

**PhD Thesis Abstract
Doctoral School of Earth Sciences**

**Environmental Policy Integration in
Regional Development - Strategic
Environmental Assessment**

Viktor Varjú

**University of Pécs, Faculty of Sciences
Pécs, 2010**

Title of Doctoral School: Doctoral School of Earth Sciences

School Leader: Prof Dr József Tóth
Rector Emeritus

Title of Doctoral Programme: Regional and settlement development

Programme Leader: Prof Dr József Tóth
Rector Emeritus

Discipline: Regional and settlement development

Supervisor: Dr. Mária László

1. Introduction

The activities of human being often cause unfavourable environmental changes. The quality change of environmental elements reacts to the human being and to the society (SZABÓ-KOVÁCS B. 2007). If this concentric process is in uncontrolled state, consequences can be unforeseeable. That is why we have to deal with the influences of changes which can react to the function of the society, to the health and to the surrounding geographical environment.

The main message of “*The limits to growth*” (1972) was that extreme use of sources and the pollution could affect significant impact in the 21st century. The document suggested such technological, cultural, and institutional changes based on prevention which inhibits growth of carrying capacity over the Earth (MEADOWS, D. et al. 2005).

From the 1980’s the redistribution system of European Community (EC) resulted the implementation of bigger and bigger projects and plans. Parallel with these the Brundtland Commission Report, the idea of Sustainable Development and the Environmental Programmes of the EC react to these facts. That is why the role of the evaluation in EU regional policy increasingly was reevaluated.

The common appearance of the Environment Policy Integration (EPI) of EC and the evaluation firstly in the Environmental Impact Assessment (EIA) than secondly in the Strategic Environmental Assessment (SEA) was manifested.

Although the institution of Environmental Assessment appeared in the late 1960’s in the USA and the 1970’s in European countries (e.g. France, The Netherlands) (SZILVÁCSKU Zs. 2003), the institutionalisation has been made in the 2000 years. The implementation deadline of the directive 2001/42/EC on Strategic Environmental Assessment was June 2004.

The reason of my choice for this topic was that the SEA is a new tool in Hungary. The tool can green the regional development and land use planning. The thesis also touches on the planning, geographical, politological, sociological and environmental aspects of the environmental evaluation.

2. Theory

The goal of the research was to evaluate of the Environmental Policy Integration (EPI) into the regional development on territorial level and also to open up the conflicts of interests and to seek out the institutional framework. The Environmental Policy Integration is mainly represented via the tool of strategic environmental assessment. The essay unfolds the obstructive and promotional factors of EPI via case studies. The bases of the work were: Hungarian national and regional development documents, regional spatial environmental assessment fulfilments, and the examination of Northern Ireland's regional development plans and landuse plans. Therefore the foci were on:

- Definition of the most relevant notions of the regional development and the assessment relating environmental policy.
- Conceptual framework of EPI and the evaluation in different disciplines.
- The role of SEA in the 21st century's environmental protection.
- Evaluation of SEA methods. Elaboration of a new visualised method of SEA.
- The EPI of regional development decision-making in Hungary regarding to the EU financed development.
- Empirical study of SEA relating the institutional, social and spatial aspects in Hungary.
- Analysis of a unique influential aspect of EPI of regional development which has not been seek in literature so far: the influence of ethnical-political trouble to the EPI, the case of Northern Ireland.
- The consequence to be learned of the case of Northern Ireland for Hungary.

The SEA is a new tool which helps the EPI into the regional development policy. SEA appears differently in different national organisations' (e.g. EU) development policy. There are countries where environmental assessment has experience (e.g. UK, France) and there are countries (e.g. Hungary, Slovakia) where the implementation of SEA has just started for 1-2 years.

Having regarded the goals above mentioned and the factors of formation and implementation of SEA I defined the undermentioned hypothesis:

- (H1) The successful integration of environmental assessment – and environmental policy – into regional development decision-making

process has dual condition. On one hand it needs proper expert knowledge and experience, on the other hand a helping/supporting institutional and organisational framework of the proceeding system is needed which result an iterative process in order to materialisation of integration.

- (H2) The institutional hierarchy and the knowledge have crucial influence on environmental policy integration. The exaggeratedly bureaucratic and hierarchical decision-making system (e.g. Hungarian public administration and planning) obstruct the effective EPI into development policy. The dominant knowledge of bureaucratic system is the institutional knowledge. Next to the institutional knowledge – I suppose – there is economic interests appearing which obstruct the appearance of effective expert knowledge and the efficient EPI.
- (H3) Since SEA is a new tool in Hungary therefore it can be supposed that the introduction and its application have some trouble not only on national level but on county, micro regional and local level as well (because of the inflexible decision-making mechanisms). Environmental Policy Integration has deficit in planning process of settlements, micro regions and regional sectoral (e.g. waste management, water management) planning. I suppose that on higher hierarchical level problems are resulted in the structure of organisational/institutional specialities while on local/micro regional level deficit is caused by the lack of information.
- (H4) I suppose that in Hungary there is connection between the size and type of settlements and the environmental cogitation, as follow the making of environmental assessment. Settlements with high population significantly intend to make environmental assessment as they have higher risks because of the higher number of development and investments. On the other hand settlements seating nearby nature protection areas are also sensitive for an environmental integrative development.
- (H5) Regarding the territorial aspects, settlements affected by high pollution are more sensitive for a new method which integrate the environmental aspects deeper.
- (H6) Despite the fact that developed European countries have history in environmental assessment, its effective implementation has several influential factors. An ethnical-political conflict affect in several way on society and economy. That is why I suppose that an ideal institutional system, expert knowledge and experience not

certainly presume proper environmental policy integration. Social peace is also needed. Accordingly a social conflict – as the ethnical-political trouble in Northern Ireland – is a setback factor of environmental policy integration.

