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**SOCIAL-GEOGRAPHICAL STUDY OF THE RESILIENCE OF GRAPE  
AND WINE-PRODUCING COMMUNITIES BASED ON  
ACTOR-NETWORK-THEORY**

Dissertation (Ph.D.) theses

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## **I. Justification of the study, research antecedents**

The importance of agricultural production in terms of its contribution to the national economy and the number of employees within the sector has significantly decreased in both Hungary and Romania, especially in the last three decades (SZABÓ SZ. 2011; PANAIT, I. – CUCU, C.M. 2020). Additionally, significant differences can be observed at the regional, county, and municipal levels. Despite this, both countries still have areas where the majority of the population owes their livelihood to agricultural production (CSATÁRI B. 2004; BALAN, E. 2015).

The population retention of these rural areas largely depends on agricultural production, its sustainability and income-generating capacity, the existence of various ancillary activities related to on-farm activities (e.g., processing, trade, hospitality), as well as the willingness and possibilities to start on- and off farm activities (HAMZA E. – TÓTH E. 2006). Various infrastructural, social, and subjective factors related to the quality of life of the population, as well as factors related to local values and traditions also contribute to this (G. FEKETE É. 1997; JANKÓ F. 2002).

Grape and wine production is a special part of the agricultural production. The related processing activities largely determines the image of the landscape, the spirit of the place and the relationship of the community with nature. Additionally, the activity requires strategic planning that is not typical in most agricultural activities (DOUGHERTY, P. 2014; ALDECUA, M. et al. 2017).

The processes of viticulture and winemaking, together with the bargaining position associated with their distribution and access to material and knowledge capital related to wine tourism, are all affected by the disadvantages resulting from peripheralization processes. The embedding of the multi-layered transformation processes of the post-socialist transition in global processes has created a rather special path in rural areas whereby the livelihood of local communities is embedded in capitalism. The lives of these communities are influenced by the effects of both socialist heritage and global economic processes (SÝKORA, L. 2009; BROWN, D. et al. 2005). The large-scale economic development observed in the neoliberal transition caused by global economic actors has reproduced the inequalities that have generally and specifically affected the peripheries and rural areas, respectively (HARVEY, D. 2005; KAY, R. et al. 2012). Additionally, these processes related to peripheralization were/are supported by neoliberal state policies, due to the pressure from the global economic actors. This intensified the various peripheral processes, which further weakened the room for maneuver of local actors and thereafter increasing territorial inequalities (NAGY E. et al. 2012).

The general thinking of normative resilience has received much attention over the past twenty years, not only from researchers but also among political and various international decision-makers (MILLER, F. et al. 2010; PIRISI G. 2019). Here, resilience is understood as the opposite of vulnerability, a positive meaningful goal to be achieved, and preparedness for possible (un)expected different types of shocks. While the supposed risk-threat approach focuses mainly on the possibilities of responses to shocks, from a social constructivist point of view, it is worthwhile to focus on what causes vulnerability and what factors make a given social group resilient (BROWN, K. 2015). The constant increase in the number, source and chances of risks and threats to society requires the application of resilience frameworks at the individual, community, and regional levels. This framework will assist in identifying threats and determining their causes and possible responses (BECK, U. 1992; ZOLLI, A. – HEALY, M.A. 2013; MARTIN, R. – SUNLEY, P. 2015).

The processes associated with the environmental, polarization, marginalization and communication discourses that are currently intensifying the effects of regime change and globalization have specifically affected and continue to affect people living in rural areas (SZABÓ SZ. 2011; MEYER, F. – MIGGELBRINK, J. 2013; KÜHN, M. 2014; NAUMANN, M. – REICHERT-SCHICK, A. 2013). This can be linked to the unequal access of resources (social, economic, technological, material, political, etc.) by different social groups, which largely affects speed and efficiency of responses that communities have for the various shocks (SCOTT, M. 2013; BROWN, K. 2015). Thus, on the one hand, based on the relative interpretation of peripheralization and marginalization, these processes affect those living in rural areas more adversely than those living in urban spaces. On the other hand, these processes are unequally distributed between and within different groups and communities living in the given areas (LEIBERT, T. 2013). Due to the fragmented spatial and social structure (SCHOLZ, F. 2005), different marginalized groups and actors respond differently either through their daily practices related to pre-proliferation processes (NAGY, E. et al. 2015a) or in response to a negative shock from outside (or 'higher scale') (RIVERA, F.I. – KAPUCU, N. 2015; BERKI M. 2017).

