

THESES OF PhD DISSERTATION

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VILLAGE DEVELOPMENT STRATEGIES IN THE RESEARCH OF SETTLEMENT SUCCESS

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I. RESEARCH HISTORY AND OBJECTIVES

I trace back my motivation for this research to my involvement in the village renewal movement. Before starting my studies, I had participated several times in village renewal meetings and award ceremonies both in Hungary and abroad, and my experience there made me curious about the development plans and success of the participating villages.

This motivated my decision to embark on this research. I decided to gain a deeper understanding and knowledge of this field so that I can help the development of disadvantaged small settlements. My main purpose was to examine the physical background of development, and the connection between local resources and success, which can help understand the practices of successful village development programs and can explain how successful villages function.

The topicality of this field is well demonstrated by the fact that preventing rural depopulation and village preservation are communicated as political priorities year after year in Hungary and in Europe. Preserving the values of rural communities and rural development are now treated as priorities not only on a governmental level, but also at the European Commission. In line with the above the main goal of my dissertation is to examine the characteristics of Hungarian villages, to explore the opportunities for village development and to identify development priorities for small rural settlements.

To reach my goals in my examinations I will build on my knowledge gained through my participation in the village renewal movement: I will analyze the tender materials of the participants of the Hungarian Village Renewal Award (Magyarországi Falumegújítási Díj Pályázat), which will be complemented by my personal observations backed by scientific methods.

My research concentrates on the Hungarian settlement network, specifically on small settlements (villages). I took the tender materials of the Hungarian Village Renewal Award (Magyarországi Falumegújítási Díj Pályázat) and Floral Hungary (Virágos Magyarország) awards as the database for my research. The examination and comparative analysis of the results of participating villages is the starting point for my research. As I progressed, I have complemented the database with more statistical data of the villages involved.

The above will clearly show that my research operates with a primarily material approach, and concentrates specifically on material indicators and statistical data. It is important to note that this research does not examine the villages from a societal-sociological perspective, therefore I have deliberately avoided the topics of personal conditions of village development, including the role of mayors in most of my analyses. (The only exceptions are the analyses of the two Hungarian awards, where this criterion is evaluated by the jury). I have decided so despite my belief that in many cases the personal element plays a more significant role in village renewal and development than the factors examined in my research.

To reach my goals I was looking for the answers to the following question in my research:

- K1 What challenges do villages face today?
- K2 How can villages meet today's requirements?
- K3 What is the secret of successful villages? What makes villages successful?
- K4 How can a rural small settlement be successful?
What is regarded as a successful village development?
- K5 Which settlement development strategies are successful?
- K6 What external factors influence the success of villages and the directions of their development?

To answer the research questions, I have formulated the following hypotheses:

- H1. To survive, villages' most important goal is to compete effectively for population. The success of villages is therefore largely defined by their capacity to retain population and the strength of their communities.
- H2. Success means the realization of strategic goals.
- H3. Settlements that consciously execute a settlement development program are more successful than their neighbours with identical conditions.
- H4. Villages that rely on internal resources for their development are more successful.
- H5. Villages that consider network building and local cooperation are more successful.
- H6. Villages function differently based on their role in the settlement network, therefore the type of village development pursued (differences in strategic directions and emphases) is defined by their locality and role in the settlement network.

II. MATERIAL AND METHOD

In my dissertation I categorized those villages successful that can demonstrate concrete results and have completed development projects. Following this criterion, I examined the results of the villages participating in the Hungarian Village Renewal Award (Magyarországi Falumegújítási Díj Pályázat) since these settlements have been deemed successful by the award's board of experts.

To perform my research, I needed such a diverse group of settlements, which can represent the existing types of Hungarian villages that are defined in the relevant literature. It is necessary for the analysis that the set of sample villages represents the diversity of villages according to their locality, size and role in the village network. Based on this condition I have selected 50 settlements for my analysis from participants of the Hungarian Village Renewal Award. The villages fulfilled the criteria set above, because:

- they are spread all across Hungary and represent all counties
- the population of villages is quite diverse in size, they range from a few dozen people to giant villages with thousands of inhabitants
- they are quite diverse according to their role in the settlement network. They range from isolated dead-end villages and disadvantaged small villages to prosperous agglomeration settlements

With the improvement of mobility the need for previously locally existing services has disappeared, and compulsory local functions have become intersettlemental and regional, therefore a differentiated view of the settlement network has become necessary, while task- and competence sharing has become an important factor. I had to factor these criteria into my research, therefore one of my hypotheses is that type of development strategy, the selection of the directions of the strategy, and its main characteristics are largely determined by the locality of the village and the role it plays in the settlement network.