3. Research background

With strengthen and far-reaching affect of the environmental policy the idea of environmental policy integration (EPI) came to the front in the last decades. The fifth EU Environmental Action Programme urged the assessment of the environmental impact in policy planning, consideration of environmental costs and benefits, monitoring of environmental effects, co-operation with environmental authorities and public availability of environmental information (LENSCHOW A. 1999).

The well known idea of “sustainable development” since 1987 (WCED, 1987) has played more and more important role in policy making. In regional policy, in regional planning there are several evaluating tools in order to have a better development plan, program or policy? First in 1988, during the reform of Structural Funds the ex-ante and mid-term evaluation was drawn up and became obligatory in programs and plans. Then between the period of 1994 and 1999 the concept of the ex-ante and ex-post evaluation in members’ programs was defined. Parallel these evaluation tools – which are mainly focusing on economic aspects – environmental evaluation was coming into the forefront. For the safekeeping of the natural environment, European Community introduced the Environmental Impact Assessment (85/337/EC). This assessment “only” concerned to concrete building projects in order to reveal the dangers of investments to the nature. Later on, extending the Assessment and using the practice of some developed countries, EU introduced the Strategic Environmental Assessment (SEA) in its “Directive 2001/42/EC of the European Parliament and the Council on the assessment of the effects of certain plans and programs on the environment”. It should have been implemented by the Member States by July 2004, but several countries have not enacted the SEA in their legislation within the specified time.

Concerning its origin, the SEA derives from the environmental impact assessment (EIA). However, in the case of SEA it is not any more the approval or rejection of plans is the target, much more influencing the “how”, the manner. In this respect environment protection appears in plans not only as a system of preconditions and requirements but also a target and a consequence of the impact of the SEA (TOMBÁ CZ, E. et al., 2003).

The first study mentioned above considers the main characteristics of the Hungarian philosophy of SEA preparation that it is not under control, but it is prepared at the same time with the public policy enforcing the environmental aspects and arguments in the course of the progress. The main objective of the SEA is to identify the existence and scale of

environmental conflicts and the dissolution of these conflicts in the programs and plans (TOMBÁ CZ, E. et al., 2003).

In the Hungarian SEA preparation practically there are several scientific experts playing roles in knowledge transformation, which significantly influenced the practical implementation of SEA philosophy have with their university, academic and civil green background. The book written by one of the participants (SZILVÁ CSKU, ZS. 2003) introduces primarily the SEA practices of the EU. In the course of the emergence of SEA two specific approaches were developed. The impact-oriented SEA is based on the methodology of the EIA, and the main focus is on the precise definition of the expected impacts. The decision-oriented SEA focuses on the possible linkages to the planning and programming decision-making processes and the strong integration of environmental aspects in these procedures (SZILVÁ CSKU, ZS. 2003). The later approach is preferred by both FERENC SIK A. (2004) and FLEISCHER, T. et al (2004), who irrespectively of each other treat SEA and EIA separately. Therefore SEA does not examine the impacts but focuses on the strategy. PÉ TI, M. (2005) approaches the two SEA types from the aspect of methodology and contemplation. He calls the impact-oriented assessment “technocentric” assessment, which bears in itself the features of project level impact assessment. He considers as a remarkable element of the “ecocentric” school the so called analytical SEA approach, which focuses on the identification of the environmentally relevant so called decision-making windows of planning.

However there is a kind of uncertainty in respect of conceptual definitions too in the Hungarian literature, namely, what the experts mean by plan and program (strategy) that is the subject of SEA. The Hungarian literature considers desirable to carry out the SEA analysis of preliminarily the complex and strategic documents. Therefore in terms of transportation development the main focus is not anymore put on road investments but mainly on the complex strategy making (FLEISCHER, T. et al., 2004), while – as FERENC SIK, ZS. (2004) highlights – a waste treatment plan or a water utilization plan is called plan too, but in terms of the SEA plan or program shall indicate a series of projects.

The Hungarian literature considers the process of SEA creation in any case as an iteration process, where accordingly the environmental assessment is prepared parallel to the preparation but prior to the adaptation of the plan. Besides that the environmental report is prepared, which is not an appendix but an integral part of the plan or program documentation, and the content of which is coherent with the plan and its targets and includes the planned measures aimed at the most complete correction or neutralizing

possibilities of the disadvantageous environmental impacts of the program or plan implementation.

