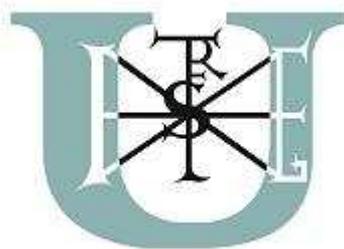


SZENT ISTVÁN UNIVERSITY



**REGIONAL SUSTAINABLE
DEVELOPMENT OPPORTUNITIES**

**In light of the objectives and actions
of national development plans**

Thesis of PhD dissertation

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Introduction and objectives

The European Union provides financial assistance (by means of Structural Funds, Cohesion Fund and other community initiatives) in order to reduce territorial inequalities in its regions. The EU's support scheme is a multiple challenge for the catching-up Member States. On the one hand, the EU's specific planning and implementation procedures should be used (fixed goals and geographical areas, etc.), on the other hand the basic goal for our country is to go through regional development in a sustainable way.

In the European Union, over the past quarter century, rapid economic development associated with environmental damages to a certain degree, and resulted in global problems in some areas. Hungary's wealth of natural assets - and their relative intactness - is our internationally recognized resource reserve. One of the most important challenges of **Hungary's catching-up process is how to improve the environmental and life quality in parallel with economic development.**

The majority of the EU supports are distributed at the level of statistical planning regions. A decisive indicator of the EU regions' state of development is GDP per capita. A significant part of the sources is allocated to those regions, where GDP is below the EU average of 75%. Thus, GDP was chosen as a development indicator in the European Union's cohesion policy. Nevertheless, it is true that sustainable development as a horizontal principle was also defined as a fundament of planning and implementation procedures. However, with regard to underdevelopment and development, these relatively large-scale spatial regions (NUTS 2) cannot be considered homogeneous, furthermore in Hungary these large regions are traditionally not the "spatial unit" of social and economic life. The basic units of a sustainable regional organization could be the so-called micro-regions, therefore I chose this level for my analysis.

On the above mentioned basis, the hypothesis is that **in Hungary (or rather in its micro-regions), there is a developmental path towards catching-up with the EU Member States which can maintain the relatively valuable environmental conditions, natural resources and cultural and social roots and improve economic backwardness.**

The three cornerstones (co-hypothesis) of proving the hypothesis are the following:

- Ad1) In the case of Hungary and its micro-regions, micro-regions developing unbalanced from the viewpoint of sustainable development, that is micro-regions to be supported can be determined. The characteristics of the sustainable development of the micro-regions can be defined and based on this the micro-regions can be impounded.
- Ad2) A decision-supporting method within the framework of the EU support system can be developed by means of which the sustainable development of the micro-regions can consistently be ensured.
- Ad3) Although the EU's cohesion policy is not the only means of public interventions, some kind of its contribution to the shift towards sustainable development (or in an unfortunate case towards lagging behind) can be detected.

Material and method

The still fundamentally divergent interpretations of sustainable development - basically along the strong and weak sustainability - and the basics and approaches of sustainability and regional development in certain disciplines have been presented in the literature review of the paper. In my view, the fundamental question is not whether the economy can develop or not (in its present form it obviously cannot), but whether the size and well-being of the society (ie. sustainability) can be optimized within a reasonable time or not and, if so, how it can be achieved along the minimum requirement for the survival of the natural capital. If so, then the economic growth can, with these new conditions, be allowed.

Individual interpretations of sustainable development, although being subtle, but have the clear message that the current development is not sustainable. **The unsustainable development features** are summarized below:

- quality degradation of the natural environment,
- overuse of natural resources,
- unequal distribution of incomes,
- degradation of decent living conditions, and
- population growth.

The **economic, social and territorial causes** of the above listed issues are examined in this paper. The economics does not fundamentally derivate the market and government failures from the so-called perfect competition, which are typically based on insufficiently reflected information of the price system. According to sociological theories these problems are basically based on reasons of social perception that is that social norms are reflected in the institutional system. Thus, essentially the basic social norms diverged from the ideology recognizing and respecting the natural system processes. Recently the territorial dimensions are in the focus of scientific inquiries - or in another interpretation they got again into it. Increasing economic, social and environmental problems are emerging between the centres preferred by the population and the peripherals, needing new kind of answers from science.