## **II. Objectives and research questions**

Based on the justification of the research, one of the main aims of the dissertation is to summarize what is described in the literature, mostly in the context of North American or developing countries, and to extend and interpret the concept, theory, and framework of resilience to rural areas and social groups with specific development paths. Furthermore, two main questions were formulated. The first research question seeks to seek the answer by studying the domestic and international literature.

**1. How can resilience be defined, including community resilience, and what are its elements and manifestations?**

**1.1. How can resilience be interpreted, its meaning changed, and what are the main aspects that can be examined?**

**1.2. How can the concept of resilience be related to geography and the processes of peripheralization?**

The second research question is based on theoretical results and has an empirical focus, the answer to which required primary and secondary data collection and data analysis. Related to this, another aim of the dissertation is to present the economic and social changes observed in the broader environment of the study areas which make it easier to trace the causes and characteristics of the formation and change of a peripheral situation, partly due to geographical location. A further aim of the dissertation was to examine the components of community resilience based on two traditionally rural agricultural production communities that underwent relatively large changes after the regime shift and that are specifically involved in the global value chain.

**2. What are the peculiarities of some elements of community resilience in the examined rural, post-socialist, peripheral sample areas?**

**2.1. Based on the examined indicators, how have the center-periphery relations developed in Hungary and Romania, including in the Southern Great Plain and the Vest region, in the last 30 years?**

**2.2. What similarities and differences can be detected in the sample areas based on the selected aspects of community resilience and how do they differ from those described in the literature?**

**2.3. How can the concepts of peripheralization and resilience be related in the studied sample areas, and how do peripheralization processes affect different components of resilience?**

### III. Methods

During the exploration of the theory and manifestations of resilience and peripheralization, great emphasis was placed on the existing domestic and international literature and its critical interpretation. Both qualitative and quantitative methods have been used in the study. To detect the measurable effects of spatial changes and peripheralization since the regime shift, statistical data analysis was performed based on secondary data of the two countries' national statistical offices. Furthermore, semi-structured interviews were conducted to examine the local manifestations of resilience, in the two case studies.

The statistical data analysis aimed to present the study areas in their broader geographical context, with which I examined the changes in both the social and economic indicators over time from the earliest period of the regime shift to the present day. As a result of this, most of the analysis used data from 1990 until 2018 which was the latest available year by the time of the research. Additionally, I also selected indicators that are available in both countries at the regional, county and possibly local level. The main social indicators are related to the population and its changes (natural increase, migration balance, aging rate, etc.), while the economic indicators can be related to the economic structure, entrepreneurial intensity, the number of unemployed and economic performance.

The qualitative part of the research relies on semi-structured in-depth interviews with field experts and producers (BRUFF, I. 2017). Both types of the interviews were structured around three topics, more precisely the in-depth expert interviews were structured around macroeconomic processes, territorial inequalities and development opportunities and in-depth interviews with producers were around their past, confounding factors and social relations.

The interview procedure was conducted in several steps due to the complexity of the topic and the changed research conditions caused by the COVID-19 pandemic. The first wave of data collection took place from June to October 2019, which included 13 in-depth interviews, focusing on changes in the internal and border areas of Hungary and Romania, and on the manifestations of peripheralization processes. The second wave of the research lasted from January to April 2020, during which I conducted semi-structured in-depth interviews with the winegrowers and winemakers living and working in the sample areas, as well as with other actors and decision-makers related to these economic activities (N=16). The third wave of interviews lasted from December 2020 to February 2021, during which time I mostly communicated online with the interview partners due to the pandemic (N=14). At that time, with snowball sampling, I conducted semi-structured in-depth in-

interviews with other winemakers and wine producers, as well as with representatives and decision-makers of professional and inter-professional organizations related to the sector.