The Hungarian literature of SEA also implies a tendency, tending in the SEA process beyond the environmental assessment in closer sense towards a much more complex sustainability assessment, pointing way beyond the impact assessment approach and also the “traditional” SEA focusing on environmental point. This trend is definitely shifting towards the sustainability impact assessment applied for the assessment of concepts (SZILVÁCSKU, Zs. 2003). This type of investigations was originally applied in the Untied Kingdom in the level of regional planning. In practice this is one form of SEA, which considers besides the environmental sustainability the economic sustainability accented. The Hungarian SEA “experiment” also tends to this direction, where besides the EU requirements also the creation of a so called system of sustainability criterion was established (MOZSGAI, M.–SOMFAI, Á. 2004). As a matter of fact the system of sustainability criterion is also applied in the SEAs of climate protection planning as a SEA typological orientation (PÁLVÖLGYI, T. 2006). The importance and relevance of the SEA can be caught also in the feature that it is appropriate in the level of plans to insert the environmental impact estimation into the planning process of smaller scale investments not requiring environmental impact assessment (such as the development of SME’s from European resources) and therefore the consideration of environmental aspect is not omitted in the case of these investments of separately small but totally significant volume.

4. Materials and Methods

I started my research with processing of secondary sources. I look through the relevant English and Hungarian literature which is cited in the thesis.

- Regarding the EPI and knowledge sociological examination I used semi-structural and deep interviews. I also analysed land use plans and regional development documents with content analyses. I made press analysis as well.

- In my thesis there is a separate chapter on the application of strategic environmental assessment on different spatial level in Hungary. I analysed the National Development Agency's documents relating to the planning period of 2007–2013. I focused on the accepted accentuated projects of renewable energy and their territorial distribution.

- In 2007 I tried to reveal the experience of strategic environmental assessment on county and local level. After secondary data collection I sent questionnaire to all the local and county governments where e-mail address was available. The settlement research was complemented with the data of National Environmental Protection Information System (Országos Környezetvédelmi Információs Rendszer (OKIR)). Later I extended the research to micro regional level.

- The basis of the case of Environmental Policy Integration in Northern Ireland was the author's field research and university studies in the spring semester of 2007/2008 at the Queens University of Belfast. There I collected and processed literature, documents and made field research as well. I also made interviews with planning experts and lecturers at Queens University of Belfast and Ulster University.

I aspire the full sampling on different territorial level therefore I made structural interviews with planners, experts and analysed planning documents and also made press analyses. I used the data of Hungarian Statistical Office (KSH), Territorial Information System (TEIR), Settlement Statistical Records (T-STAR), EUROSTAT, and Statistical Offices of Northern Ireland and United Kingdom.

For data processing I used SPSS for Windows. During the research I also used MS Excel, MS Word. Maps were created by MapInfo.

5. Results

Environmental policy integration in regional development in Hungary

The result of the empirical work shows that $\frac{3}{4}$ of the Hungarian settlements did not know anything about strategic environmental assessment. They were getting information on it from the empirical work. This fact pointed out that there is defect in environmental policy. Although on national level the Environmental Ministry makes efforts in fulfilment of environmental policy integration, however, on lower level of territorial hierarchy the effect can not be detectable. The bottleneck of institutional infrastructure (e.g. local civil interest representation, bureaucratic and stressed “green authority”) cannot ensure base for the integration.

The research results shows, that in broad regional development programmes the intention is going forward to *decision-oriented* environmental assessment. The goal of SEA makers and planners was that the strategy includes environmental interests, not the impact would be evaluated. The reason was the broad character of the plan. These development plans and programmes usually do not include concrete investments; therefore it is hard to evaluate their impacts. So the aim is that during the environmental assessment process of these large scaled programmes those environmental issues will be included in these programmes.

Having established a position from the procedure side of national and regional programmes being done, we can say that the picture not so unambiguous. Apparently this planning period (2007-2013) was the first, where SEA has been made in big volume (II. National Strategic Reference Framework (NSRF), its Operational Programmes and their Action Plans). Therefore the reasons of the negative aspect were the lack of experience, the bureaucratic institutional setting, and the fact that although environmental policy cogitations and plans were being work out at the same time (parallel), however the work was going on separately, not an iterative way. Since the author justifies the *Hypothesis 1 (H1)*.

Regarding the analyses of knowledge-sociology, professional knowledge appears in the process but only at the background. Economic interests were in the forefront as the responsible institution make high attention on the budget of the SEA making. Since *H2 hypothesis is also justified*.

There was a setback aspect of the non proper communication between stakeholders. This fact relates to regional, county and local level as well. So

the lack of information channel does not help the appropriate EPI proving the *H3 hypothesis*.

It can be said there is an evolution in timeline. The later accepted plans consist of more concrete environmental ideas.

Regarding the size of settlements the research proved the *H4 Hypothesis*. Bigger settlements – supposing their bigger investments – usually make bigger efforts to environmental assessments and their roles relating to plans. As Table 1. shows, while settlements under 1 000 inhabitants see the SEA as a long term “investment” into the future, until then settlements above 10 000 inhabitants usually intend to do it.

Table 1. The mean and the variance from the mean of the whole sample relating to the answers of the questions No. 15/1,2,4.