The paper **gives a broader interpretation of market and government failures** (*Figure 1*) based on the overview of the discipline approaches. Market failure in the market operation is the undesirable "side effect", while the government policy not correcting the imperfections of the *price system* operating the market economy, or substituting it (where the price system does not work) can be regarded as government failures. Under this approach, three major process that are not treated by the market mechanisms, that is three market failures can be defined, leading to unsustainable development:

- a) the lack of the "closed nature" of the economy in an ecological sense,
- b) the formation of centre-periphery areas,
- c) the insufficient regional accessibility.

All of **the different approaches of the discipline can be traced back** to the fact that **proper quantity and quality of information** - that is, ultimately the **proper values** that need to be followed by the society and the market -are essential for the proper market and social behaviour.

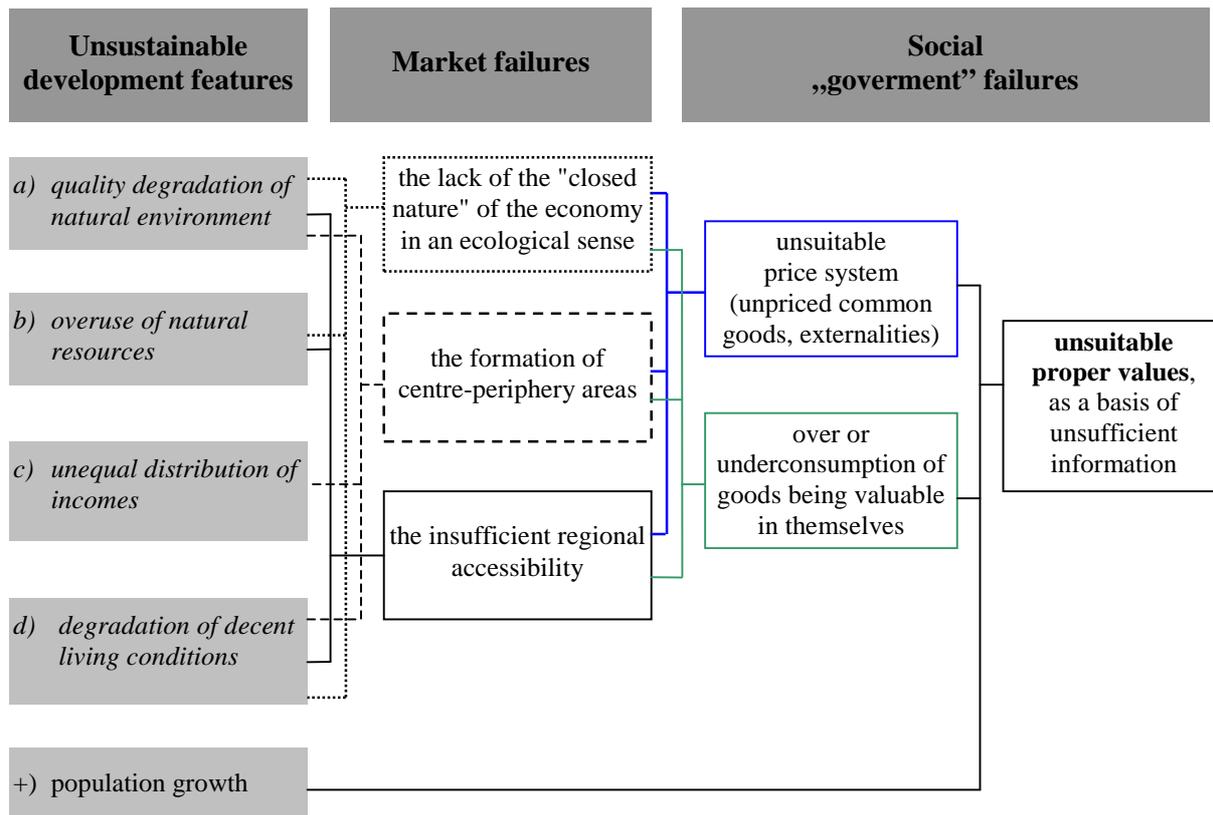


Figure 1: The market and government failures leading to unsustainable development

The two policies having active role in reaching sustainability are the policy of sustainable development and regional policy. The paper analyses these two comparative policies, for the sake of the identification of their interfaces. I found it important to review the presentation of the evolution of policies over time, so the learning process showing how far we got in the interpretation of growth limitations can be felt. Then I analyzed the regional and sustainability policies using special aspects (development versus growth versus inequality, and significance of diversity, temporality and spatiality). The examination of the basic principles of domestic policies led to the conclusion that, although the integration of the policies is increasingly visible, there is still no clear understanding of the sustainability of the national strategies and policies, and their hierarchical relationship as well.