I processed the results of the interviews with a case study method, as literature has argued, this methodology is especially suitable for processing and understanding the complexity of different institutions, practices, processes, and relationships at a deeper level (HARRISON, H. et al. 2017).

My research is based on two case studies, the common feature of which is that I explore the situation of grape and wine producers and link it to the concept of peripherality on the one hand and resilience on the other. Several factors played a role in the selection of case studies. Representing the School of Social Geography in Szeged, and due to its geographical proximity, I was specifically looking for areas that are located in and near the Southern Great Plain region. Due to the economic structure of the region, it was justified that it is worth examining the groups related to agriculture. The current study focused on the grape and wine producers, due to its complexity, both in terms of their agricultural production and the regulation and trade of products, as well as the various tourism services and opportunities associated with them.

Regarding the Southern Great Plain region, the Kunság wine region was selected from the three possible wine regions, including the settlements of the “Golden Triangle” (Soltvadkert, Kiskőrös, Kecel), because this is the largest connected vineyard in the Hungary and the largest wine community (*hegyközség*), and because this region has the most significant past in the wine region. Due to it being the oldest traditions in the Vest region neighboring Hungary, as well as its connections and ties with Hungary, the Minis-Maderat wine region was also selected (Figure 1).

Basic statistical analysis methods were used to compare the sample areas on several scales. To show the spatial and temporal changes of the spatial analyzes and the disadvantaged, peripheral situation, I examined the distances from the arithmetic mean, standard deviation, mode and median of the values of each indicator. To examine the change in spatial differences, Hirschman-Herfindahl index and Hoover index were calculated to examine the spatial concentration and the spatial distribution. (DUSEK T. – KOTOSZ B. 2016). The diagrams and maps of the dissertation were made with QGIS, ArcGIS and Corel Draw programs.

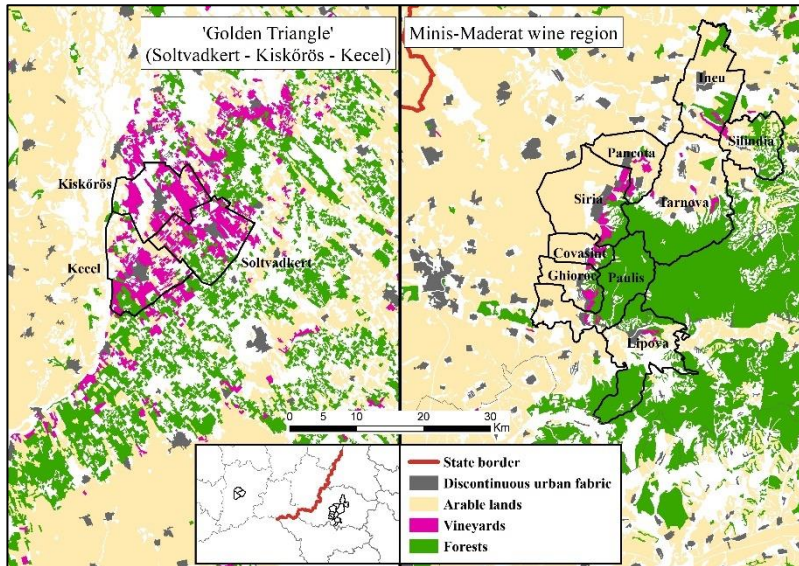


Figure 1. CORINE-18 surface cover of the sample areas. Source: own ed.

#### IV. Results

1. Based on the literature, in the dissertation I elaborated three relevant resilience approaches: social-ecological, community and regional economy. Although the approaches are interrelated in several respects in terms of analysis, in terms of their theoretical foundations, in research focus, and in their subjects, they seek answers to different questions.

The *social-ecological* approach was the starting point for resilience research (HOLLING, C.S. 1973), which was mostly defined as the return of various systems to their original state after changes due to disturbing effects. *Community resilience* research can be derived in part from the field of psychology (GARMEZY, N. 1993), which goes beyond the examination of individuals and the system approach and examine the conditions for adaptation to the dangers lurking for different social groups. In terms of the spatial approach of *regional economic resilience*, it is perhaps the most decisive, as it examines the change, adaptation, and level of preparation of the economy of geographically demarcated areas as a result of various natural, economic and political events. (MARTIN, R. – SUNLEY, P. 2015).