Settlement size	1. SEA can contribute to the conservation the value of settlements.	Variance from the mean. (%)	2. The SEA another compulsory task for local governments.	Variance from the mean. (%)	4. SEA is a long term investment in timeline for local governments.	Variance from the mean. (%)
Under 500	3,85	-1,28%	3,48	10,13%	3,15	-6,25%
501-1000	3,84	-1,54%	4,64	46,84%	3,06	-8,93%
1001-5000	4,54	16,41%	3,68	16,46%	3,50	4,17%
5001-10000	3,70	-5,13%	3,08	-2,53%	3,45	2,68%
10001-30000	4,03	3,33%	2,86	-9,49%	3,71	10,42%
30001-50000	4,20	7,69%	3,00	-5,06%	3,80	13,10%
50001 or bigger	4,00	2,56%	3,00	-5,06%	3,15	-6,25%
The mean of the sample	3,90		3,16		3,36	

Another obstructive segment for settlements with low inhabitants is the lack of financial sources. Also a problematic aspect is the lack of professional knowledge.

During the research I cannot prove the *H5 hypothesis*. The reason is the relatively low number of returned questionnaire. Data can not support that SEA making intention is higher in territory where the appearance of environmental problems are higher (e.g. high emissions or imissions).

Environmental policy integration in Northern Ireland was influenced by several special factors. The effort for safety overwrote the environmental

policy in the last decades. The reason of the “green borderlines” and green places was the political/ethnic conflict.

Research results in Northern Ireland also show the environmental development usually was in priority against environmental interests. These facts prove the *H6 hypothesis*.

6. Discussion

Institutional framework

Despite the fact that in Hungary there was antecedent experience of SEA (e.g. Regional Operational Programme (ROP) of the first NSRF) the planning procedure has been made in the last few years is not unambiguous. The SEAs of second NSRF and its ROPs have been made. Analysing public debates and the method of SEA are fine but the procedure and its drawn out is debatable. Experience shows that the EPI not only depends on legislation and planning method/procedure but it also depends on the decision mechanism and on (the knowledge) of stakeholders.

On the base of the research results we can say that bureaucratic difficulties (hierarchical institutional setting, the dominancy of institutional knowledge) resulted that during the SEA making “attached integration” (in the sense of PARTIDÁRIO, M.–VOOGD, H. (2004) came true instead of the preferable “full integration”. It happened that the planning period was finished, however the environmental assessment was carrying out. In this situation there is no chance to reflect to the plan from “environmental” side. In this case the SEA is made concerning the legislation, but it is only an attachment of the plan.

Having taken into consideration the above mentioned findings it seems that the over-centralized and hierarchical governing methods do not serve the emergence of environmental aspects. On the other hand, if we look at—for instance – the Dutch environmental appraisal model we can find a similar and different situation. This system – partly according to its “legislation-based situation” – has hierarchical steering elements, and it is centralized in the sense that in the Netherlands all the EIAs and a number of SEAs go to an independent expert committee called Netherlands Commission for Environmental Assessment (NCEA). It is a private foundation having its own budget funded through governmental subsidies. Although not all the SEAs go to this committee, however, the experience of the Dutch G-FORS research shows that most of the SEAs landed at the committee on a voluntary base, ensuring the expert knowledge and guarantee the emergence of environmental aspects (COENEN, F. ET AL. 2008).

In the Dutch model horizontal environmental (LAFFERTY (2004b) integration come true with its independent body in practice. Therefore it would be useful to use Hungarian Green Authority in the same role in the Hungarian institutional setting. On the other hand we think that we have to

keep the coordination function of the National Development Agency but in a more opened way.

Management and Institutional infrastructure

We can draw the following consequences relating the research experience:

- The specialities of the Hungarian governance and the concrete circumstances of the SEA making support that in Hungary *hierarchical governance mode* is dominant. However what need is *network governance*.
- But the experience of SEA making (in timeline) shows that there is a shift towards network governance while central stakeholders tried to do reconciliation in horizontal way, mainly among different ministry portfolios.
- In Hungary the European Union planning system is new; therefore it is difficult to separate formal, informal and incidental elements. The “iterative” aspects, the legislation labyrinth, the hectic connection among decision makers and planners of planning procedure (SEA inclusive) lead there, that it is difficult to identify who has real influence on decisions.

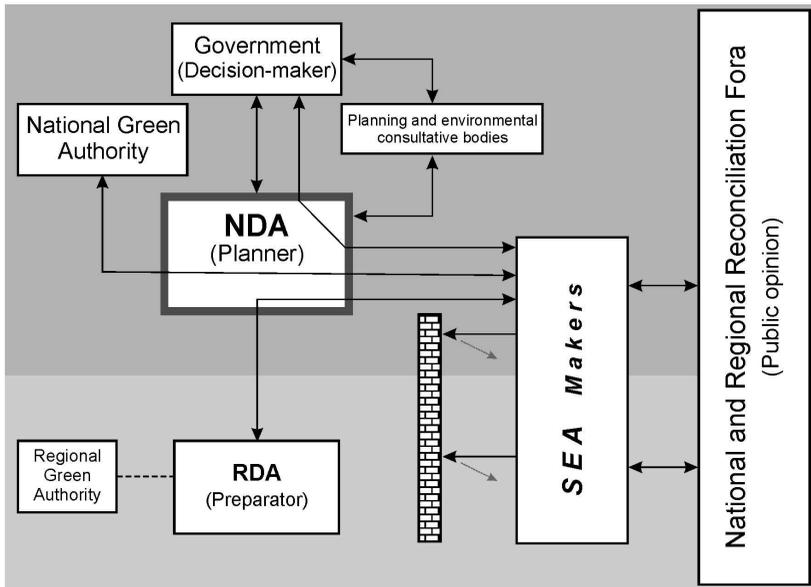


Figure 1. The SEA making procedure and the interaction between players of the arena.