The cornerstone of my hypothesis is to verify **the role and effectiveness of cohesion policy** in achieving sustainable development. Although based on the official position an appreciable shift can be observed in the field of economic and social cohesion, and significant responses evolved for environmental challenges, on the basis of the alternative standpoints these are not detectable. **Sustainability and environment protection** were institutionalized in the previous **EU's cohesion policy** cycles. Sustainable development has been defined as a horizontal principle which had a key role in the programming, project evaluation and monitoring. International and domestic experience, however, proved that sustainability as a concept and its horizontal interpretation met with difficulties in most of the Member States, or they were not sufficiently been taken into consideration. One of the main reason of it is that **EU supports are basically focused on the project level, and are hardly suitable for implementing complex improvements.**

However, the **local sustainable regional organization** formulated by the UN Local Agenda 21, can only be interpreted in a given geographical unit which is **capable of relying on its internal (endogenous) resources** in the highest possible rates. The essential condition of sustainability, that is the emergence of the autonomous communities, is that the public developments are implemented there, where service providing is the most effective. In relation to the social division of labour the **micro-region may be essentially the first level in the socio-economic organization, which can form into a relatively closed system.**

Results

There are numerous interpretations of the concept of sustainable development. The interpretation of *strong sustainability* often discouraged decision-makers from applying it, especially because of the "zero growth" hypothesis declared in relation to the economic growth. As a result, official documents were preferably satisfied with the separate treatment - often getting lost in the details - of the social, economic and environmental sustainability. However, the methodology having been developed recently for strategic environmental assessments pointed out that there is such a "middle course", which could be suitable for evolving an applicable interpretation of sustainability in practice. On this basis, I suggested the application of **a general scale of sustainability values**, which is much more intended to set benchmarks of an attitude, approach, inspection criteria, rather than setting measurable and accountable conditions.

In order to support the hypothesis I made an attempt to establish a complex index for estimating the sustainable development of the micro-regions, using limited number of indicators based on CSO datas, being suitable for the common consideration of the three sustainability pillars. The elaborated **micro-regional sustainability index (KFM)** produces a rank (with values between 0 and 1) on the grounds of environmental, social and economic sub-indices, using a sustainability threshold called **overshooting point** (0.5 points) in the case of each of the indicators for evaluating the micro-regions.

Table 1.: Indicators and overshooting points of Micro-regional Sustainability Index (KFM)

Indicators	Overshooting point
Economic sub-index (KFM-G)	
1. Total domestic income per capita, HUF*	subsistence level
2. Long-term unemployment form the working-age population, %*	60 % of national average
Social sub-index (KFM-T)	
3. Net migration (person)*	Under 0 and above 4000
4. Rejuvenation index (younger than 15 years average of 60-x population), %*	under 100 %
Environmental sub-index (KFM-K)	
5. Fossil energy consumption (GJ/ha)	carbon footprint**
6. Total amount of water provided per hectar (m ³ /ha)	median
7. Municipal solid waste per hectar (kg/ha)	median

* The part of the HHKM index also.

** 53 % of national average.

On the basis of the index it can be determined, whether the micro-region develops balanced in terms of one or all of the social, economic and environmental aspects or not.

The value of the index was determined on the basis of two different "interpretations" of the overshooting point:

- a) the value of the overshooting point was determined as a value, which can be an expected objective from the viewpoint of the strong sustainability interpretation of the sustainable development,
- b) the index was also determined so that the value of the overshooting point was fixed in the national average, which is equivalent to the weak sustainability interpretation (i.e. that micro-region is disadvantageous, which is below the national average in the case of the given indicator).

Figure 2 presents the sub-indices of the micro-regions on the basis of strong sustainability in 2008. No improvement could have been detected in the trend of the index compared with the data from 2004.

