

## **A method for complex spatial delimitation of tourism destinations in South Transdanubia**

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### **Abstract**

As a special segment of the research of the interrelated system of tourism and regional development, the present study is aimed to deal with and focus on the methods of the regional delimitation of spaces and areas of tourism based on its supply and demand aspects, providing recent data on this rather neglected field. Following the general introduction of the study area (South Transdanubia, Hungary), the research background with a literature review of the international practice on the given topic is presented. The main portion of the paper is the introduction of a new method elaborated by our research group concerning the demarcation possibilities of core/periphery areas of tourism, among others using GIS methods. This method provides a fairly accurate approach for centre–periphery research concerning the study of tourism.

**Keywords:** destinations vs core areas, demand-supply relations, tourism products, GIS

### **Introduction**

As a special segment of the research of the relation system between tourism and regional development, the main aim of this study and our research is to present new methods and open up perspectives for the regional delimitation and evaluation of tourism zones or destinations with the help of GIS applications. As spatial processes of tourism are getting increasingly complicated in the 21<sup>st</sup> century it is assumed that for using more detailed and exact methods of the assessment of the tourism sector map representation should play an important role in its planning and monitoring. A basic concept is that with the

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exception of areas clearly focal in tourism it is not so obvious to identify tourism sites or areas. This is also supported by the fact that in spite of the ever increasing social-economic role of tourism and its potential for development, there have been very few studies purposed to build models for evaluating the economic impact of tourism on certain administrative levels.

Some models are known for the evaluation of certain factors such as economic impact on jobs and revenues within tourism, but only few of them have so far been used to analyse spatially the complex factors in a systemic way using GIS methods (DA CUNHA, S.K. and DA CUNHA, J.C. 2005; ESPON Atlas 2006; GAGNON, S. 2005, 2008; POTTS, T.D. and UYSAL, M. 1992; RAYMOND, C. and BROWN, G. 2007; TRUSINS, J. and BEBRIS, I. 2005; World Economic Forum: The Travel and Tourism Competitiveness Report, 2008; ZHONG J. *et al.* 2007).

The present article proposes a complex approach to the spatial and regional assessment of tourism destinations in a more holistic approach based on the analysis of the demand and supply side. The theoretical basis and the initial concept of the research and development of the model is provided by the centre-periphery research and the authors were also influenced by the carrying capacity concepts and studies (BUTLER, R.W. 1996; COCCOSSIS, H. 2001; DA CUNHA, S.K. and DA CUNHA, J.C. 2005; LOZATO-GIOTART, J.P. 1992; MYTELKA, L.E. and FARINELLI, F. 2000; NORDIN, S. 2003).

Following the general introduction of the study area (South Transdanubia, Hungary) the research background with a literature review of the international practice in the given topic will be presented. The study highlights the first stage of the research, which further on as it is assumed might lead to the creation of a complex delimitation method of regions representing importance for tourism.

### **General introduction of the study area**

Although the cultural and natural assets of South Transdanubia are favourable for the development of tourism, the region's location is unfortunately peripheral, so the settlements often are isolated and their accessibility is poor. The transport and traffic corridors of north – south and west – east directions are scarce and there are only few border crossing points. The economy has been determined by the decline of the former industries (heavy industry and mining in Baranya County), foreign investors prefer Budapest or the western Hungarian region and the ratio of SMEs is the smallest in this region of the country. On the other hand R&D activity (at the University of Pécs and Kaposvár) as well as the agro-ecological potential is outstanding and unemployment is below the national average.

The tourism supply of the region relies on the slogan 'Hungarian Mediterranean' reflecting anthropocentricity, beautiful scenery, tranquility and relaxation. The most important tourism products are health tourism (Harkány, Szigetvár, Igal, Tamási, Dombóvár–Gunaras, Kaposvár, Csokonyavisonta, Nagyatád), cultural tourism (Pécs – UNESCO World Heritage Site and European Capital of Culture in 2010), ecotourism (Danube–Drava National Park), wine tourism (Villány–Siklós, Szekszárd, Mecsekalja, Tolna wine region), rural and hunting tourism (AUBERT, A. *et al.* 2007; AUBERT, A. and CSAPÓ, J. 2003; BERKI, M. and CSAPÓ, J. 2003).