- Hierarchical character can be achieved in the relationship between central and regional decision-maker. While regional development agencies and planning working groups formally were involved the planning process of regional operational programmes, in reality the content of them were defined and determined by the central planner via the use its institutional knowledge. Union bureaucracy had a crucial role, where there was no place for bargaining and arguing. One of the reason was that reconciliations were going on mainly between offices and authorities (e.g. regional/national development agencies), not between policy makers (government, elected local governments).
- Timing and time management were also problematic because there was no time for feedback and real discussion during the planning procedure.

These facts resulted in such national development programmes (e.g. National Development Policy Concept, National Territorial Development

Concept, NSRF) where sustainability was not taking into consideration in proper way. This thesis is supported by the fact that National Sustainable Development Strategy was adopted by the Government in Hungary in 29.06.2007, last country in the EU.

Above mentioned facts shows that basic documents of the Hungarian development policy could not integrate environmental policy in a proper manner making appropriate framework for development concepts for plans in lower hierarchy.

Spatial-settlement aspects

Research results support the presumption that settlements nearby national protected areas are more motivated to conserve natural values for the next generation (Figure 2., 3.).

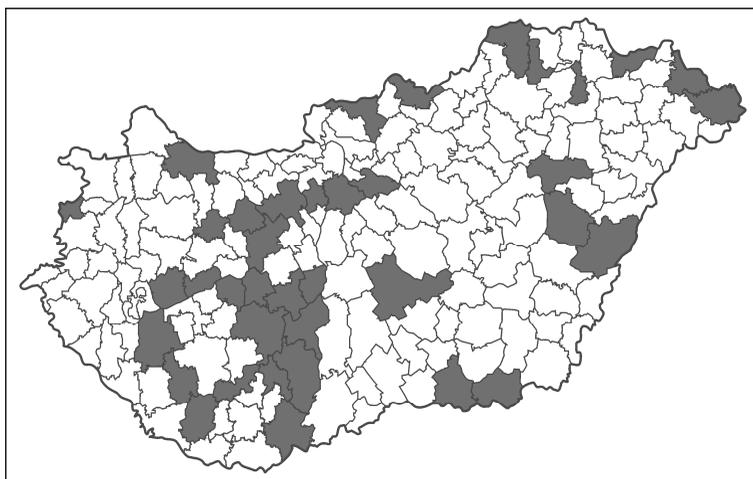


Figure 2. Settlements who made SEA, graphed in micro-regional level.
Source: Made by the author using the answers of the questionnaires.

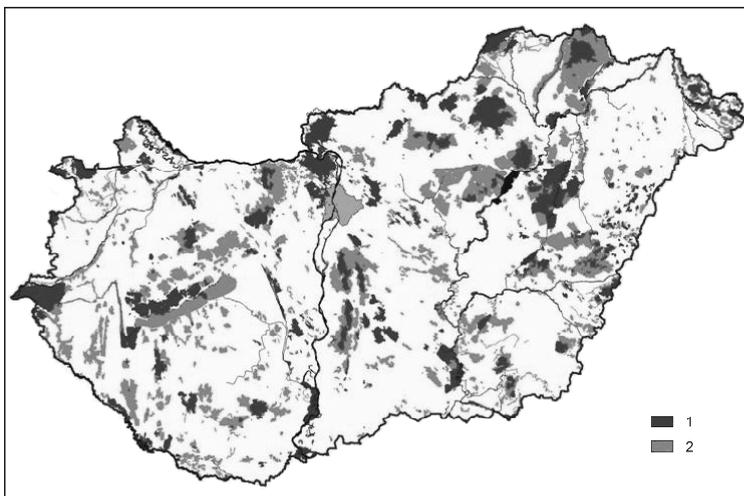


Figure 3. National protected areas and Natura 2000 network in Hungary (2004)
 (Legend: 1= National protected areas; 2= Natura 2000 areas.)
 Source: Environmental Protection and Water Ministry.

Although Figure 2. only shows that during the research period what are the settlements who made environmental assessments (after a while all the settlements will do it), comparing the maps we can see that those settlements which are situated nearby national protected areas, those are more intended to make environmental assessments and are more sensitive in environmental protection. This fact is also confirmed by the answers of the questionnaires. (Here I speak about settlements but the map is graphed on micro regional level. The reason is that topic is quite slippery while those settlements that did not make environmental assessments actually broke the law (in several reasons). Therefore interviewee asked the author not to identify them.)

Analyses concerning micro regional and county level also support that the lack of information is crucial in the fail of making environmental assessment. Interviewees miss practical experience in the field as well. They prefer sharing information and good practices in a functioning local governmental/territorial development network.