I have defined three categories for the sample set of villages: Settlements in metropolitan agglomerations, settlements in small town catchment areas, and settlements in townless areas. I have put settlements that are in the catchment area of cities with a population not exceeding 10000 in the latter category. Clustering was performed based on the function and size of the central settlement. Therefore, the basis of clustering were not the villages themselves, but the relevant cities' impact on their environment. (I haven't only put the neighbours of the central settlements in the same category, but also those villages that are in the actual agglomeration area of the city)

I have performed the examinations based on each settlement cluster individually to prove my hypothesis. After clustering, 17 settlements were categorized as part of a metropolitan agglomeration, 20 as part of a small town catchment area, and 13 as part of townless areas.

After assessing and summarizing the success factors present in the literature instead of examining success factors as indicators, I decided to analyze the actual development processes, and I aimed to draw conclusions about the quality of development tracks and strategies. The reason why I did not examine success factors (indicators) is that these concerned the development topic areas, they were looking at general development programs and their results, not the changes in the actual success factors themselves.

In my analysis I used different methods

- analyzing tender documentation
- organizing and classifying relevant literature following research methodology
- processing statistical data, developing a new success indicator to make comparative analysis of settlement performance possible

To **analyze the development strategies**, it was necessary to review the relevant documents of the sample villages. For this purpose, I have analyzed 50 entries of the Hungarian Village Renewal Award, and the entries of the same villages for the Floral Hungary competition. (Out of the 50 sample villages 28 had applied for the Floral Hungary competition, so I analyzed all the available entries). During my analysis I have evaluated the results of the clusters generally and also individually according to the evaluation criteria.

My research of the participants of the Hungarian Village Renewal Award was based on the tender documentation and their evaluations, and was conducted by analyzing the results of the areas specified in the tender application documentation:

- Strengthening ecological agriculture and forestry while respecting the character of the man-made landscape
- Responsible and sustainable management of natural resources and use of renewable raw materials
- Preservation of local services and employment opportunities and creation of new ones
- Revitalization of valuable old and creation of good-quality new buildings
- Creation of up-to date social institutions and socio-cultural qualities
- Strengthening the sense of identity and the self-assurance of village residents
- Promotion of the empowerment and motivation of village dwellers to commit socially
- Encouragement of the participation of all age groups, genders, nationalities and minorities in economic, social and cultural life
- Networks, and intersettlemental relations

In all these criteria reasonability, efficacy and the quality of intervention had to be evaluated as poor, average or exemplary. In-depth evaluation was performed on a scale of 0 to 10 in all topics.

I have deemed a village's intervention successful if they received exemplary grades in all categories (reasonability, efficacy and the quality of intervention), and in the case of development strategies if their interventions were evaluated as exemplary according to all criteria.

My research of the participants of the Floral Hungary award was based on the tender materials and their evaluations between 2016 and 2019. During my examinations I have relied on the scores awarded by the jury.

During my analysis of **villages' local resources**, I primarily relied on the results of previous village surveys. The systematisation and clustering of this information led me to recognise the importance of settlement network processes. In summarising the research in the field, I focused on the changes in land use characteristics of villages, based on information from national village surveys carried out at different times. By a temporal ordering of the surveys

and by juxtaposing the classifications the villages received in them, changes in land use (as a local resource) could be traced.

My **success rate studies** were carried out with the help of Dr. Márta Ladányi, using analysis of statistical data. The analyses were based on the background database of the Government Decree 105/2015 (IV.23.) on the classification of beneficiary municipalities and the criteria for classification. Annex 2 of the Government Decree determines the list of beneficiary settlements based on a national ranking, which is based on the criteria of Annex 1 of the Government Decree and the calculation methodology of Annex 1. The data set on which I based my analysis was provided by the Hungarian Central Statistical Office (HCSO) in September and December 2018. The data set contained the values of 23 criteria and the ranking of municipalities, of which I used data from 308 settlements: the 50 settlements surveyed in the research were considered as samples and the 258 settlements immediately adjacent to the 50 municipalities were considered as reference.

