows, the introduction of the “new economy” framework, and the institutionalization of attitudes and the needs of the local communities. However, the centralized model of spatial settlement organization currently present in Serbia is inadequate, especially in the context of economic devastation and the demographic weakening of rural areas. To mitigate the current situation, “a real alternative to the previous centralism, metropolitan urbanism, and industrial gigantism” [102] is necessary. Identified rural nodes could be considered as instrument for balanced regional, sustainable, and polycentric spatial development and the basis for institutional management and integral rural development.

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