2. In addition to the three approaches to resilience presented, the literature distinguishes three different “perspectives’ (DARNHOFER, I. et al. 2016), among which the differences are mainly due to the differences in perceptions between the actors and the relationships observed between them. The first focuses on the different *structures*, the second on the *agency* of social actors, and the third on the *relationships* between these actors. The last one can be related to the action-network theory, which interprets the constant change of the relationships between each human and non-human actant as a dynamic process. In addition, resilience is not perceived as a trait or ability, but as a result of the constant change in the relationships between individual actors (DELEUZE, D. – PARNET, C. 1996; LENDVAY, M. 2016). Due to its complexity and flexibility, I considered the latter point of view to be more suitable for geographical research on rural community resilience, as it focuses on the relationships between them rather than on the characteristics of different factors, thus bridging the ‘distances’ between social, economic, and natural dimensions.

3. The relationship between geography and resilience is becoming increasingly diverse in the recent literature, which has emerged as an attempt to respond to the apolitical and non-spatial approach of previous resilience research. The complex approach of geography completes the horizons of resilience research. This point of view does not ignore neither the geographical space nor the analysis of power situations arising from social, economic, cultural, and political peculiarities, in which space and its various meanings are embedded (WILSON, G. 2017). In the dissertation, I placed great emphasis on the analysis of the power relations, advocacy and social relations tendencies of the disadvantaged geographical, social and economic situations of rural areas, which directly and indirectly influence certain research factors of resilience.

4. The empirical results of the dissertation can be divided into two main parts. The first part relates to the research of regional and county level periphery in Hungary and Romania, as well as at the local level within the Southern Great Plain and Vest regions. The second part relates to the examination of the components of community resilience in the selected sample areas. Based on the former, it can be stated that both the two countries and the two regions belong to the peripheral regions on a European scale. Based on the selected indicators, the Southern Great Plain is at a national disadvantage compared to the Vest region, however, the latter show significant regional differences and multi-scale processes of polarization. Based on the regional and county level studies, I came to the conclusion that the territorial differences, the territorial concentration as well as the territorial distribution moved in the direction of polarization in the examined period. The winners of this



process were Bács-Kiskun county in Hungary, and Timis county in Romania, while for the other counties examined indicates a lag.

Based on the studies at the municipality level, it can be stated that significant regional differences can be discovered in both regions. From the examined indicators, the changes in the core-periphery relations observed within the two examined regions were the most favorable for the larger cities (Kecskemét, Szeged, Arad, and Timisoara) and their suburban areas. In the Southern Great Plain region, the settlements of South-Bács-Kiskun and East-Békés are most affected by the negative processes related to peripheralization. In this respect, the Vest region is practically divided into Timișoara-Arad and Caraș-Severin-Hunedoara counties, where the former is relatively catching up, as well as the urban-rural differences are relatively decreasing, but the latter shows lag and multi-level polarization processes.

In both cases, the settlements of the selected sample areas were around the regional averages, so they could not be clearly classified as the most disadvantaged areas, however, the processes related to peripheralization did not leave them untouched either.

5. The qualitative, interview-based research questions of the dissertation were analyzed in the sample areas along three main spatially relevant examination factors of the model of integrated resilience of BERKES, F. and ROSS, H. (2013): (a) engaged (self)governance, (b) people–place connections and (c) social networks (Figure 2).

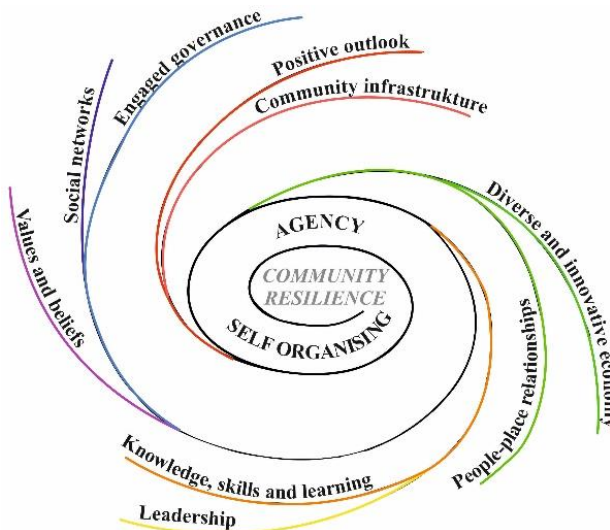


Figure 2. Integrated 'aggregates' of community resilience.