The comparison of settlements was based on their ranking in the ranking list. Settlements with a lower ranking are more successful than those with a higher ranking. For comparability, the data for the settlements were examined individually, with the villages considered as a separate entity.

In order to compress the information contained in the 23 related variables of the HCSO database, I applied a dimension reduction procedure in the three groups of settlements separately in the first step, with the aim of performing a linear regression analysis with the resulting factor scores as (independent) explanatory variables on the HCSO series of the settlements as dependent variable. In this way I could avoid the multicollinearity problem of linear regression analysis. A principal component analysis (PCA) was performed, as the ultimate goal was not only to maximise the explanatory power of the linear model (for which the partial least squares method might have been more appropriate), but also to retain as much information as possible in the 23 variables. This endeavour made the procedure methodologically suitable for dynamic tracking of success rates in cases where the information content of some variables - of lesser importance in this particular data set - became significant at a later point in time. The closeness of the relationship between the principal components and the 23 variables (loadings) was visualized by Varimax rotation.

First, I examined the role of outliers in the PCA results. Out of 308 municipalities, 17 were found to be multivariate outliers based on the Mahalanobis metric, including two sample villages (Megyer and Komlóska). Thus, I saw three possibilities for the municipalities included in the PCA, and the dimensional reduction was therefore performed in three ways:

- for the data set without outliers,
- including Megyer and Komlóska (since they are sample municipalities) but excluding the other outliers, and finally
- including the outliers for all settlements.

There were only minimal differences between the results of the models produced in the three methods, so I decided to work with a data set including the outliers, keeping the total sample element count.

III. RESULTS, THESES

The relationship between the results of each study and the theses is shown in the following table:

	Thesis 1.	Thesis 2.	Thesis 3.	Thesis 4.	Thesis 5.	Thesis 6.
Development strategy -Village Renewal Award Tender	X		X			X
Development strategy – Flowery Hungary		X	X			
Development strategy - HCSO data analysis	X			X	X	
Changes in local resources	X					X

Using the results of these studies, I formulated the following theses:

Thesis 1: I proved that the role in the settlement network determines the development strategy, the direction and the focus of development in a given village. While the expansion of local employment is the main development priority in areas outside of city agglomerations, the focus shifts to improving the quality of life as we move towards settlement groups in urban agglomerations.

My research has shown that it is effective to group villages according to their position within the settlement network, so that the success indicators and village characteristics of villages in metropolitan agglomerations, small town catchment areas and townless areas can be clearly distinguished from each other. Settlements in each group operate differently, with different motivations, reflecting that the strategies of the villages are clearly distinct from each other - this was evident in all my studies, whether in the analysis of the village renewal tenders, the results of the Floral Hungary competition or the development strategies based on HCSO data. Based on my analysis of the results, I found that there is a strong correlation between development emphases and the distance from the central settlements of the settlement network, with some processes becoming more pronounced and others less so as we move away from larger cities.

Community building and the conscious development of local identity play an increasingly important role further away from the urban areas, and the development of these areas is therefore more successful in villages in townless areas (and in the catchment areas of small towns). In contrast, this is not the case in metropolitan agglomerations, where, although the material resources are available, the different needs of a mixed society mean that in most cases there is no classic community, and development is often more focused on renewing buildings and expanding infrastructure. A similar trend is true for relying on network connections, although this is not very strong in any of the groups of settlements, but the majority of network connections are typically with the centre settlement, so it is clear that small settlements closer to the nodes of the settlement network are more active in using these opportunities.

In addition to the above, the demographic situation cannot be ignored, as migration trends are leading to a rapid increase in the population of the villages in metropolitan agglomerations, while the population of the other two groups of settlements is (to a greater or lesser extent) decreasing or stagnating - the starting point of the strategy of each village must therefore also diverge.

The modified success indicator created as a result of my research has made it possible to identify the development priorities of villages. The main components of the indicator, which was created by transforming the grouping of basic social, economic and infrastructural factors used by the HCSO, showed that each type of village focuses on four main development areas, of which two or three development areas are the most prominent. In more advantaged villages, quality of life and comfort are important, but further away from the cities, employment is becoming increasingly important alongside quality of life - indeed, townless areas, it is the most important development area, as it provides the livelihood of the locals and thus the survival of the villages. However, while in the villages of townless areas it is essential to increase local employment opportunities, this is less important in the villages of metropolitan agglomerations and small town catchment areas, where employment is mostly provided by the central settlement.