The international tourists are coming mainly from Austria, Poland, Croatia, and the Netherlands. The tourism of the region is highly concentrated spatially since the south shores of Lake Balaton account for some 57% of the total number of tourist arrivals, while the Pécs–Villány–Siklós region attracts another 28%, as the second major destination of South Transdanubia is the Pécs–Mecsek and the Siklós–Villány microregions. (AUBERT, A. 2000; Hungarian Tourist Authority, 2005)

## Research background

### *Literature review*

Based on the reviewed international literature it could be claimed that there is no accepted practice for the delimitation of core areas or destinations. However, concerning the basic principles of the destination(s) there seems to be a consensus among the international professionals (researchers, practical professionals) which can be summarized in the following (BIEGER, TH. 1997; BUTLER, R.W. 1996; PECHLANER, H. *et al.* 2002; PECHLANER, H. 2003; POTTS, T.D. and UYSAL, M. 1992):

- The delimitation of a certain destination is carried out from the visitor's point of view, disregarding administrative or political borders;
- A destination has a clear, unique profile so that it can become a realizable and independent brand in the tourism market;
- The destination should provide a wide range of supply for the tourist;
- The market initiation of a certain destination should be carried out by a professional management bearing the responsibility for communication, information supply and turnover as well;
- The local population should be able to identify themselves with the spatial delimitation of the destination and also its market initiation (especially with the brand).

During the research it was experienced that the determination of the parameters cannot be independent of the size of the core areas/destinations.

The international practice frequently uses the concepts of core areas/destinations alternately. In favour of definite terms the appellation of destination will be used in the following.

### *Examples of international practice*

Concerning the minimum size and the delimitation criteria of the destination(s) there are significant variations based on the travel drift research among the tourists in different countries. Consequently they take sides on the system of 'small', 'medium sized' or 'great' destinations which margins are disposed by the travel distance on the one hand and concerning the behaviour and habits of the visitors within the target area on the other hand.

In the case of Switzerland threshold values were set such as (PIETRO, B. *et al.* 2004; LARBIG, C. 2003. *et al.* 2003; BIEGER, TH. and LAESSER, C. 1998):

- 300,000 guest nights in the case of a destination with national or international reputation (receiving domestic visitors);
- 600,000 guest nights in the case of a destination with international reputation (with national reach and also taking into consideration the nearby neighbouring target markets);
- 1 million guest nights in the case of a world famous destination which also attracts other continent's visitors and market;
- For further delimitation criteria the disposable marketing budget is utilized;
- When the turnover of one day visits seems to be of great significance, they could take it into consideration with an equivalence value estimate.

In the case of Germany there seems to be a concordance in the following (BECKER, Ch. 2004):

- The nearly 350 regional organisations or tourism associations and the approximately 4,000 local or community tourism bureaus should be colligated in 35–40 competitive destinations – supposing at least 5 million guest nights in every case;
- These are regions or areas of great international recognition (Oberbayern, Schwarzwald, Harz etc.);
- For the new federal states the DWIF of Munich elaborated a differentiated model to be able to support the determination of their marketability;
- This model is based on numerous criteria (number of guest nights, size of the budget for the tourism organization, market policy etc.);
- On this basis only 12 former East-German tourism regions (out of 42 as national total) have such a potential to be able to function as an independent destination.

In English speaking countries the application of such sharp distinctions is not common (HOWIE, F. 2003; RITCHIE, J.R.B. and CROUCH, G.I. 2000). They basically

consider two decisive factors if the destination creation is related to more than one settlement:

- Form and quality of the existing transport relations among the members of the destination;

- Form and content of the existing/future cooperation among the members.

In addition to the national approaches in this area – also influencing our research aims – another initiative is to be emphasized which was recently introduced by the World Economic Forum concerning the competitiveness of travel and tourism investigations. Realizing the importance of the travel and tourism (T&T) industry for industrialized and developing countries alike, the fundamental objective of the Travel and Tourism Competitiveness Report (TTCR) is to explore the factors driving T&T competitiveness worldwide. The aim of the second edition of TTCR covering 130 countries is to provide a comprehensive strategic tool for measuring ‘the factors and policies that make it attractive to develop the Travel and Tourism sector in different countries.’ (World Economic Forum: The Travel and Tourism Competitiveness Report, 2008.)