Source: based on BERKES, F. – ROSS, H. (2013), own ed.

(a) The examination of the engaged (self)government revealed that, nowadays, local governments do not have too many opportunities to directly support producers. This is partly due to the reduction of their responsibilities, sovereignty, the limited financial resources and the lack of competence and specialists related to (wine)tourism, which can be linked to peripheralization processes.

In Hungary, the National Council of Wine Communities (*Hegyközségek Nemzeti Tanácsa*) is a significant and decisive bottom-up, decentralized organization that defines and influences the activities of producers in many ways. The absent of a similar organization in Romania is glaring which is a significant reason for the lack of local cooperation. The common agricultural policy of European Union and the production of grapes in accordance with European agricultural subsidies are decisive not only for producers, but also for the communities and the municipalities. The most compelling argument is that most producers plant crops that are supported by the EU, which is another phenomenon that undermines independence of these communities. This is due not only to the lack of capital of the smaller producers, but also to the paternalistic attitude of the socialist system, which in many cases was more supportive of the producer and showed direction in terms of production.

(b) In terms of people-places connections, the factor of production opportunities arising from the conditions of the natural environment (weak soil, topography, etc.) can be highlighted, which greatly limits agricultural production. In the vicinity of the Golden Triangle, most of the producers perceive their geographical position as a disadvantage, as the area does not attract tourists or investors and largely determines the type and quality of grapes and wine that can be produced, which is basically stigmatized as 'nothing more than table wine'. In contrast, the Minis-Maderat is often referred to as 'Little Tuscany', which, with its varied topography, has enormous potential in terms of grape and wine production together with wine tourism. However, the activity is not dominant in the region, which can be traced back to the forced industrialization of the socialist period and the processes of rural-urban migration.

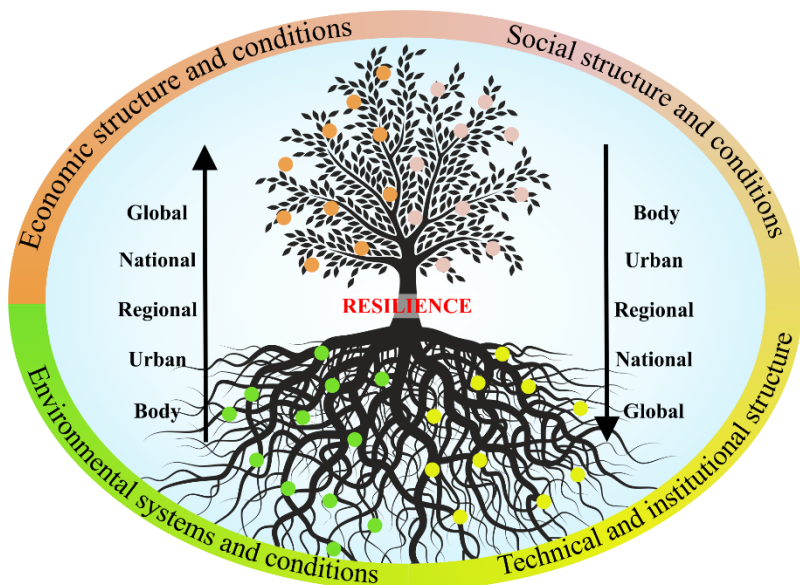
A typical problem in both sample areas is emigration by young people, which brings with it a lower level and decreasing of entrepreneurship, a willingness to innovate and adapt. Furthermore, the number of producers with old and 'outdated' knowledge, who have been producing grapes for most of the socialist period, is steadily declining, leading to a concentration of production areas and a weakening of the community. At the same time, there is a strengthening of other actors involved in global processes, which can be described as 'multi-wineries' apostrophized as a 'necessary evil' around the Golden Triangle and against the status quo by foreign investors in Minis-

Maderat wine region. To examine the people-place connections factor of community resilience, I also linked the production-related relationship of extreme weather events intensifying as a result of global climate change. There are many signs of these effects which are also visible in the Romanian sample area. However, the Sand Ridge in the Danube-Tisza Interfluvium is much more vulnerable in this respect, due to its semi-arid climate.