It is also important to note that for villages located in the catchment areas of the metropolitan agglomerations, good performance in terms of operability, including employment and quality of life, or in terms of local services and amenities, does not guarantee the success of the villages, since all the settlements in metropolitan agglomerations place great emphasis on the same areas, so that quality of services and a good standard of living have become the population's expectation. Therefore, if a village underperforms its neighbours in these areas of development, it will fall behind and will not be more successful than its neighbours.

Thesis 2: I have found that attractiveness enhancement plays an important role in the development strategy of small villages and can be a factor in village development even if the tourism attractiveness of a village is moderate.

In section 4.1.2 of the dissertation (literature review), I showed that the results of a study on village development in the Czech Republic (very similar to Hungarian village development) showed that a successful village is basically an "active village", that instead of being a quiet, peaceful settlement, a livable village is driven by vibrant, living surfaces, local initiatives and community activity. However, a successful village must fundamentally be an attractive village as well, as an attractive environment and quality living spaces not only attract tourists and incomers, but also play a major role in retaining local residents.

In examining the results of the sample villages in the Floral Hungary competition, I found that projects in the field of quality green spaces and tourist attraction development have emerged as local attractions, serving both tourism and village development. However, as the tourism attractiveness of most of the participating villages is very low, participation in the Floral Hungary competition and local attractions were in most cases seen as a means of village development.

Thus, regardless of their different geographical location, natural conditions and position in the settlement network, the participating local governments see the competition and the related elements of the competition as an opportunity for attraction enhancement in general, not only aimed at tourism. The aim of the applicant villages is thus to increase the actual attractiveness of the area, which is important even if the village has no real role in tourism, since in this case the development is aimed at improving the quality of the local living environment and the satisfaction of the inhabitants. Accordingly, the attractiveness growth of villages is a success factor in development strategies.

Thesis 3: I have found that the so-called soft instruments of village development cannot be dispensed with in the definition and implementation of strategic objectives, because the strategic objective and the strategy will only be effective if these soft instruments work.

In the justification of the first thesis, I summarised the factors that shape the development directions of village development strategies and the processes that influence the success of villages. At the same time, the importance of strategy-making should not be overlooked, as the so-called soft tools of village development (community, collective thinking, etc.) are indispensable for success.

After reviewing and analysing the entries to the Hungarian Village Renewal Award and the Floral Hungary competition, and summarising my field experiences with the model villages, I have concluded that a proper strategy and continuous feedback - both from the "outside" (e.g. through jury evaluation) and from the local people - are essential for successful village development.

Thinking together with local people is what makes the development strategy come alive, it is the processes that 'surface' local information, help to formulate realistic goals through broad community knowledge and help to implement development elements through community building.

This is why the participation and active presence of local people is important in the development strategy process. I have seen a number of cases where the strategy is prepared by an external planner without local knowledge, and where the strategy makers (and sometimes adopters) do not have an overview of the full spectrum of local resources. In these cases, the objectives of the strategy are divorced from local conditions and there is only a moderate chance of achieving them.

Thesis 4: I have found that success in small villages cannot be defined by universally measurable, quantifiable indicators, and that the success of individual villages is measured by their achievement of their development objectives.

When comparing statistical data from the villages, although they offer many interesting findings, it is not possible to evaluate the data without examining the causal links, nor can the results of successful development be clearly distinguished.

The literature on the subject gives different interpretations of settlement success (innovation, social success, economic success, etc.), in line with their main lines of research, and in practice the settlement success models already developed by several researchers cannot be easily adapted to local governments. For this reason, I set myself the goal of making settlements measurable and comparable on the basis of statistical data.

The starting position of each village is different, and the strategic objectives and indicators of success are different. The villages in the different settlement clusters cannot therefore be compared with each other, as they have completely different objectives, as described in thesis 1. However, it is important to note that although villages within a group of municipalities can be ranked, this ranking does not necessarily mean that villages further down the ranking are unsuccessful. Based on my personal experience, villages and small settlements perceive all their achievements (in relation to the set objectives) as successes, so that ultimately their success is the achievement of development objectives - which is also the way the international jury of the European Village Renewal Awards assesses them.

(It should be noted that the success indicator is based on the variables measuring underdevelopment of the HCSO, not because I see success as the opposite of underdevelopment, but because this database was the most suitable for comparing and ranking villages.)

Thesis 5: I have found that the multi-factor success indicator based on the HCSO database helps to identify the details of successes and strategic areas for development.