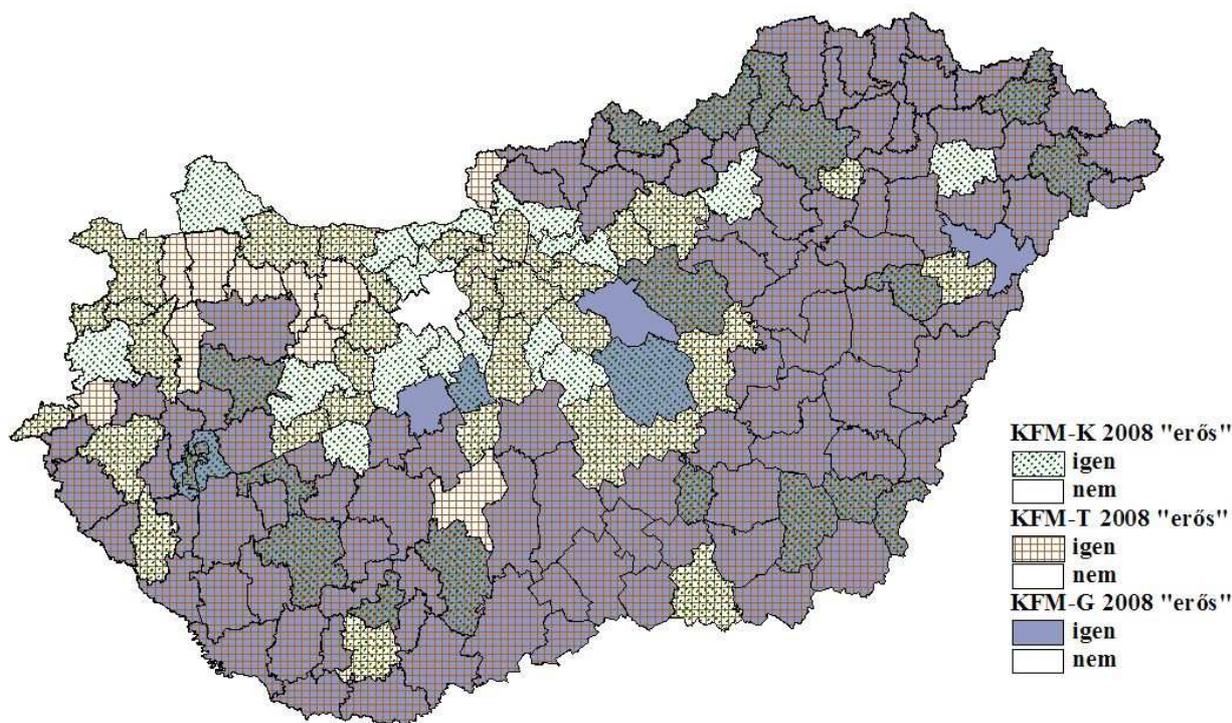


Figure 2: KFM disadvantageous micro-regions on the basis of strong sustainability, 2008

The index results were compared with the Complex Index of the disadvantageous micro-regions, being used for the spatial allocation of the national supports. (In the case of the Complex Index the micro-regions to be supported are determined based on socio-economic aspects, involving ca. 30 indicators. It should be noted that this is a significant step in comparison with the GDP-based allocation of resources between regions applied by the EU.

The advantage of this indicator is that – contrary to the sustainability indicator sets using similarly large number of indicators - it is a complex index, so it is suitable for spatial comparison. On the other hand its disadvantage is that the environmental indicators are fundamentally lacking, and different types of indicators (state describing and development e.g. infrastructural) are brought

together in a common index. This Index selected 94 micro-regions on the basis of the national averages of socio-economic problems. Using more stringent requirements than nationwide averages and involving environmental considerations, only one region could have been considered to be balanced.

In my opinion, it would be necessary to distinguish indicators measuring "development" from indicators measuring "improvement" and separate, complex indexes should be formed from these indicators. The micro-regional sustainability index developed is, in this division, an index measuring "development". The determination of such **development indicators and target values** - at the same time ensuring sustainable development - would be necessary for the development policy, on the basis of which the function and competence shortages of the micro-regions hindering the sustainable (and endogenous) development of the micro-regions could be detected. On this basis, I made a suggestion on the possible group of development indicators.