(c) In terms of social networks, the most important elements of community resilience are the structure of different vertical and horizontal, formal, and informal contact systems between the actors. Besides this, the density of contact hubs in their networks allows for the flow of information between each actor (WALDSTRØM, C. 2001). In addition to integration into local and regional networks, the operation of networks also requires the agency of key figures/leaders connecting networks operating at different scales, which ensures the flow of information between endpoints.

Generally, the social networking system of the wine-growing communities in both sample areas is fragmented due to a vertical and horizontal lack of trust on the one hand, and a common strategy and goals and the agency defining and managing them on the other. According to the interviews conducted, respondents in the Golden Triangle attribute this to the legacy of the individual farming model preferred during the state socialist period and to the 'Great Plain' or 'Swabian' mentality, which hinders real cooperation. In Minis-Maderat, the lack of critical mass due to the smaller number of actors, the 'tradition' of personal conflicts rooted in the past, and the phenomenon of othering can be explained by the existence of quasi-gaps in the community network.

**6.** Actor-network theory (ANT) is partly related to the study of social networks but is not limited to understanding the constantly rebuilding dynamic process of networks between social actors. In addition, by examining the network processes defined by the abstract actors or actants (flora, fauna, technology, tools, etc.) and the development of the relationships between them, it is possible to resolve the human and non-human dichotomy on the one hand. On the other hand, it is also possible to resolve the dichotomy of the macro, meso- and micro-scale, because ANT refuses the hierarchical view of space (DARNHOFFER, I. et al. 2016; BERKI M. 2017). In the dissertation I connected the concept and methodology of actor-network theory with the concept of community resilience and through this I examined the network structure of actors affecting the vine and wine growing community and their interactions (Figure 3).



*Figure 3. The dissertation's interpretation of resilience based on ANT.*

*Source: based on DARNHOFER, I. et al. (2016); BERKI M. (2016); NAGY GY. (2020), own ed.*

7. In the case of the sample areas, I placed special emphasis on the interpretation of resilience in a post-socialist context in order to examine how each community resilience factor or component differs from that described in the Western literature. The main difference is, inter alia, access to limited resources resulting from the post-socialist transformation of rural areas; low level of connection to global networks for several reasons; guidance and 'reliance' on support stemming from paternalistic government functioning; general lack of vertical and horizontal trust; shortcomings in the initiative of the local self-organization and agency resulting in part from the operation of the centralized state; and the low level of interconnections between agricultural production, the related processing industry and the various service sectors based on it.

8. In my dissertation, I came to the conclusion that peripheralization processes weaken the resilience of the studied communities as a whole. This is most pronounced along different social (emigration and different demographic consequences) and economic (lack of capital, entrepreneurial spirit, etc.) characteristics. Moreover, it manifested partly in the loss of advocacy capacity and the success of policy efforts against decentralization. Furthermore, the processes related to communication discourses, which are realized by the external observer of the region (investor, consumer, etc.) and the image

of the actors forming the community about themselves and their region, also play an important role (MEYER, F. – MIGGELBRINK, J. 2013). At the same time, the resilience of the communities operating in the present context is exemplified by the fact that they exist despite regime shift, accession to the EU, the effects of state or global actors, or the effects of global climate change. This would not have been possible without continuous adaptation and transformation.