## Methods

In order to validate the principle of concentration on the core areas during the realization of tourism developments the precise delimitation of the core areas needs to be carried out on the settlement level. According to the professional definitions core areas are tourism centres, which now serve as in the future will also do as attractions which stimulate the tourism of the region. Though the developments should not exclusively concentrate on the appointed areas in any case these would mean the basics for concentration. At present these areas should not be considered as tourism destinations in the modern sense, but due to their further middle term focused development they could turn into them.

Based on the above, in the present research core areas were considered as one of the catalysts of the destinations. Relying on the reviewed international literature it is claimed that there is no uniform methodology concerning the delimitation of core areas or destinations.

### *The parameters of the delimitation process*

Based on the Hungarian professional and administrative networks, civilian cooperation, international experience and the available data of the region six parameters were identified as suitable to draw the boundaries of core areas. The main parameters comprising 24 parameter elements are the following:

1. Present attractions
2. Decisive tourism products (through qualified service providers and accentuated products)
3. Accommodation capacity and performance data (reservations per 1000 residents and reservations in absolute terms)
4. Tourism networks and development activity (network cooperations and application sources)
5. Local tourism tax
6. Transport conditions (not considered in this model)

At the same time it is to be emphasized that via innovative products the present core area system could alter at any time and a new core area can also be generated. Therefore a continuous data collection is necessary from the study region. The core areas created using the above mentioned set of parameters are formed along the boundaries of the present positions so the non-innovative developments (e.g. transport) could modify these boundaries.

For the parameters identified the following weights have been determined:

- Present attractions (20%);
- Decisive tourism products (25%);
- Accommodation capacity and performance data (30%);
- Tourism networks and development activity (20%);
- Local tourism tax (5%).

The research of spatial units delimited by social-economic indicators with GIS methods can open up new perspectives in determining more exact spatial categories and also in creating more expedient subvention networks. Such a problem is the creation of the tourism centre–periphery, centre–centre, agglomeration–periphery systems as well. How can uniform model parameters be identified and conceptualised that, due to the numeric features can provide a possibility for quantitative and not for qualitative decision making? The answer is hard to find since, based on the parameters, an index or characteristic value are to be constructed, that enable to identify regions spatially in an environment with certain values (attraction, landscape elements, service structures etc.) that are difficult to express numerically.

Naturally, when building models a problem is emerging immediately: is it possible to design a method which is applicable for any area or centre–periphery system based on a relatively small study area? It is assumed that it rather depends on the attraction structure (its diversity) than on the size of the given area. In this study numerous possible solutions are demonstrated, which allow the representation of central zones or peripheries of tourism on the basis of uniform parameters and then the strong sides and weak points of these spatial unit analyses can be highlighted.

It is very important however that the given GIS method is a general scheme in which the parameters can be varied hence they provide opportuni-

ties for generalization and its utilization in different areas as well by changing the investigated parameters but keeping basic model principles.

The basic problem of any spatial delimitation is the determination of parameters (KARIOTIS, G. *et al.*, 2007). The parameters of central areas for tourism can be approached presumably from two different aspects: one of them is the supply and the other is the demand side, which generate supply or demand (or both) centres or core areas. This approach can result in three outputs. In the most favourable case (1) the supply centres appear as demand centres as well and so the analysis will show the complete coincidence of the two spatial categories. The other possibility (2) demonstrates areas where the demand side is high with a relatively low supply side while the most unfavourable scenario (3) can be experienced where a remarkable supply centre is coupled with a very restricted demand potential.

The demand–supply relation system would result in a clear analyzing environment. But there are no clear processes since in numerous cases the political, economic changes would set back the emergence of market processes. So this model consists of several parameters which cannot be considered as primary input data but they can rather be interpreted as values deduced either from the supply or the demand side (e.g. sources of support).

The methods of shaping spatial categories were also demonstrated with the help of GIS and then investigated if these methods could be extended to any other Hungarian regions or counties. By using the above analysis, during the investigations a high priority was given to drawing exact and unambiguous boundaries between the core areas, their direct agglomeration and the regions peripheral for tourism.

It was evaluated statistically how the support systems and sources won via tenders promoted the possible strengthening of the core areas or induced disadvantaged areas to catch up. This research indicates a very important task for the development of tourism, namely that the support sources could really be used within the spatial units selected to be subsidized.