The realization of sustainable development in the development policy is currently carried out at project level. A guide has been developed for the applicants by the National Development Agency both for the period between 2004-2006 and for the period between 2007-2013. Similar methodology was used for both periods: the candidates might have extra points (usually a maximum of five points could have been given for environmental sustainability in the 100-point scale and usually it was required to achieve one point) taking in to account the selected sustainability aspects. Since in the first Guide the sustainability criteria were seemed to be too subjective, in the second Guide, specific, quantifiable sustainability aspects were developed. However, based on the assessable data of the previous period, the evaluation methodology used was not sufficient to take sustainability into account. Although the criterion of measurability was fulfilled, it was not measured at the level of the support scheme as a whole. Furthermore, the horizontal aspects that can be chosen essentially do not affect the chances of winning. This also suggests that in this respect it is necessary to revise the methodology.

Based on this, I formulated a proposal for such a **sustainability criteria system which contributes to the improvement of the regional development indicators**. A further suggestion is that the criteria should not only be a voluntarily selectable, but it should be applied as a selection criterion.

The **new scientific results** are summarized along the three **co-hypoteses of the** proof of the hypothesis as follows:

Ad1) In the case of Hungary and its micro-regions, micro-regions developing unbalanced from the viewpoint of sustainable development, that is micro-regions to be supported can be determined. The characteristics of the sustainable development of the micro-regions can be defined and based on this the micro-regions can be impounded.

Thesis:

1. I developed a **micro regional sustainability complex index** containing economic, social and environmental sub-indexes by the application of sustainability thresholds for the indicators (so-called "overshooting" point), based on which I was able to determine those micro-regions, which are not developing sustainably.

Ad2) *A decision-supporting method within the framework of the EU support system can be developed by means of which the sustainable development of the micro-regions can consistently be ensured.*

Thesis:

2. A major problem for the development policy is that there is no adopted interpretation of sustainability that can be applied in practice. I have made a proposal for the application of a set of sustainability values, which was "tested" in practice, which is suitable for a "consensus" interpretation of sustainable development, and is a good basis for the development policy as well.
3. I pointed out that the methodology of voluntarily selectable horizontal sustainable aspects applied currently at project-level is hardly suitable for enforcing sustainability, in addition to it is a substantial burden on the candidates, without having a real impact on the selection of the projects to be supported. I made a proposal for the improvement and practical application of the sustainability (horizontal) criteria system which focuses much more on facilitating the formation of sustainable micro-regions instead of enforcing sustainability at project level.

AD3) *Although the EU's cohesion policy is not the only means of public interventions, some kind of its contribution to the shift towards sustainable development (or in an unfortunate case towards lagging behind) can be detected.*

Thesis:

4. The practice of horizontal sustainability principle currently applied in the development policy is not suitable for drawing quantifiable conclusions on the contribution of the development policy to sustainable development. The temporal evolution of the elaborated micro-regional sustainability indicator cannot be explained solely with the effect of EU subsidies. The proposed sustainability criteria system may be turned into a **micro-regional development policy indicator system and** furthermore - by using target values - into a target system of the micro-regional development policy. The micro-regional sustainability index, and the target system together with its indicators might be suitable for assessing the impacts of development policy on sustainable development.

Conclusions and recommendations

On the whole, it can be concluded that the **means and tools of the enforcement of the horizontal principle** were elaborated in Hungary within the framework set by the EU. However, the main observation is on the one hand that there is no clear "political role" of sustainability and on the other hand that the instruments assigned to achieve sustainability often resulted in an inconsistent, rather complicated procedure. The main question along the way to achieve sustainability in the coming years, will be that how can the existing **target and tool schemes, currently operating independently, be formed into a single system, and with this how can the practical enforcement of the horizontal principle be deepened, and how can the developments' contribution to sustainable development be demonstrated.** My proposals on this are summarized as follows.

