The Problem of Territorial Polarization in Armenia

Il problema della polarizzazione territoriale in Armenia

Gohar Ghambaryan1,2, Vardan Mkhitaryan1,2, Anzhela Ayriyants1

1 Faculty of Geography and Geology, Yerevan State University, Armenia
2 Research Laboratory of Armenian Historical Geography, Cartography and Armenian Diplomacy Problems after Babken Harutyunyan, Institute of Armenian Studies, Yerevan State University, Armenia
E-mail: gohar.ghambaryan@ysu.am; vardan.mkhitaryan@ysu.am; angelino@ysu.am

Abstract. In 1991, Armenia gained independence, signaling a new chapter in its history. However, the journey towards nation-building faced significant challenges. Despite the anticipation that independence would catalyze the repatriation of the Armenian diaspora and foster a renewed commitment among citizens to contribute to their homeland, the reality has been starkly different. New geopolitical shifts and socio-economic situation have resulted in substantial emigration, a demographic crisis, and depopulation, casting a shadow over the nation’s 33-year independent existence. While there have been periods of socio-economic stabilization, particularly since 1995, and improvements in living standards, Armenia remains ensnared in depopulation and economic stagnation. Against this backdrop, the settlement patterns in Armenia have evolved significantly. This article delves into the features, challenges, and spatial differences of this phenomenon, supported by a thematic map illustrating the changes in Armenia’s settlement patterns. Research findings underscore a distinct territorial polarization driven by ongoing processes, presenting an existential challenge that demands comprehensive regional policy solutions. Furthermore, the article examines specific facets of regional policy geared towards mitigating the polarized territorial development in Armenia. It advocates for a multifaceted approach that not only embraces typological considerations but also emphasizes the importance of territorial zoning and the implementation of tailored, territorially differentiated policies. In conclusion, addressing the issue of polarized territorial development necessitates a holistic strategy that incorporates territorial zoning and differentiated policies. The insights gleaned from these studies serve as a crucial foundation for devising strategies to mitigate polarized development, delineate territorial zones, and implement targeted territorial policies.

Keywords: Armenia, territorial development, territorial disparities, polarization, regional policy.

1. Introduction

Territorial polarization has emerged as a pressing issue in Armenia since gaining independence. The socioeconomic advancements and population growth experienced during the Soviet era fostered the development and expansion of settlement systems, effectively mitigating the disparities in territorial development across the nation. However, the landscape shifted dramatically post-independence, marked by geopolitical shifts, economic deindustrialization, and population depopulation, ushering in undesirable transformations in settlement patterns and territorial development. What were once trends towards equalization have now given way to tendencies of territorial concentration and polarization.

The gravity of the issue of territorial polarization is underscored by several key facts:
1. Armenia’s territorial expanse is limited, spanning a mere 29.8 thousand square kilometers.
2. Only 60% of the territory is conducive to economic development and human habitation, owing to its rugged mountainous terrain.
3. Settlements are markedly unevenly distributed, with 75% of the population residing at altitudes up to 1500 meters above sea level, primarily concentrated in the Ararat Valley and on the Kotayk Plateau.
4. The Armenian-Azerbaijani conflict has rendered approximately 62% of the country’s state border as a border zone, exacerbating depopulation in many border settlements.

Contrary to the prevalent misconception that depopulation uniformly affects all settlements in Armenia amidst the nation’s overall depopulation trend, our research reveals nuanced reactions to socio-economic, geopolitical, and depopulation processes, varying between rural and urban, competitive and non-competitive settlements. Consequently, polarization has intensified, delineating discernible areas of population growth (concentration) and decline (depopulation and abandonment) across Armenia.

2. Methodology

There are numerous practical works and theoretical studies dedicated to the problem of polarized territorial development1 of countries and the study of regional policy experience. These issues have been studied by both individual researchers2 and international organizations3. The mentioned topic remains relevant in scientific circles.

Questions and problems of settlement and polarized territorial development of Armenia are also relevant. There are many works by various researchers, among which the special contributions of Ghambaryan (2020; 2022), Manasyan (2005), Mkhitaryan e Ghambaryan (2015), Potosyan (2017; 2022), Potosyan (2019), and other researchers can be highlighted.