## **V. The possibilities of the practical utilization of research results**

The dissertation results are recommended to the following:

- The dissertation elaborates the meaning and possibilities of interpretation of resilience from several aspects, contributing to the wider use of the concept in Hungary and Romania as well.
- Linking actor-network theory to community resilience can bridge the gap between non-living and living due to the duality of structural endowments and social networks, as well as the local and global scale, which thus provides a more complex research framework for social geographical research.
- In the dissertation, I examined the possible causes of exogenous and endogenous events and processes that pose a threat to certain social groups and communities, which was interpreted through the lenses of resilience, the results of the dissertation can be used to establish the strategic decisions of the national agricultural strategy and the grape and wine sector.
- The results of the dissertation can contribute to the preparation of efficient and balanced (production efficiency and community development) rural development programs, in which the overcoming of each challenge can be realized by focusing on the causes of the challenges.
- The results of the dissertation related to community resilience can be useful in defining and implementing the goals and tools of the integrated regional development strategy and settlement development concept of local and national governments.
- Examining communities, social networks and the actors that make them up can make the self-organization and agency of producers more effective by understanding the causes of conflict situations arising from power relations between interest groups.
- Based on the case studies presented and the wine-growing communities organized in connection with them, the results can be used for the comparative study of other communities, for the operation of cooperative producer groups or for different clusters.

## **VI. Possible further directions of research**

The research can be expanded and outlined in several directions which can enable a deeper theoretical understanding and methodological analysis along the research aspects.

- As it would have far exceeded the scope of the dissertation, I did not directly analyze the relationship between post-socialist path dependence and community resilience. As such, great opportunities exist to examine the interaction of the two.
- By placing more emphasis on systems of power relations between actors that can be linked to local and ‘higher’ territorial scales, it can provide an opportunity for a deeper critical analysis of the conflicts that determine producers and the production process.
- Considering the results of the interviews, a representative survey of each producer or producer group could help to understand the differences between the goals and ideas of each group, contributing to the consistent and sustainable development of production in the region.
- Re-interviewing the already interviewed producers to examine the changes in the observations related to the examined resilience factors. In this context, an examination of the changes caused by the COVID-19 pandemic could provide answers to specifically topical questions.
- It would also be worthwhile to examine ‘successful’ Hungarian (and Romanian) vine and wine-producing communities and compare their results with the results of the case studies of the dissertation, which can be used as a good example for the examined communities.
- With regard to spatial analyzes, a number of other methods and indicators could be used to determine the location of disadvantaged peripheral areas, their temporal and spatial changes, with greater emphasis on the relationship between objective quality of life and the process of peripheralization.
- Although there is a lot of discussion in the literature about the specific possibilities of measuring resilience, within the theoretical framework, it may be worthwhile to attempt to objectively measure each factor.

## VII. Publications on the topic of the dissertation

- PAPP S. 2020: Rurális társadalmi reziliencia a Soltvadkert-környéki szőlő- és bortermelők példáján. In: HUNYADI, ZS. (szerk.): IX. Eötvözet Konferencia tanulmánykötet: A IX. Eötvözet Konferencián elhangzott előadások. Szeged, Magyarország: SZTE Eötvös Lóránd Kollégium. pp. 169-180.
- PAPP S. 2020: Community resilience in post-socialist rural areas. The case of grape- and wine-producing communities in the Soltvadkert and Minis-Maderat areas. *Belvedere meridionale*, 32. 3. pp. 59-75.
- PAPP, S. – RADOI, I. 2020: Peripheralization along the Hungary-Romania border: Changes in income related regional differences of Hungarian and Romanian settlements. *Review of Historical Geography and Toponomastics* 15. 29-30. pp. 9-24.
- PAPP S. – NAGY GY. 2020: Objective quality of life in the DKMT Euroregion Geo-Carpathica, 12. 1. pp. xx-xx. (*accepted*)
- PAPP S. 2018: A hátrányos helyzetű területek lehatárolásának lehetőségei. In: RÓZSA K. (szerk.): Eötvözet VI.: Az Eötvös József Collegium és az Eötvös Loránd Kollégium VI. közös konferenciáján elhangzott előadások. SZTE Eötvös L. Kollégium, Szeged. pp. 149-160.
- PAPP S. – NAGY GY. – BOROS L. 2017: A kedvezményezett települések objektív életminőség alapján történő lehatárolási lehetőségei. *Területi Statisztika*, 57. 6. pp. 639-664.