Regional analyses additionally shows that the hierarchical institutional setting, the dominancy of institutional knowledge set back the emergence of local, territorial interests, therefore the emergence and integration of local environmental cogitations.

A potential new method

Despite the fact that development policy strategies, programmes, plans – because of their genre specialities – usually do not include concrete investments relating to a certain geographical area, I argue that it would be better to enforce their territorial approach. It would be more useful in matrix-characteristic assessments in order to get territorial-specific indicators, since keeping threshold limits mean difference in urban areas and rural areas. In order to dissolve this contradiction – and visualise impact-oriented assessment next decision-oriented assessment – I suggest the use a method which contains such indicators which carry territorial dimension. For this the use of ecological footprint can be a solution.

Although in programming procedure we cannot define the territorial materialisation of an investment, however we can define materialisation go hand in hand with what kind of territorial occupation process and what the impact is on geographical environment.

In Operational Programmes for the period 2007-2013 we can assess the environmental impacts of the development goals. Using the created matrix we can asses whether such type investment reduce or enlarge the size of ecological productive area. We can assess that what are the geographical indicators being impacted the most. Whether the materialization of the plan reduces or enlarges our ecological footprint in long term. In Table 2 the matrix can help planners and strategic environmental assessment makers in this assessment.

Table 2. The impact of materialisation of the development goals on ecological environmental indicators.

		Indicators					
		Cropland	Pasture	Forest	Fisheries	Built spaces	Fossil energy
Assessment of the goals of the plan	Sewage farm investments in the plan	0	0	0	-	+	+
	...						
	Public road network development in the plan	+	0	+	0	++	++
	Sum	+	0	+	0	3+	3+

- 0=no determinable impact on the change of the extent of the footprint
- + =determinable increasing impact on the change of the extent of the footprint
- ++=significant determinable increasing impact on the change of the extent of the footprint
- determinable decrease impact on the change of the extent of the footprint
- -= significant determinable decrease impact on the change of the extent of the footprint

Sources: Created by the author with important variables. (Factors from Global Footprint Network, targets from the EOP and the second NDP.)

For instance an investment of a sewage farm does not reduce the waste contamination. Maintenance of it raises the use of fossil energy and the size of built spaces. But the cleaned water increase the potential of fishery, therefore the “occupation” of the fishery is “negative”.

As it can be seen the development of public road network enlarges the cropland footprint (as well as the built spaces footprint), because new roads need new space decreasing the available amount of cropland but increasing its rate per capita. The construction of roads and the enlarged amount of use of cars result in the growth of the forest footprint because of necessity of the absorption of carbon dioxide. Fossil energy is needed as a fuel (used by cars on the new roads) and is needed to prepare cars as well as maintain roads (which enlarges the carbon consumption by 45% [WACKERNAGEL-RESS, 2001]).

The use of ecological footprint seems to be popular, not scientific method. However the ecological footprint assumption is based on scientific research. Using the method transparency can prevail better, and the result can be more picturesque for decision-makers. The method can not use standing alone; it can complement the decision-oriented assessment with impact-oriented assessment aspects.

The case of Northern Ireland

In the chapter dealing with literature it can be seen that the appearance of environmental policy integration is different in different countries. The form of emergence depended on historical background, institutional settings and often on the state of natural environment.

The literature of environmental policy integration (and its chiselled literature of strategic environmental assessment) argues the following “standard” frameworks (which are in the dissertation as well): institutional framework (e.g. CHAKER ET AL. 2006); governing specialities (e.g. HOMEYER I. 2002); legal background (e.g. JIRICKA A.–PRÖBSTL U. 2008); methodology (e.g. PARTIDÁRIO M.R. 2007); policy conditions (e.g. PARTIDÁRIO M.R. 2007); developing countries development vs. environmental problems (e.g. ALSHUWAIKHAT H. M. 2005); physic geographical aspects (e.g. THERIVEL R. 2009). Although PARTIDÁRIO and VOOGD (2004) emphasis holistic approach, I did not meet a special segment of the environmental policy integration: How ethnical-political conflicts impact on the environmental policy integration into development policy?

Environmental policy integration in Northern Ireland was influenced by several special factors. The effort for safety overwrote the environmental policy in the last decades. The reason of the “green borderlines” and green places was the political/ethnic conflict.

Although after the implementation of the SEA directive the SEA making process started in Northern Ireland, effective feasibility of it has checked. The first problem (among others) was that the responsible decision-maker unit for planning and SEA is the same, the Environmental Ministry. Another problem was, that when the SEA making was due, all the plans had been finalised. Therefore SEA making was a retrospective procedure.

Lesson for Hungary from Northern Ireland case is that excessive centralisation, the too strong role of National Development Agency may obstruct the emergence of environmental policy integration.

