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THE MICRO-REGIONAL ANALYSIS OF SUSTAINABILITY

PhD thesis summary

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Background of the research

The significance and relevance of sustainability is not to be contested, as it is clear that the anomalies in natural cycles and the reproduction of goods endanger human existence.

Sustainability is a human attribute dating back to biblical times. However, the concept has been reinvented because of the disturbances in the harmony between nature, society and the economy. Since Lester R. Brown (1981), – who used the term sustainability in connection with society – a multitude of authors, world conferences, etc. have dealt with the subject on philosophical, political and global levels, but there are precious few examples of implementation in practice. This is why I have chosen the micro regional, settlement level, trying to find out how sustainability can be implemented and enforced in a region rich in natural values (protected, ramsar, Natura 2000 areas, Lake Tisza, Tisza).

I have been investigating the problem for several years, as demonstrated by my publications and participation in national and international conferences.

The subject of the analysis is the Lake Tisza region and the 73 settlements in the Regional Development Council of Lake Tisza. This region has been selected because it is rich in environmental values, coupled with economical and social problems and a significant Romani population, making it suitable for the complex evaluation of the interdependences.

I have selected and used several methods, but it has become clear that comparative analysis based on questionnaires is the most suitable. I have distributed 73 questionnaires for the analyses, of which 38 were processed. These may seem lengthy, but they are quickly completed and include control questions. (Several settlements did not respond, others provided feedback that was unsuitable for processing.)

Objectives

The objectives of this analysis are complex. After interpreting and clarifying sustainability, I shall analyse the initial state of micro-regional and settlement-level implementation – the relationships between settlements and the environment, the state of
the economy and society -, the effects of climate change and globalization to outline the implementation possibilities of a sustainable and liveable micro-region, settlement and environment.

I have formulated research hypotheses based on the objectives, my knowledge about the area and other sources to act as guidelines:

(1) My research focused on how sustainability can be implemented for the liveable settlement, environment and countryside. Determining the answer is complicated by the fact that the analysed region is underdeveloped (Lake Tisza region) and a holiday resort of exceptional significance. It is characterised by social tensions and is rich in protected natural values.

(2) I have strived for exploring the real starting situation of the micro-region in my research. This predetermines the goals of sustainability and the possibility of implementation. It is important to learn what the locals think of their environment, Lake Tisza and the utilisation possibilities of natural resources. How does the economic situation affect moving towards sustainability? What social burdens are to be expected from the enforcement of sustainability?

(3) As contained in the Third Assessment Report (2001) of IPCC\(^1\), one of the greatest threats to implementing sustainability is global climate change. This statement is confirmed in the latest, Fourth Assessment Report (2007) as well. Further research is needed to determine how this appears on the settlement level and what possible solutions may be.

(4) The interests of globalisation are spreading to the local level, possibly making the implementation of sustainability difficult, if not impossible. Investigating possible answers is very important, taking into account settlement and landscape identity and organisational background.

(5) I am also investigating the contribution of development to sustainability, taking into account the local connections between sustainability, climate change and globalisation.

\(^1\) IPCC: Intergovernmental Panel on Climate Change, an intergovernmental climate change panel, established by the World Meteorological Organization and the United Nations Environmental Programme in 1988.
Overview of the analyses promoting sustainability in settlements of the Lake Tisza region

(1) Overall, it can be stated and proposed that although it is important for the locals to understand sustainability, progress can only be made through harmonization with other goals and interests, and translation to action and the „local language”. The rational use of natural resources, solving the problems of social tensions and quality of life that hinder development, the solution for the problems of the Romani population, tourism, harmonizing the properties of the settlement and the number of people the settlement can support play an equal role. Since there is no agglomeration centre in the 38 analysed and 73 stakeholder settlements to organize and lead sustainable development with a sense of identity, responsibility, professionalism and a financial background, the activities of the existing - and successful – association must be amplified to prepare for climate change and to offset the effects of globalisation.

Figure 1: The most important barriers of liveability in the analysed micro-region

Source: own work based on the returned questionnaires (2008), (n=38)

(2) Many useful and successful measures have been taken for the development of the Lake Tisza region and its settlements. However, these have obviously not helped the development problems or served heading for sustainability. Therefore, a long-term sustainable development concept should be outlined. This should be validated with stakeholders, leading to the development of a strategy. The tasks should be outlined with responsibilities, priorities and schedule, keeping the monitoring of implementation, feedback and corrections in mind.
(3) The institutional background plays a pivotal role implementing sustainability efforts – this is why it is referred to as the fourth dimension of sustainability – a fact that is further emphasised by the reality that cooperation, a sense of identity and preserving traditions are the only protection against the effects of globalisation on a local level. Of course, the goal is not the creation a bureaucratic institution, but a „motor” that can develop programs and oversee their implementation.

(4) The above-mentioned organisation can contribute to organising networks and their harmonised, synergic operation. Rural tourism, traditional grocery stores, beaches, water sports rentals, tour guides, passenger transport and restaurants require multiple, specialised networks for their operation. The centres for different activities are decentralised.

(5) Changing the present situation – which would result in falling behind even further - without external resources is extremely difficult. Therefore, funding should be sought, especially from the New Hungary Development Plan. There are a multitude of possibilities, as it is obvious from the dissertation. Nearly all serve employment, improving the quality of life, public services, civil organisations, environmental protection, accessibility and broadband Internet access.

![Figure 2: Opinion on the measures in the New Hungary Development Plan](image)

Source: own work based on the returned questionnaires (2008). (n=38)
(6) As the analysis shows, tourism is supported everywhere, with the exception of four settlements. While activities complementing each other and synergic effects are more secure, it doesn’t even occur to stakeholders that the water supply of Lake Tisza may become uncertain. Warming increases the danger of evaporation, eutrophication, siltation and the degradation of water quality. This is an important uncertainty and risk factor.