In our method, the basic units for the creation of tourism core areas are limited by administrative settlement borders. The smallest central area can cover a single settlement, which emerges from the surrounding areas without any surrounding semi-peripheral regions.

Our model and database were built up using ARC/GIS 9.2. For the delimitation of central areas the module of ARC/GIS Spatial Analyst was used. The numeric analysis was carried out by Microsoft Excel.

The spatial basis for our GIS model is provided by the database on Hungary's administrative borders of where settlements are stored as polygons. The related primary, unique key of the database network is the KSH (Central Statistical Office of Hungary) code linking the database to the polygon and the database proper. In the region 652 settlements were analysed and



classified by the index as either core or periphery areas. The decisive elements of the supply side were framed based on the settlement data (called TSTAR) of the CSO.

*The attraction survey and evaluation criteria of tourism attractions*

The demand data was compiled from several databases. First the data were analysed from the 1997 Attraction Survey carried out by the Hungarian Tourism Ltd. In our analysis first we carried out a comparison survey concerning the spatial texture the evaluation of attractions shows from both viewpoints – local government and private sector – since the two approaches take their decisions by differing interests. It is valid first of all for physical (natural) attractions. The survey covered all the settlements of Hungary, so here the settlement itself was the smallest spatial category studied as well. The survey for the total area of the country was implemented by several consultant agencies on a uniform criteria scale (*Table 1*).

For every settlement, they determined physical/natural, cultural and special attractions. These attractions were supplied with a uniform code system – e.g. 100–199 to the physical attractions, 200–299 to the cultural ones etc. – then two numbers were rendered to the attraction. These value pairs expressed the assessment of the attractions by the local governments and by the private sector. Values ranged from 1 to 9 for any attraction, in which system 1 meant an attraction of local significance and 9 indicated that of international importance.

The data of this attraction survey was renewed by a reambulation in 2007 by the staff members of the Institute of Geography, University of Pécs. Thus in a microregional system the attraction structure was analysed and re-evaluated. This research was initiated and implemented by the commission of the DDRFT (South Transdanubian Regional Development Council) (AUBERT, A. *et al.* 2007).

The attraction survey and classification were performed by the representatives of the private sector and of local governments. In the course of the analysis first a comparison survey was carried out concerning the spatial texture the evaluation of attractions shows from both i.e. local governmental and private sectoral viewpoints since the two approaches take their decisions based on different criteria. In this correspondence the private sector can be handled as purely market oriented while the classifications conducted by local governments seem to reflect other social expectations too. This alteration raises further intriguing research issues beyond the topic of the present paper.

In our opinion a settlement deemed a core area should reach the national attraction level concerning at least one out of the attractions, so value 6 was identified as a threshold above which tourism attractiveness was considered



Table 1. Evaluation of tourism attractions by their reach

Attraction value point	Attraction category, reach	Complementary terms
1	Local attraction 1: Can be developed to a potential attraction	Local inhabitants know about the attraction and visit it, but without any tourism flow. If a tourist arrives there – and obtains knowledge about it – visits the place as a complementary program, but does not travel to the settlement only because of that particular attraction.
2	Local attraction 2: With a reach and visit of a micro region	The neighbouring inhabitants are aware of it and so show it to their guests. It has a certain tourism flow as well but does not generate an independent demand.
3	Regional attraction 1: The majority of the visitors come from the given region; induces a significant turnover	It is a known, visited and recognized attraction in the region, but is not familiar outside the region, its external demand is negligible.
4	Regional attraction 2: The majority of the given attraction's visitors are arriving from the same region but it also attracts visitors from settlements of the neighbouring region (tourists from remote regions or abroad are present but in small numbers)	It is well known in its region, the population of the region concern it as a part of its image and visit regularly. It is externally known as well beyond the regional boundaries and so receives external visitors.
5	National attraction 1: The visitors of the attraction are coming from the entire area of the country but they only form a special guest flow segment; the attraction does not generate significant international visits	The attraction is completely accepted and accentuated in the region generating demand for one guest segment from the whole country (e.g. a cross country track), but does not motivate other segments.
6	National attraction 2: The visitors of the attraction are coming from the complete area of the country in every segment; the attraction does not generate significant international visits	Generates visits in almost all of the visitor segments but is only known and received by the domestic culture (lingual, historical peculiarities) and has no international attraction.
7	International attraction 1: A significant ratio of the visitors come from abroad but it is basically attractive from one special segment (the ratio of the domestic guests is lower)	Its significant international guest flow has a special interest segment (e.g. hunting tourism).
8	International attraction 2: A significant proportion of the visitors comes from abroad, representing a wide range of segments (the ratio of the domestic guests is lower)	It attracts a significant international guest flow basically from the neighbouring countries and from the traditional sending countries. Its demand is massive but does not generate new markets in its present state although it has the potential.
9	Global attraction: Its interpretation exceeds the previous category in that the attraction induces global tourism flow and visits to the area independent from geographical distance	In Hungary there are only a few of them such as Budapest or Hungaroring (Formula 1 race track).