7. Conclusion

The negative and positive influencing aspects on success environmental policy integration – suggestions

So that the strategic environmental assessment would be the feasibility of full-integration in the sense of PARTIDÁRIO M.–VOOGD H. (2004) in environmental policy, and won't be only an attached document, we would like to point out the following:

- We need effective information system on every level of planning (national, regional, micro regional, local) in the field of the role of different environmental tools like SEA and EIA.
- We need an open coordination and we have to let all the regional and local actors in the arena.
- We have to avoid that central planner has too major role in environmental assessment process.
- We have to devise sharply planners and SEA makers (as the Northern Ireland case shows us); in order to avoid that planner has to big role in selection of SEA maker.
- We need an information network based on the existing “green-point network” where all the stakeholders can receive information on “what, how and when to do”.
- It is hard to say that Parliament give sources for making environmental assessment for local-government when in 2010 there is no decentralise source for regional development in the Hungarian State Budget. But as our research shows us, it is highly important.

Next research steps

- Using the empirical material of the international research project of G-FORS and collecting more international empirical data it would be necessary to make comparative analyses on good practices.
- It would be useful to make a practitioner handbook on strategic environmental assessment for stakeholders.
- We need another research after a while, how SEA making is changed in Hungary.

- Carrying on the research firstly we have to focus on nearby, Central European countries. It is necessary because we are connected in several way (e.g. via rivers).
- We also have to extend our research framework and we have to seek out the sociological, social structural aspects of environmental policy integration as well.

References

Published literature related to PhD topic

1. LÁSZLÓ M.–**VARJÚ V.** 2010: Területi sajátosságok Magyarországon a stratégiai környezeti vizsgálat készítése során. *Területfejlesztés és Innováció*. 2010/2. sz. [online]
<http://balkancenter.ttk.pte.hu/index.php?id=196> (Megjelenés alatt)
2. PÁLNÉ KOVÁCS I.–**VARJÚ V. (et al.) 2009**: Governance for Sustainability - Two Case Studies from Hungary. In: PÁLNÉ KOVÁCS I.–**VARJÚ V. (EDS.)**: Governance for Sustainability - Two Case Studies from Hungary. *Discussion Papers. No.73. 45 p*
3. **VARJÚ V.** 2009: A területi tervezés legújabb környezetértékelési metódusa - a Stratégiai Környezeti Vizsgálat integrációja a döntéshozásba. *Tér és Társadalom*. XXIII. évf. 1.sz. pp. 55-65.
4. **VARJÚ V.** 2009: Strategic Environmental Assessment in Hungary. In: HALASI-KUN, G. J. (ed.): *Scientific and Social-Institutional Aspects of Central Europe and USA. Pollution and Water Resources - Columbia University Seminar Proceedings. Vol.XXXVIII-XXXIX*. Columbia University, pp.322-333.
5. **VARJÚ V.** 2008: Environmental Respects of Regional Planning: Strategic Environmental Assessment (SEA) in Hungary. In: R. S. WAWGE (ed): *Strategic Environmental Assessment. Perspectives, applications and practices*. The Icfai University Press, Hyderabad, India. pp. 47-58.
6. **VARJÚ V.** 2008: Stratégiai Környezeti Vizsgálat – az önkormányzatok új szakmai kihívása a településfejlesztésben. In: LÁSZLÓ M.–BUCHER E. (szerk.): *A terület- és településfejlesztés társadalomföldrajzi megközelítésben*. Geographia Pannonica Nova sorozat 4. Pécsi Tudományegyetem Földrajzi Intézet, Pécs, pp. 97-108.
7. **VARJÚ V.** 2008: A stratégiai környezeti vizsgálat helye és szerepe a terület- és településfejlesztésben. *Földrajzi Közlemények*, 132. évf. 2.sz. pp. 213-219.

8. PÁLNÉ KOVÁCS I.–VARJÚ V. (et al.) 2008: *G-FORS Case Studies on SEA and ETS in Hungary*. CRS of HAS, Pécs, [online].
http://www.gfors.eu/fileadmin/download/national_reports/G-Fors_Hungarian_Cases_Final.pdf [cit.2008.05.30] 96 p.
9. VARJÚ V. 2007: A szélenergia elterjedésének néhány környezetföldrajzi kérdése West Hinkley példáján. In: KOPÁRI L.–TÓTH J.–TÓTH J. (szerk.): *Földrajzi tanulmányok a Pécsi Doktoriskolából VI*. PTE TTK FI, Pécs, pp. 147-157.
10. VARJÚ V. 2007: A terület- és településfejlesztés környezetvédelmi aspektusai. In: LÁSZLÓ M.–BUCHER E. (szerk.): *A terület- és településfejlesztés válogatott, annotált bibliográfiája*. Lomart, Pécs, pp. 109-121.
11. VARJÚ V. 2006: „Kormányzás a fenntarthatóságért” (Egy nemzetközi kutatási program margójára). *Tér és társadalom*, 20. (4) pp. 161-167.
12. VARJÚ V. 2006: Development and/or Environment Protection: Environmental Respects in Planning and Evaluation. In: SAUER, P. (ed.): *Environmental Economics, Policy and International Relations*. The University of Economics, Prague, pp. 145-155.
13. VARJÚ V. 2006: Environmental respects of regional planning: Strategic Environmental Assessment (SEA) in Hungary [online] VI. *CEI Youth Forum: „Youth: Active Promoter of Sustainable Development”*, Durres (Albánia)
<http://www.rave-space.org/RaveSpace/GetDoc.aspx/162.pdf> [cit: 2008.01.17.] 8 p.