Our research methodology relied on the analysis of statistical data. Calculated tables were compiled, diagrams were created, and a map of settlement transfor-

---

1 Handbook of local and regional development (2011); Handbook of regional and development theories. (2019); Reinert E.S. and others (2016); Friedmann J. (1967); Regional and Local Development in Times of Polarisation. Re-thinking Spatial Policies in Europe (2019); Serra Antonio (1613); Smith A. (1776), etc.
3 World Inequality Report , World Inequality Lab (2022); OECD (2018); Asian Development Bank (2014); World Bank (2009), etc.
The Problem of Territorial Polarization in Armenia

In order to assess the suitability of the terrain for settlement and economic development, information for the period 1988-2021 was compiled. The latter was compared with a map we created to assess the suitability of the terrain for settlement and economic development. This allowed us to find cause-and-effect relationships between the terrain and trends in settlement changes.

3. Study

Mountainous countries display distinct characteristic features and regularities of territorial organization and settlement patterns. Among them, one can note uneven settlement distribution, sparse natural-geographic conditions, isolation, remoteness, diversity of settlements in size, and predominance of small and tiny settlements, as well as weak provision of transportation and social infrastructure. All this indicates the vulnerability of mountain settlements. However, depending on the size of the country, the level of development, the degree of infrastructure development, the level of economic development, the implemented regional policies, and other factors, the trends in the transformation of settlement patterns in different countries may significantly differ from each other. Mountainous regions can be rapidly developed or undergo stagnation, regression, and depopulation. For small countries like Armenia, the development of mountainous and highland territories is a strategically important issue.

The settlement network of Armenia includes 1003 settlements, of which 954 are rural and 49 are urban. At an altitude of up to 1500 meters above sea level, there are 509 settlements (478 rural and 31 urban), i.e., more than 50% of Armenia’s settlements and more than 75% of the country’s total population.

At altitudes of 1500–2000 meters, there are 390 settlements (374 rural and 16 urban), i.e., 39% of Armenia’s settlements and 22% of the country’s total population. Accordingly, 102 rural and 2 urban settlements are located at altitudes above 2000 meters above sea level, which constitutes 10% of settlements and 2% of Armenia’s population.

At altitudes of 1500–2000 meters, there are 390 settlements (374 rural and 16 urban), i.e., 39% of Armenia’s settlements and 22% of the country’s total population. Accordingly, 102 rural and 2 urban settlements are located at altitudes above 2000 meters above sea level, which constitutes 10% of settlements and 2% of Armenia’s population.

According to the government, mountain settlements located at an altitude of 1700–2000 meters include 188 settlements, and high-altitude settlements located above 2000 meters above sea level include 189 settlements. Thus, about 38% of the country’s settlements are located in mountainous and highland areas, which is a serious problem.

Since gaining independence, Armenia has consistently experienced depopulation trends. However, it is not manifested in all settlements. As seen from the presented diagram (Fig. 1), from 1988 to 2021, out of 49 cities in Armenia, the population decreased in 44 cities, and increased in 5 cities; out of 954 rural settlements, the population decreased in 372, increased in 574, and 8 had no permanent population.

Figure 2 shows that the population decline in Armenia occurred due to the urban population, while the rural population, on the contrary, increased.

As a result of these changes, the ratio of urban to rural population has changed, and the level of urbanization has decreased (see Figure 3). The ten largest cities with the greatest population decline account for 83% of the total urban population loss in the country; the two largest cities contribute 50%, and the three largest contribute 62%. Gyumri, Yerevan, and Vanadzor are leaders in terms of absolute population decline values (see Fig. 4). The main reason for the urban population decline is deindustrialization of cities.

![Figure 1. Settlement's population changes trends, 1988-2021. Source: author's elaboration from Armstat data (2021).](https://www.armstat.am/file/article/marzer_2021_9.pdf)
and in Gyumri and Vanadzor, it is also the consequences of the catastrophic earthquake of 1988.