Source: Own editing

significant. When building the applied index for delimiting central areas, as a result of the earlier mentioned survey, areas above value 6 received such a weighing factor solution which raised the significance of the attraction if it was present and highlighted in both surveys (local government and public sector) and gained an international rating.

The supply side of the index was analysed from the viewpoint of service providers. Here the category of the so called 'qualified service providers' was analysed. The service providers of the region were summarized then the related factor of the index was created from this database.

Also for evaluating the value of the supply side 'four products' category was used. The so called 'qualified service providers' in Hungary are: (1) wine route service suppliers, (2) rural tourism accommodation suppliers, (3) equestrian tourism hosts, (4) craftsmen. From them only the so called Boole values were analysed, which show whether the given product is present or absent at the settlement. The importance of the specific local parameters should be emphasized, since the 'thermal and spa' category characteristic for the South Transdanubian Region could be substituted by another product in another region.

The demand side can be defined more unambiguously than the supply one since it is the most expressed parameter of tourism concerning the number of visitors and their time and money spent. There was analysed the number of guest nights which were applied not in absolute numbers but incorporated in five groups in the model mentioned earlier (present attractions, decisive tourism products, accommodation capacity and performance data, tourism networks and development activity, local tourism tax).

During the survey of commercial and private accommodation capacities and guest flows the contradiction was found that in numerous cases no guest flow values were linked to the registered capacity. So in this case in reality the given accommodation was not functioning or it had a minimal registered turnover. From a professional point of view the guest night data show the real tourism turnover however the absolute values show a very high standard deviation over the region (Siófok 675,541 person/night/year vs Decs 18 person/night/year). So it was found reasonable to use a specific index of the settlement value of guest nights per 1,000 residents from the KSH database and its categories. It also stands by the application of specific index that – knowing the settlement structure of the region – we could decrease the weight of the settlements with large population and considerable tourism potential (e.g. Pécs: the value of guest nights per 1,000 residents is 1742) but also we highlight from the lower settlement category those which could be raised using this index (e.g. Patca: the number of guest nights per 1,000 residents is 59,778). Naturally on the top of this list there are the settlements with an abundance of tourist flow and visitation (e.g. Zamárdi: the number of guest nights per

Table 2. The KSH (Central Statistical Office of Hungary) value categories considering the number of guest nights per 1,000 inhabitants

Number of guest nights per 1000 inhabitants	Category
0-1	0
2-100	1
101-200	2
201-500	3
501-1,000	4
1,001-3,000	5
above 3,000	6

Source: own edition based on KSH (Central Statistical Office of Hungary) score categories

Table 3. The turnover (guest nights) in commercial and private accommodation (person/year)

The turnover (guest nights) in commercial and private accommodation (person/year)	Category
1-1,000	1
1,001-10,000	2
10,001-50,000	3
50,001-150,000	4
150,001-250,000	5
above 250,000	6

Source: own edition based on KSH (Central Statistical Office of Hungary) score categories

constructing the index, it was taken into consideration to what an extent the settlement is 'committed' to tourism development, how much it is important (e.g. to establish a tourism information bureau).

Finally, it was also recorded if the given settlement was a member of any regional integration and whether the local tourism tax system was applied.

The model provides information for 653 settlements, based on the described algorithms and determined the core area values for each settlement. Estimates show that a total of 197 settlements were unable to attain score, while the maximum score for a settlement was 19. Settlements with at least 0.4 score were considered eligible for the promotion of development and further cooperation with the core areas.

1,000 residents is 101,013). These indices were classified into 7 categories (Table 2).