1. *The elaboration of a 'set of sustainability values' declared and applied by the government and accepted by all would be necessary as part of a sustainable development framework strategy.*

One of the main conclusions of this paper is that there is a possible interpretation of sustainability, which is based on the so-called strong sustainability, but – being brought down to the level of practical applicability - can be used to set Hungary's objective in respect of sustainability. This requires such an attitudinal approach, which instead of setting up strict limits, rather defines a criteria system with which it is possible to achieve sustainable development. Such a set of values based on a 'consensus' might contribute to the elaboration of a **sustainable development framework strategy** which serves as a point of alignment for the country's various development plans. The determination of this particular point of alignment should be the primary task of the sustainability strategy. If the criteria for (*sustainable*) *development* are already known, on the basis of this the *development* - sectoral or regional development - directions of the country can be determined. This interpretation fits well into the perception of sustainability of the EU's sustainable development as a 'horizontal principle' as well.

The EU Directive on strategic environmental assessment (SEA) has been adapted and a SEA needs to be prepared for all of the plans having a significant impact on the country's development. So far, however, "only" the rule of procedure was recorded in the legislation, an important element of which is that the plan should contain specific findings of the SEA. If there were a system of criteria of sustainability, and **such a methodological guide of the SEA, which would require the plans to assess the compliance with this system of criteria of sustainability**, it would be a coercive force to take the aspects of sustainability adopted by the country into account. This method could eliminate the various interpretations of sustainability often chosen arbitrarily by the strategic planners and the current general findings related to sustainability.

2. *The elaboration of a complex index enabling the measurement of the socio-economic and environmental development of the micro-regions instead of/beside the complex index measuring micro-regional socio-economic backwardness would be necessary.*

Many international and domestic governmental bodies deal with the measurement of sustainability, usually using a large number of indicator sets as a result of the multi-dimensional character of sustainability. It is characteristic of these kinds of indicator systems that no complex index is formed from them. The main reason for this is that economic, social and environmental processes are "opposite processes", so that combining these processes might mask each other. For the analysis of the potential combination of the large number of indicator systems the index of disadvantaged micro-regions - aggregated from about 31 indicators in five indicator groups - serves as a good basis. The above mentioned statement can be justified on the basis of this indicator as well, one element of the 'HHKM indicator determines the indicator by about 90%.

The above mentioned problem lies basically in the methodology. On one hand when creating a complex index, we must strive at indicator groups containing indexes indicating similar processes and on the other hand the aggregation of indicator groups should not be produced by averaging. Methodologically, it could be much more appropriate to determine the result based

on the worst indicator group, that is if an examined area is disadvantageous from any of the viewpoints then the area can be considered disadvantageous, or it is to be considered the more disadvantageous. This is the closest methodological consideration to the measurement of sustainable development, in accordance to which social, economic and environmental viewpoints need to be taken into consideration simultaneously. If the value of any of the 'pillars' is not appropriate, the given area cannot be considered as a region developing balanced. That is, it is as disadvantageous from the viewpoint of sustainable development if a micro-region is economically developed, but uses up its environment and resources as if a micro-region is economically underdeveloped but as a result the condition of its environment remains satisfactory. In the case of such a contracted single index, however, it is important to emphasize that in this case not disadvantaged or underdeveloped, but so-called unbalanced developing regions are defined.

Urban and rural micro-regions face different sustainability (social, economic, environmental) problems, therefore, in the course of the disadvantaged (unbalanced developing) micro-region defining process it is more appropriate to use the sub-indices. Based on the sub-indices it can be determined which region and in what area should be supported in the given micro-region. In those micro-regions, where the economic sub-index is favourable, social and environmental aids should be allocated if they are justified by the social and environmental sub-indices. In those micro-regions, where none of the three corresponding sub-indices are adequate, the realization of complex actions and developments is needed.

The index needs to be further examined in that respect as to on what indicators should it be based and what overshooting points can be assigned to them based on a social consensus.

3. *Those micro-regions should be regarded as potential recipient micro-regions from the viewpoint of development policy (ie, disadvantaged regions) where there is a lack of functions and essential competencies needed for the sustainable, endogenous development.*

In order to realize sustainable development it is essential to enable the **endogenous development of the micro-regions based on using mostly internal resources**, and they should - to some extent - form a closed, self-sufficient unity. As a result of globalization self-sufficiency basically means jobs available in the micro-region and the access to (primary and secondary) public services (including the adequate attraction centres and their regional accessibility). By means of renewable energy sources that can be generated locally the reduction of the micro-region's energy dependence, but also the organization of the economic stake holders into industrial ecological systems – as far as possible within the micro-region - can be defined as targets. The evolution of the micro-regional centre and its - which suggests the rethinking of the micro-region spaces too - is particularly important regarding this kind of development.