Positive population growth trends in cities are primarily attributable to favorable geographical locations. However, the total absolute population growth in five cities exhibiting positive dynamics does not exceed 10,000 people, which, compared to the large volumes of decrease in the overall urban population, is a small figure (see Fig. 5).

As for rural settlements where a decrease in population has been recorded, they are either mountainous and highland areas (with unfavorable natural-geographical conditions) or border and peripheral areas (with weak transportation and socio-economic infrastructure). The graph (Fig. 6) shows the top ten rural settlements with declining population.

Rural settlements exhibiting population growth are typically characterized by their possession of competitive advantages such as favorable natural-climatic conditions, geographical location, developed infrastructure, etc.

The graph (Fig. 7) shows the top ten rural settlements with population growth.

Interesting trends in the transformation of Armenia’s settlement patterns have been identified through the study of settlements grouped by population size (Table 1).

As seen from the table, the most problematic issue is the increase in the number of depopulated and uninhabited rural settlements. In 1988, the country had 23 such settlements, of which 15 were subsequently resettled, leaving 8 settlements retaining their status. However, by 2021, the number of the latter had increased to 34 settle-
The Problem of Territorial Polarization in Armenia

ments, meaning another 26 settlements became depopulated. The deterioration in the situation in forthcoming years is indicated by the fact that there are 16 settlements in the country with populations of fewer than 20 people and 26 settlements with populations of fewer than 50 inhabitants.

There is a distinct possibility that these settlements will be added to the list of depopulated settlements.

The polarization of rural settlement patterns is evidenced by the fact that compared to 1988, the number of settlements with populations of up to 100 people has increased by 45 units, those with populations from 100 to 2000 people have diminished by 90 units, and those with populations of over 2000 people have augmented by 36 units, including settlements with populations of over 5000 people, which increased by 16 units, totaling 32 settlements. It should be noted that the growth of rural population in Armenia is mainly due to the increase in population in the last group of settlements, totaling around 110,000 people.

Changes in urban settlement patterns have a somewhat different character. Both in terms of population size and quantity, the number of settlements in groups with populations up to 5000 and from 5001 to 10000 people has increased, and only in terms of population size has the group of settlements with populations from 25001 to 50000 people expanded. In the other groups, a decline in indicators has been recorded both in terms of population size and in the number of settlements. Settlements with populations of 100,000 and more people (around 247,000) and the capital Yerevan (over 94,000) lead to population decline (see Table 2). As a result of the population decline in the capital and major cities, polarization tendencies have diminished. Convergence has been observed. Despite the trend towards equalizing polarization, we cannot consider this phenomenon positive, as it has manifested itself due to the diminished role and advantage of leading/large settlements, rather than through the growth and improvement of the well-being level of small settlements.

In the altitude zones, the changes in settlement patterns from 1988 to 2021, with peculiar distribution trends, also evoke interest. The population of rural settlements has significantly increased at altitudes up to 1500 meters above sea level, especially at altitudes up to 1000 meters. Above the 1500-meter mark, rural population has decreased, especially at altitudes of 2001-2500 meters (see Table 3). The reason lies in the worsening harsh natural-climatic conditions.

In urban settlements at all altitudes, a decrease in population is observed. There is no direct correlation

Table 1. The number of rural settlements in Armenia and their population by groups. Source: author’s elaboration from Armstat data (2021).

<table>
<thead>
<tr>
<th></th>
<th>1988</th>
<th>2021</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of settlements</td>
<td>Population</td>
<td>Number of settlements</td>
</tr>
<tr>
<td>No permanent population</td>
<td>23</td>
<td>–</td>
<td>34</td>
</tr>
<tr>
<td>1-20</td>
<td>3</td>
<td>48</td>
<td>16</td>
</tr>
<tr>
<td>21-50</td>
<td>10</td>
<td>381</td>
<td>26</td>
</tr>
<tr>
<td>51-100</td>
<td>32</td>
<td>2464</td>
<td>46</td>
</tr>
<tr>
<td>1-100</td>
<td>45</td>
<td>2893</td>
<td>88</td>
</tr>
<tr>
<td>101-500</td>
<td>296</td>
<td>92129</td>
<td>259</td>
</tr>
<tr>
<td>501-1000</td>
<td>208</td>
<td>153037</td>
<td>182</td>
</tr>
<tr>
<td>1001-2000</td>
<td>219</td>
<td>310537</td>
<td>192</td>
</tr>
<tr>
<td>2001-3000</td>
<td>91</td>
<td>218460</td>
<td>102</td>
</tr>
<tr>
<td>3001-5000</td>
<td>56</td>
<td>211330</td>
<td>65</td>
</tr>
<tr>
<td>More than 5000</td>
<td>16</td>
<td>99981</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td>954</td>
<td>1088367</td>
<td>954</td>
</tr>
</tbody>
</table>
between the population of urban areas and altitude zones. The decline in urban population is attributed to the deindustrialization of the economy.