During the survey it was suggested to use not only the specific but the absolute values in delimiting of the areas as well. These values (the absolute settlement level values of commercial and private accommodations) were taken into consideration in the same way as the KSH created the above mentioned categories (Table 3). These two values relating to accommodation received equally shared weights within the parameter.

The next topic of the present study is the system of spatial supports and grants in which an attempt was made to describe numerically how much a settlement had been supported from governmental sources and on how many occasions. When

## Results

### *The map of core areas representing settlement level*

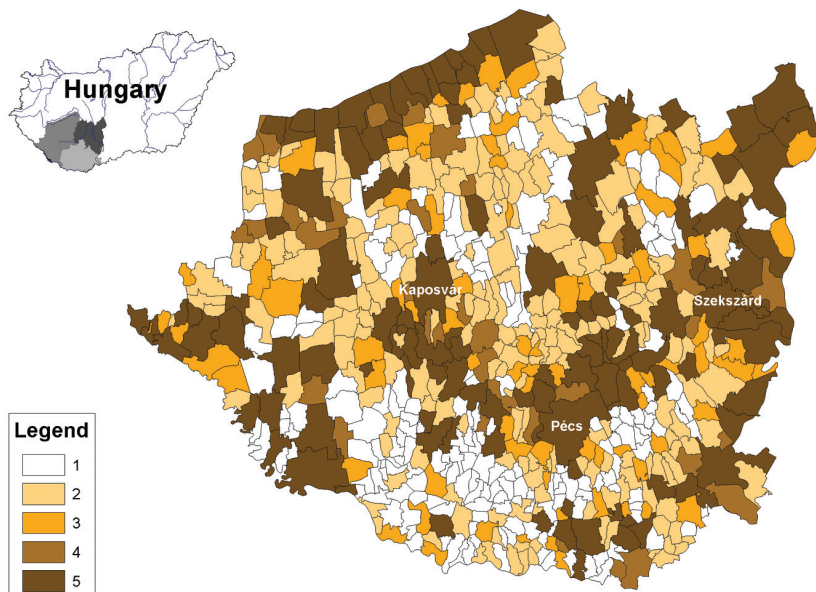


Fig. 1. Value scores by settlements. – 1 = 0; 2 = 0,001–0,4; 3 = 0,4–0,8; 4 = 0,8–1; 5 = score 1>

When establishing the limit value during the process of demarcation several alternatives were examined. The results of these analyses are visualised in maps with threshold scores serving as limits (*Figure 1*).

It can be well observed from the figures that the number of those settlements exponentially decreases that cannot be classified into any core areas for reference applying the score 1.

#### *Proposed core areas*

Based on the above considerations the settlements of the core areas were mapped schematically. The fragmentation of core areas is clearly visible on the map (*Figure 2*). This fragmentation is less striking if we consider those areas of sporadic distribution at present with a relatively favourable potential as part of the core areas. It is also worth considering that along the river Danube three core areas have been identified. As they bear the same tourism attraction and product potential (natural attractions and the relating services) presumably they should be connected to produce one contiguous linear core area.