Table 1: Opinion on the development efforts related to tourism

<table>
<thead>
<tr>
<th>Category</th>
<th>In holiday resorts (%)</th>
<th>Outside holiday resorts (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development planned</td>
<td>78</td>
<td>68</td>
</tr>
<tr>
<td>Development not planned</td>
<td>22</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: own work based on the returned questionnaires (2008), (n=38)

(7) In the interest of preparing for climate change it is expedient to develop an action plan to help preparation, prevention, alleviation and reconstruction so that possible courses of action will be clear to all. Developing local measures for saving energy, increasing efficiency and using alternative energy sources is equally important in preparation and decreasing living costs, with special emphasis on investments and development. (The experiences of climate-friendly settlements could be useful!)

(8) Human health, the security of food supply and water supplies are critical among the effects of climate change. Water is especially important, since the study shows that people in the region are extremely optimistic about water supply and quality perspectives. The existence of Lake Tisza and natural values justifies reviewing the status of and making suggestions for the future of water resources, water protection, alternative solutions and the rational use of groundwater, thermal water and irrigation.

(9) A possible source of funding for sustainability and climate protection efforts could be Leader+, which seems to be working well in Hungary as well. With it, synergic effects could be achieved and the financial state of settlements could be improved.
New scientific results

Thesis 1.
Among the dimensions of sustainability, the preservation of natural values and resources is of the utmost importance. This realisation may be controversial in the eyes of the public struggling with day-to-day problems. (8)

![General opinion on valuable natural areas](source)

**Figure 3: General opinion on valuable natural areas**

*Source: own work based on the returned questionnaires (2008), (n=38)*

The results of the analysis show that the public is mostly disinterested in valuable natural areas, even though this is an important dimension of sustainability, a long-term local and social interest. It is clear that the possibilities in natural resources have done little to help overcoming economical and social problems in the region.
Thesis 2.

The implementation of sustainability is hindered by low quality of life, employment, the lack of an agglomeration centre and the difficulties in utilising the natural environment (4), (9).

![Diagram](image)

Figure 4: The triangle to solve for the sustainability of settlements in the Lake Tisza region

Source: Own work

The analysis has proven that the hypothesis is correct, especially in three areas: low quality of life, unemployment and the difficulties in utilising the natural environment. These are barriers of development, and therefore sustainability.

Thesis 3.

Tourism is hailed as the single redeeming panacea in the entire country, especially in the Lake Tisza region. This, however, is questionable. (6)

The statement has been proven right by the conclusions of the analysis. activities related to tourism are just about the only area the micro-regions are considering for development, even though it is insecure. This can be offset by not depending on a single source of income, especially in settlements belonging to the holiday resort area of Lake Tisza. Tourism depends on the existence of the lake, the protection of which, along with preparing for solving the problems as they arise, is necessary for preserving the hopes and income of the locals. The image of settlements, economical underdevelopment and unskilled labour (not speaking languages) hinders the development of tourism.
Thesis 4.

*It is clear that solving the problems of the Romani population is one of the key issues of sustainability, and requires new solutions* (3)

![Diagram](image)

**Figure 5: Key questions connected to the problems of the Romani population**

*Source: Own work*

The analyses have proven that the local implementation of sustainability is hardly possible without first solving the problems of the Romani population. The proposed solution for promoting change (consisting of 4 points) has received support from local stakeholders.

Thesis 5.

*The complexity of sustainability must be translated to the language of everyday tasks and action for the residents instead of repeating it over and over.* (1)

The hypothesis has been substantiated by the research. A local coordination institution is necessary to harmonise development efforts with funding, the interests and activities of local stakeholders, to promote heading towards sustainability. Taking into account the positive externalities and synergic effects of development programs can contribute to this even further.

The challenges of sustainability, climate change and globalization call for special responses tailored to local needs. (2), (5), (7)

Figure 6: The local level model of preparing for climate change

*Source: Own work (Csete M., 2008)*

The local climate change action program and model – developed based on the research for substantiating the hypothesis – meets the requirements of sustainable settlement development. Furthermore, they are suitable for taking into account factors of the environment, society and economy, while also considering mitigation, adaptation and climate consciousness. The model must always be tailored to local conditions, but its core can be used for any settlement.
Scientific publications related to the theses

(1) Branner, Ferenc – Csete, Mária: Evaluation of the Sustainability of Settlements, Periodica Polytechnica, Social and Management Sciences 2005 13/2 HU ISSN 1416-3837, pp. 215-225


(3) Csete Mária: A fenntarthatóság helyi megvalósítása (Local implementation of sustainability). Gazdálkodás Agrárökonómiai Tudományos Folyóirat, 16. sz. különböző kiadás, 2006. 50. évfolyam, pp. 62-70


(6) Csete, Mária: Sustainable Tourism Development. In: 1st International Conference on „Challenges of Regional and Market Integration for Tourist Destinations”. October 6 University Campus, Giza - Egypt, 2005., pp. 52-60


Further publications


(12) Csete Mária: Fenntarthatóság a Tisza-tó értékelésében (Sustainability in the evaluation of Lake Tisza). In: Acta Oeconomica. Tanulmányok a gazdaságtudomány köréből. Az Eszterházy Károly Főiskola tudományos
közleményei. (Szerk.: Kádekl István, Szlávik János, Zám Éva) Új sorozat XXXII., Eger, 2005., pp. 37-47


(14) Csete Mária: Konvergencia a fenntarthatóságban (Convergence in sustainability). Doktoranduszok Országos Szövetsége, Tavaszi Szél 2006 Kaposvár, pp. 495-499