It is also important to study the manifestation of territorial transformation in settlement patterns. For this purpose, a thematic map was created, showing the population size of settlements in Armenia in 2021 and the trends in population change during the period from 1988 to 2021. The map clearly illustrates both territories experiencing depopulation and those with population growth. Population growth is evident in the Yerevan, Gyumri, and Ijevan districts, as well as in the Ararat Valley, across the entire Aragatsotn region, the Kotayk plateau, and on the western and southern shores of Lake Sevan, essentially in the central part of the country. In peripheral areas such as the Ashotsk plateau, almost throughout the Lori, Tavush regions, the eastern shore of Lake Sevan, Vayots Dzor, and Syunik, depopulation is observed universally (see map).

Within the territory of Armenia, there is a fairly clear demarcation line known as the Brandt Line7 between populated areas experiencing population growth and depopulation. In peripheral regions, despite the universal trend of depopulation, the reasons for its occurrence vary.

As a result of studying certain aspects of regional policy aimed at mitigating the polarized territorial development of Armenia, it has been found that the key to equalization lies in the typological principle of settlement segmentation, although the territorial approach8 underlies the differentiation.

It is suggested that in policies targeting the mitigation of polarized territorial development, alongside the typological approach9, a territorial principle (zoning)
The Problem of Territorial Polarization in Armenia should be implemented, and a targeted territorial policy should be formulated. This policy aims to foster competitive advantages for territories, enhance infrastructure, elevate the qualitative attributes of human capital, and create conditions conducive to socio-economic development and advantages, among other objectives.

In our view, taking into account the peculiarities of Armenia, territorial zoning should preferably be conducted based on the following criteria:

1. Border layer and border zone: Issues concerning the border layer and border zone settlements are largely related to border conflicts. In this zone, it is necessary to create and expand security guarantees and motivating conditions. The process will be more effective if sub-districts are identified based on the degree of danger and appropriate tools and incentive

Figure 8. Map of settlement pattern of Armenia (Ghambaryan G.G., Mkhitaryan V.G.).
systems are developed. Armenia has approved a list of border settlements\textsuperscript{10} for which support programs are implemented (social programs, financial support for housing construction, softer tax policies, measures to increase economic activity)\textsuperscript{11}.

2. Zone of influence of settlement patterns centers: Problems of settlements outside the influence zone of settlement patterns centers are mainly due to the weak development of both the centers themselves and the transportation infrastructure. Depopulation and economic development issues also exist in the influence zone of underdeveloped centers. The reason lies in the fact that during the stage of formation, centralization processes operate in the interaction between the center and surrounding territories, resulting in the livelihood of centers being carried out at the expense of surrounding territories. In the context of the development of a “growth center” and its zone of influence, Armenia embodies a policy of developing “territorial poles”\textsuperscript{12}. This policy needs serious reconsideration\textsuperscript{13}.