In my research, I have found that success cannot be summarised in a single ranking number as it does not explain in sufficient depth the actual results achieved. As a result of my research, I have created a new type of success indicator (modified success indicator), using indicators from the HCSO, which can be used to rank the success of settlements. The indicator measures not only the relative position of each settlement in relation to the others, but also includes direct correlations with the original HCSO indicators - the method has thus resulted in a dynamically modifiable indicator. The modified success indicator thus creates a qualitative ranking that can be deliberately changed through the analysis of development indicators.

The value of the modified success indicator is a realistic indicator of the status of the villages and highlights differences by identifying the reasons for the differences. The modified success indicator also includes the values of the four main development areas of the villages, so that their analysis reveals which village development strategy is being pursued and which village character is being developed.

The main advantage of the dynamically adjustable success indicator is therefore that, in addition to enabling the ranking of villages, it can be used to analyse the development strategy of villages and to model the impact of local development on success by adjusting the values of the HCSO variables. The creation of the indicator can thus help villages (local governments) to innovate, as they can examine which variables can be improved through the creation of their development programmes and strategies.

On the basis of the modified success indicator, I have created a new definition of success that is equally valid for all villages. According to this definition, a **successful village can be defined** as a *village that has managed to improve its position according to the ranking defined by the modified success indicator*. The task for the villages on the road to success is therefore to identify the indicator(s) among the 23 indicators that, by improving their performance, will also improve the performance of the development areas (principal components), as this will influence the ranking. Once the indicators have been identified, development programmes and projects can be developed to improve the value of the indicators and the performance of the village.

Thesis 6: I have found that in village development strategies, (agricultural) land use is becoming less and less important, and its strategic role is being replaced by the role in the settlement network and the proximity of network nodes. The loss of agricultural land use is proportional to the change in the employment structure.

The choice of settlement development strategy is strongly influenced by the position in the settlement network, the available resources (internal and external) and internal motivation. Different settlement development strategies can lead to success, but a settlement's role in the settlement network has a fundamental influence on its options. While villages in metropolitan agglomerations and small town catchment areas can be successful by making good use of external resources, they can stand out from other settlements in a similar situation by implementing successful development projects based on internal resources, whereas in townless areas, villages are confronted with unfavourable trends, so that the implementation

of a successful development strategy and the realisation of positive development dynamics in these villages must always be based on internal resources. For this reason, a large number of “atypical” development strategies can be found in the latter group of settlements, and in the absence of other options, development based on agricultural production (as a local resource) is still of strategic importance.

IV. CONCLUSIONS AND PROPOSALS

The main aim of my research was to help villages and small settlements in their efforts to survive, renew and develop. To this end, I have examined in detail the development measures and strategies of the villages, and by organising the information I have been able to achieve new results that can be put to good practical use. On this basis, I have made the following proposals for the targeted development of villages:

- To make as much information as possible available to the local governments, in order to better identify local conditions so they are able to create informed strategies
- In addition to central statistical data, a "formula" for the ranking based on the statistical data should be made available so that development measures can be determined through a conscious strategy. This requires the further development of the definition of development priorities by experts on the basis of the modified success indicator, and making these results public.
- The evaluation system of the Floral Hungary competition should be used as a basis for a conscious 'attractiveness study' of villages, which could be used as a basis for development measures aimed at raising local living standards.
- Based on the clustering of villages according to their role in the settlement network and their different operating mechanisms, it would be advisable to differentiate the funding framework (and the related indicators) of existing funding sources (e.g. Hungarian Village, TOP), so that targetted funding is available for the villages of each settlement group in line with their different development priorities.
- It is proposed to revise the evaluation of the Hungarian Village Renewal Award, which, in addition to the previous evaluation criteria, should also look at changes in the ranking of settlements between the beginning and the end of the village renewal period.

In addition to my recommendations and results, which can be applied in practice, my research has highlighted a number of issues that should be addressed in the future in order to provide villages with more complete information to help them make their development decisions. I hope that the detailed scoping of these topics, the specific studies on these topics and the publication of the results will be carried out by other researchers in the future. These topics are:

- the development of shrinking settlements,
- the analysis of the strategy-making process in small settlements,
- the possibilities of comparison with international examples.
- urban growth as a weakness of rural areas

PUBLICATIONS RELATED TO THE TOPIC

Journal articles

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