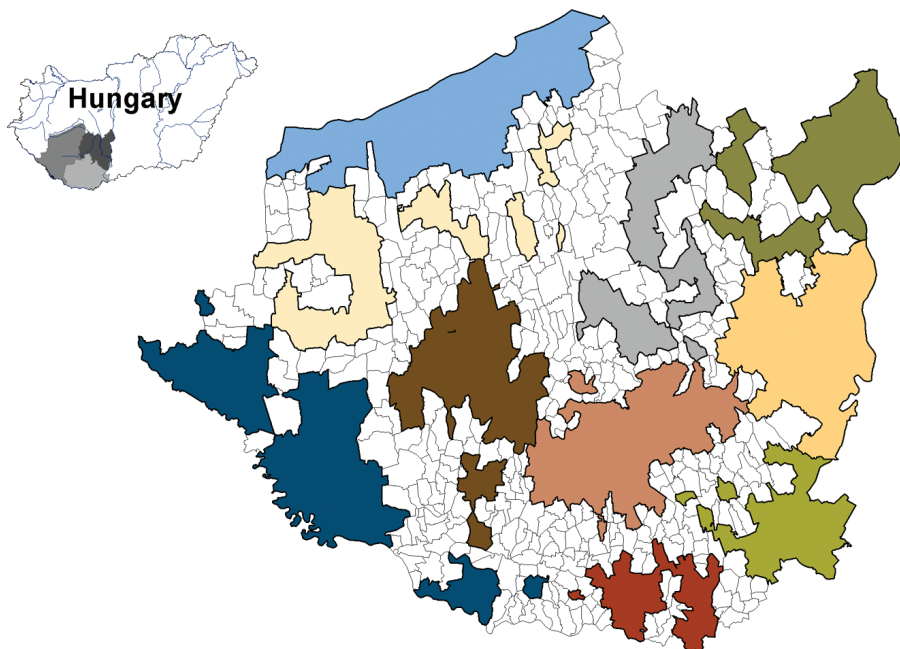


Fig.2. Settlements and their regional delimitation above the score of 0.4

This research could further on raise some new scientific issues providing a significant support via our model by promotion of cooperation among settlements, solution of communicational, positioning tasks or by the determination of the optimum frequency of data collection.

The final output of the research was the regional delimitation of areas where tourism is of priority. Eventually 8 tourism destinations were identified within the South Transdanubia NUTS2 region (*Figure 3*). It should be emphasized as well that this operation has something not only to add to tourism research but also has significance for regional development since state support for tourism product development and other activities will mainly be available for settlements referred to one of the core areas/destinations of the region.

### Conclusions

Relying on the analysis of the relationship between regional development and tourism in South Transdanubia the authors claim that it can provide experience for researchers from multiple perspectives. In Hungary, parallel

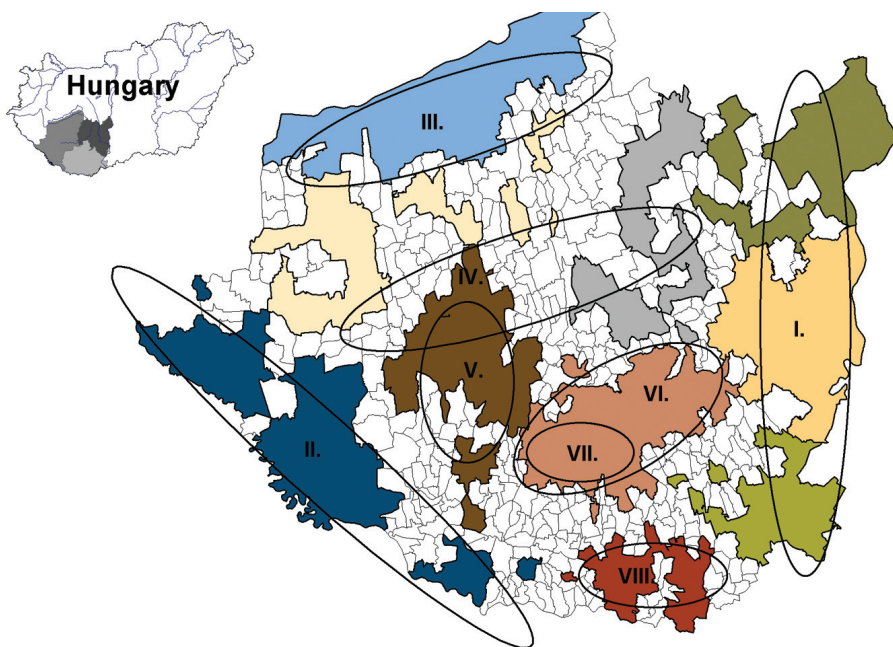


Fig. 3. Tourism destinations in South Transdanubia. Source: AUBERT, A. and SZABÓ, G. (ed.), 2007. – I = Dunamente (zone along the river Danube); II = Drávamente (zone along the river Drava); III = „Kis-Somogyország” (Somogy County); IV = Kapos-völgy (Kapos Valley); V = Zselic Hills; VI = Mecsek Mountains; VII = Pécs; VIII = Harkány-Siklós-Villány

with the emerging regional thinking and the change of objectives in regional development and coherent regional policy, the development and planning of tourism is going to gain a more significant role than ever before. Therefore a more precise analysis of tourism dominated regions is required.