3. Mountainous and highland areas: Problems in mountainous and highland areas are due to mountainous terrain, adverse natural-climatic conditions, and socio-economic features. This zone, having limited competitive advantages and development opportunities, requires the formation, development, and improvement of transportation and social infrastructure. State support is necessary to maintain the settlement network and develop the territory. In Armenia, there is only a “Government Decision of the Republic of Armenia on the approval of the list of mountainous and highland settlements of the country”\textsuperscript{14}. However, there is no law to support these settlements, nor are there legislated measures to provide them with assistance. In Georgia, for example, there is a law “On the Development of Mountainous Regions,” and the High Mountain Settlement Development Fund provides social (allowances, pensions, social benefits, salaries for doctors, medical personnel, teachers, coaches, and representatives of other professions) and financial (co-financing 50% of consumed electricity) assistance and support for agricultural development projects in over 1800 settlements with highland status (about 49% of all settlements in Georgia). As of 2022, 262,000 people and 497 enterprises benefit from the privileges of highland status.

In Armenia, centralized tax-budgetary policy is pursued. Financial distributions are made under the law “On Financial Equalization”\textsuperscript{15} in the form of dotations to the municipal budget. Dotations are provided to municipalities based on two principles: based on the population size (up to 3500 people) and based on the coefficient of budget provision (5 factors are taken into account, including the presence of highland or mountain status).

In our opinion, the issue of supporting mountainous and highland settlements in Armenia is of paramount importance.

4. Conclusions

The issue of uneven territorial development exists in any country, and each country develops and implements its own equalization policy to address this problem. Based on the research results, the following conclusions have been drawn:

- Uneven territorial development in Armenia represents a pressing concern, with distinct areas of population growth juxtaposed against depopulation zones, leading to an escalating trend of territorial polarization.
- Deindustrialization in Armenia has primarily contributed to the depopulation of urban settlements, resulting in a decline of the total population.
- While there has been an overall increase in rural population, this trend is not uniform across all rural settlements. Population growth is notable in central regions such as the Ararat Valley, Kotayk Plateau, and western coast of Lake Sevan, whereas peripheral areas, including border, mountainous, and highland regions, have experienced a decline, with many settlements devoid of permanent inhabitants.
- Despite the inclusion of the “Territorial Development Strategy,” which outlines goals, tasks, directions and international examples, practical terri-
The Problem of Territorial Polarization in Armenia

- Various policies implemented in Armenia, such as “financial equalization”, “territorial growth poles”, “support for border settlements”, “free economic zones”, and “consolidation of communities”, require further refinement to effectively address uneven territorial development.
- Resolving the issue of uneven territorial development hinges largely on economic development strategies and policies, particularly in agriculture, industry, and investment. While current policies primarily target the overall investment and business climate, the sectoral and especially territorial components are poorly addressed. Elaborating a tailored territorial policy encompassing prohibitions, regulations, and incentives will be instrumental in mitigating territorial disparities in development.
- In addressing uneven territorial development, Armenia has predominantly relied on typological differentiation of settlements, with limited emphasis on territorial principles. Adopting a parallel approach incorporating both principles is recommended to enhance the efficacy of polarization mitigating efforts.

5. Summary

The issue of territorial polarization in Armenia carries profound significance, necessitating a nuanced policy approach to mitigate disparities in territorial development. While existing measures have demonstrated positive impacts, the complexity and contradictions inherent in addressing this issue persist. Despite efforts, polarization trends persist, perpetuating a “vicious circle” of challenges. This provides ground for us to review and improve the existing toolkit, both in terms of economic development and ekistic policy.

Our research results underscore the importance of incorporating a territorial approach alongside typological considerations in addressing uneven territorial development. In our view the integration of a territorial strategy into economic development policies should be complemented with efforts to enhance the overall business environment.

Central to our findings is the notion that territorial policy, with its defined goals, objectives, directions, and tools, is instrumental in fostering and harnessing territorial competitive advantages. By prioritizing territorial considerations, the policy effectiveness and the anticipated outcomes can be significantly enhanced.

Acknowledgments

This research was carried out with the support of the Calouste Gulbenkian Foundation.

The views expressed in this publication do not necessarily reflect the views of the Calouste Gulbenkian Foundation. The Foundation’s support does not constitute endorsement of any specific opinion or perspective.

References


Armstat, Statistical Committee Republic of Armenia, https://armstat.am


Lees, N. (2020). The Brandt Line after forty years: The more North–South relations change, the more they stay the same? Review of International Studies, 47, 85-106. https://doi.org/10.1017/S026021052000039X