Conference presentations related to PhD topic

1. VARJÚ V. 2008: A környezeti vizsgálatok jelentősége a Kárpát-medence környezetvédelmében. In: FODOR I.–SUVÁK A. (szerk.): *A fenntartható fejlődés és a megújuló természeti erőforrások környezetvédelmi összefüggései a Kárpát-medencében*. MTA Regionális Kutatások Központja, Pécs, pp. 306-315.
2. VARJÚ V. 2008: Stratégiai Környezeti Vizsgálat: Egy új környezetvédelmi kihívás a területi tervezésben. In: FODOR I. (szerk.) *A fenntartható fejlődés környezetvédelmi összefüggései a Kárpát-medencében*. MTA RKK Dunántúli Tudományos Intézet, Pécs, pp. 266–273.

3. **VARJÚ V.** 2007: A biomassza-termelés, mint fejlődési potenciál a rurális térségekben – környezetvédelem vagy környezetszennyezés? In: KOVÁCS T. (szerk.): *A vidéki Magyarország az EU-csatlakozás után. VII. Falukonferencia.* MTA RKK, Pécs, pp. 257-265.
4. **VARJÚ V.** 2007: Területi szempontú környezeti értékelés és társadalmi részvétel a területi tervezésben. In: BALOGH M. (szerk.): *Diszciplínák határain innen és túl. Fiatal kutatók fóruma 2. - 2006.* MTA Társadalomkutató Központ, Budapest, pp. 333-349.
5. **VARJÚ V.** 2007: Politika versus környezeti attitűdök, avagy környezettudatosság egy EU-s kormányzati kutatásban. *Környezetvédelem és erkölcs c. konferencia.* Pécs, MTA PAB, 2007. 11. 22.
6. **VARJÚ V.** 2007: Hazai fejlesztési törekvések a megújuló energiaforrások terén. *A megújuló természeti erőforrások új szerepben c. konferencia,* Pécs, MTA PAB 2007. 11. 29.

Other publications, presentations

1. **VARJÚ V.** 2009: The impact of EU-Emission Trade Scheme on the development of environmental industry sector. In: BARANYI B.– FODOR I. (eds.): *The role of environmental industry in the regional reindustrialisation in Hungary.* Hungarian Academy of Sciences Centre for Regional Studies, Debrecen-Pécs, pp. 89-104.
2. **VARJÚ V.** 2009: A fenntartható város felé. (Könyvismertetés: Nagy Imre: Városökológia). *Területi Statisztika.* 12.(49.) évf. 2.sz. pp. 246-247.
3. **VARJÚ V.** 2009: Hátrányos helyzetű térségek közlekedésfejlesztési nehézségei: egy nemzetközi kutatási projekt eredményeinek hazai alkalmazhatósága. *Sellyei kistérség közlekedésfejlesztési lehetőségei c. konferencia.* 2009.03.26. Sellye
4. **Varjú V.** 2009: *Magyarország Nemzeti Parkjai, a Duna-Dráva Nemzeti Park.* Ismeretterjesztő előadás. Szent Margit Leánykollégium, Pécs, 2009.02.03.
5. **VARJÚ V.** 2008: Barnamezős revitalizáció kultúrával. In: PAP N. (szerk.) *Kultúra-Területfejlesztés. Pécs-Európa Kulturális*

Fővárosa 2010-ben. Geographia Pannonica Nova sorozat 2. Imedias Kiadó, Pécs, 2008. pp. 201-212

6. ERDŐSI F.–GÁL Z.–GIPP, C.–**VARJÚ V. (ALSO ED.)** 2007: Path Dependency or Route Flexibility in Demand Responsive Transport? The Case Study of TWIST project. *Discussion Papers* No. 59, Pécs, 68 p.
7. **VARJÚ V.** 2007: Network Models for Demand-Responsive Transportation. TWIST Newsletter, Issue4/May pp. 12-13. (A cikk és az (újság) olasz nyelven is megjelent: *Modelli di rete per il trasporto a chiamata.* címmel)
8. **VARJÚ V.** 2007: Pap Norbert (szerk.): A Balatontól az Adriáig. Területfejlesztés és Innováció. [Online folyóirat] p. 23.
<http://balkancenter.ttk.pte.hu/download.php?id=133>
9. **VARJÚ V.** 2007. Transferability of the TWIST model. *TWIST meeting 31 May-1 June 2007 - Pescara (Olaszország)*
10. **VARJÚ V.** 2006.: TWIST in the South Transdanubian Region (kutatási összefoglalás) *TWIST (Transport With a Social Target) (Interreg III B. CADSES) International meeting 2006.06.29-30., Ioannina (Görögország)*
11. **VARJÚ V.** 2006: Informális piachelyek két példája, Pécs és London In.: BARANYAI G.–TÓTH J. (szerk.): *Földrajzi Tanulmányok a Pécsi Doktoriskolából V.* Pécs, PTE TTK Földrajzi Intézet, pp. 257-271.
12. **VARJÚ V.** 2006: Case study on Emission Trade System in Hungary. *G-FORS meeting.* 2007. Március 23-24. MTA RKK DTI - Pécs