Based on this research, the South Transdanubian Regional Development Agency’s Tourism Strategy Development Program assigned the core areas of tourism within the region. Using their potentials they are adequate to become clearly identifiable, characteristic tourism destinations. During the development of tourism – instead of the thematic, product based development – the emphasis is to be put on the complex development of the certain core areas. The major aim is that these areas i.e. destinations should advance into competitive regions of tourism and that the drawing products should be identified upon which the unique product supply of each of the core areas could be created along with a complementary product supply as well.

To validate the principle of concentration during the realisation of tourism developments it is needed to delimitate the core areas on the settlement level thus identify them precisely. Investigations demonstrated that



model building with GIS methods provide a relatively simple and easy access to determine regions with importance for tourism, critical in terms of tourism planning and regional development both concerning national support and EU assistance or simply the delimitation of tourism spaces. Data at settlement level can be the starting point for studies which analyze information on guest nights, income and tourism spending, accommodation etc.

The proposed model deploys a holistic, quite complex and systemic approach to the assessment of tourism from the spatial and regional perspectives. Its results could also contribute to provide strategic guidance for regional development agents or agencies on several administrative levels (national, regional, microregional, local government), and to elaborate strategies for tourism development in central or periphery areas concerning either tourism, economic or social development. So the result obtained from the possible application of the model could be a more accurate and precise tourism assessment and evaluation method with GIS tools generating a more comprehensive understanding of the processes within tourism. It is believed that such investigations can be and shall be used in practice especially at the regional level of tourism planning, describing the regions using exact data with or without importance for tourism. Thus, a more detailed picture can be obtained on the economy and social background of the geographic region studied.

**Acknowledgement:** The study and research by the co-author was supported by the János Bolyai Scholarship of the Hungarian Academy of Sciences.

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# Hungary in Maps

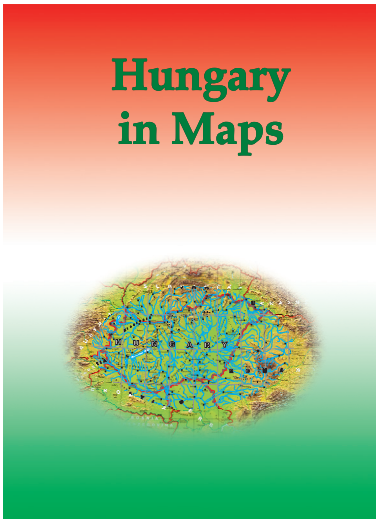
Edited by  
Károly Kocsis and Ferenc SCHWEITZER

*Geographical Research Institute Hungarian Academy of Sciences  
Budapest, 2009. 212 p.*

'Hungary in Maps' is the latest volume in a series of atlases published by the Geographical Research Institute of the Hungarian Academy of Sciences. A unique publication, it combines the best features of the books and atlases that have been published in Hungary during the last decades. This work provides a clear, masterly and comprehensive overview of present-day Hungary by a distinguished team of contributors, presenting the results of research in the fields of geography, demography, economics, history, geophysics, geology, hydrology, meteorology, pedology and other earth sciences. The 172 lavish, full-colour maps and diagrams, along with 52 tables are complemented by clear, authoritative explanatory notes, revealing a fresh perspective on the anatomy of modern day Hungary. Although the emphasis is largely placed on contemporary Hungary, important sections are devoted to the historical development of the natural and human environment as well.

In its concentration and focus, this atlas was intended to act as Hungary's 'business card', as the country's résumé, to serve as an information resource for the sophisticated general reader and to inform the international scientific community about the foremost challenges facing Hungary today, both in a European context and on a global scale. Examples of such intriguing topics are: stability and change in the ethnic and state territory, natural hazards, earthquakes, urgent flood control and water management tasks, land degradation, the state of nature conservation, international environmental conflicts, the general population decline, ageing, the increase in unemployment, the Roma population at home and the situation of Hungarian minorities abroad, new trends in urban development, controversial economic and social consequences as a result of the transition to a market economy, privatisation, the massive influx of foreign direct investment, perspectives on the exploitation of mineral resources, problems in the energy supply and electricity generation, increasing spatial concentration focused on Budapest in the field of services (e.g. in banking, retail, transport and telecommunications networks), and finally the shaping of an internationally competitive tourism industry, thus making Hungary more attractive to visit.

This project serves as a preliminary study for the new, 3rd edition of the National Atlas of Hungary, that is to be co-ordinated by the Geographical Research Institute of the Hungarian Academy of Sciences.



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