In the course of the usage of the EU financial resources the disadvantaged micro-region index is used to define the micro-regions to be supported. However, it would be necessary to develop a **complex development policy index**, which essentially selects those micro-regions, in which there is a lack of functions and competencies necessary for their sustainable, basically endogenous development. The methodology of the index of disadvantaged micro-regions might serve as a proper basis for the creation of the above mentioned index too. However, as

for the indicators to be applied the following aspects should be taken into account. Such indicators should be involved into the index creation process that indicate the public services missing in the given micro-region (eg. health and education), as well as the infrastructural deficiencies necessary for the creation of adequate living conditions, and the accessibility of jobs and public services in the given micro-region, and external relationship systems (primarily regional centres). In order to achieve this, target values need to be defined for the development policy indicators on the basis of which the scale of the necessary investments can be determined.

4. *The use of state (and EU) funds is basically acceptable only in the case of developments complying with social, economic and environmental aspects.*

Regarding the question of development and economic growth, mainly as a result of the economic crisis, a certain level of paradigm shift can be detected, both at international and European levels. While previously the economic growth was considered sustainable along the so-called *weak sustainability* by taking into account the environmental aspects, at present one of the instruments solving the future economic and social problems is seen to be the driving force of the so-called **green economy**, green growth impending *the strong sustainability*. On the basis of the New Széchenyi Plan (made by revising the 2011-2013 Action Plans of the NHDP) it can be concluded that the green economic development (energy policy, support of green investments) is still considered to be one of the branches of the national economy rather than a reform affecting all the activities of the economy (there is no progress in deepening the horizontal principle). Holding off the **real "reform"** might still result that the developments being realized in social, economic and environmental "pillars" call forth new problems in another pillar (ie. acceleration of centre-periphery processes, on the whole increasing energy consumption, etc.).

The counter-argument often put forward against sustainable development is that as a consequence the costs of the projects can significantly be raised (for example, because environmentally sound technologies are more expensive, require special expertise or additional skills and manpower, etc), and so that scarce resources are not sufficient for delivering real economic results. From the viewpoint of economics, however, if - **in terms of sustainability - not the best version is implemented**, negative externalities and welfare losses might occur, the costs of which must be paid by the society and the state at the end. Thus, the overall cost will be the same, if not higher than as if sustainable developments had been realized.

On the basis of this, it would be necessary to reconsider the methodology of (horizontal) cross-cutting aspects. The current EU practice in the case of most of the projects (depending on the project-size) requires an option-analysis (test of different project versions) that is the identification and testing of legally and technically feasible variants. The choice among the versions is based on the ratio of expected benefits and costs of the versions (Cost-benefit analysis). A solution would be if the variants were not only legally and technically feasible alternatives-measures, but a version taking into account all relevant aspects of sustainability were prepared as well.

In this case it could be ensured that those activities (selected by sustainability criteria) are supported that **mean extra expenses for the applicants in addition to the existing legal**

requirements. A further condition of this is that the costs of the realization of certain aspects of sustainability should be eligible. In this case the State finances only the projects' 'additionality', that is the part necessary for sustainable development, which is not necessarily part of the given project originally. Essentially, this method may contribute to the elimination of environmentally harmful subsidies.

In that case when the consideration of sustainability aspects is quite expensive compared to the achievable social benefits, using the so-called disproportionate (not rational) costs estimation – currently being introduced in relation to the Water Framework Directive - in this area would be a solution. It should be ensured that certain aspects of sustainability could be disregarded but only if this cost and benefit **disparity** can be proved properly.

Furthermore, the enhancement of the synergistic effects of the projects could be a direction of improvement, particularly for the sake of the enforceability of the industrial ecology's principles. It should be taken into account that industrial ecological systems can only be achieved by the coordinated implementation of several projects. However, there is no guarantee that all inter-related projects would be granted in the current tendering system - especially in the case of EU funds. In this respect it is also clear that it would be better **to realize a sort of a complex development financing system instead of the individual project funding system.**

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