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ENVIRONMENTAL COHESION ACROSS THE HUNGARIAN-CROATIAN BORDER

Abstract: Environmental cohesion (as a new EU paradigm for a place-based interpretation of environmental justice) has a clear connection to territorial cohesion. Based on this idea, advantages for people can include an equitable distribution of environmental protection and access to environmental services. In non-EU countries regional environmental cohesion is used as an instrument to accelerate accession to the EU and it may be manifested as a declaration of environmental diplomacy. Environmental cohesion across a border can be identified as soon as two regions – alongside the border – start to cooperate in order to improve environmental conditions and to ensure equal access to natural resources and environmental services. After a literature review environmental cohesion is evaluated in multidimensional way, using empirical quantitative and qualitative data and a two-pillar based methodological approach. The Croatian-Hungarian border area was closed for a long time. As a result, developments avoided the area, on the other, natural resources remained mainly untouched. However, the two countries have had different approaches towards the area, while, Croatia made efforts to build another water power plant, Hungary intended to preserve and extend a Natural Park. This contradiction remained until the accession process of Croatia. Finally the disagreement between the two countries was moderated by a UNESCO Biosphere Reserve that was created alongside the border in 2015. The post-2010 period has been characterised by an increasing number of environmental-related cooperations.

Key words: environmental cohesion, cross-border cooperation, Hungary, Croatia

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Introduction

The number of geographical studies on borders has increased in the second part of the 20th century due to the process of globalisation (van Houtum, 2000). From the second part of the 1990's the conceptual evolution of borders has been characterised by significant changes (Brambilla, 2015). The wide range of literature on border studies moved discussion on boundaries away "from an exclusive concern with geographical, physical and tangible borders. Instead, contemporary research appears to privilege cultural, social, economic, religious and other borders that, while often invisible, have major impacts on the way in which human society works" (Kolosov & Scott, 2013).

According to van Houtum (2000), cross-border cooperation is one of the most popular subjects in border studies (Čelan, 2016; van Houtum, 2000). This topic gained importance in Eastern-Central Europe especially around and after the EU accession process, from the 2000's. Among others, for instance, cross-border activities in business (Grosz & Tilinger, 2008), demographic trends (Bajmócy, 2011), territorial disparities (Nagy, 2013) and cross-border protected areas (Heintel et al., 2015) came to the forefront as frequent topics.

Despite the wide-ranging scientific interest in the problems of (state) borders the Croatian-Hungarian border area has not attracted special attention in the literature during the last 20 years (Čelan, 2016), in turn, the Croatian-Hungarian border area is the least uncovered and complex section of the Hungarian boundaries. The boundary, colloquially often identified mainly with Drava river (and the lower part of Mura), as a typical natural (physical-geographical) and language border, is one of the oldest European borders along its major parts (Csapó et al., 2015; Čelan, 2014, 2016; Pap, 2006).

In this recent paper cross-border cooperation is analysed in the period of 1990-2015 with a special focus on EU forced and financed IPA 2007-13 cross-border cooperation programme. The aim of the article is to reveal the environmental related co-operations and their changes in the past years. After a short theoretical overview the paper briefly outlines the research methodology. In the discussion part the results of the empirical work are assessed and concludes by revealing the performance of environmental cohesion in the Croatian-Hungarian cross-border study area.

Cohesion and cooperation

The concept of "sustainable development" – in the 1990s – emerged as a central element in regional development, but the environmental sector alone would not be able to secure environmental objectives, therefore each sector would have to take on board environmental policy objectives (Lafferty & Hovden, 2003). This need for Environmental Policy Integration (EPI) (into other sector development) resulted the wide introduction of the tool of Strategic Environmental Assessment (SEA) (in the EU: (2001/42/EC), for Europe: Kyiv (SEA) Protocol (It was accepted in May 2003, negotiated under UNECE, but open for all UN members)) at the beginning of the 2000's. The concept of SEA emphasises environmental issues in cross-border situations.

Territorial cohesion, as a complement for economic and social cohesion, is supposed to moderate imbalances by decreasing centre–periphery disparities and it aims at the

equal dispersion of goods and services for all EU citizens with equal accessibility (Faludi, 2007).

Layard and Holder (2010) argue that environmental cohesion (as a new EU paradigm for a place-based interpretation of environmental justice) has a clear connection to territorial cohesion. In their new approach they suggest that advantages for people "could include not only advantages of greater economic development and growth, including equal opportunities to engage in entrepreneurial activity and to receive services, but also a concern for an equitable distribution of environmental protection and access to environmental services... While environmental justice has conventionally been conceptualised as a human-centred harm, it is fundamentally a collective concern, premised on location" (Layard & Holder; 2010).

In non-EU countries regional environmental cohesion is used as an instrument for accelerating accession to the EU and it may be manifested as a declaration of environmental diplomacy. The reason for environmental cohesion is the pollution of the environment caused by the destruction of industrial installations, military activity (on the territory of former Yugoslavia) and waste (Mihajlov, 2008).

Methods and materials

The analysis of the presented research begins with a literature review in order to better understand the social-geographical and socio-economic evolution of the cross-border region.

After that, environmental cohesion is evaluated in multidimensional way, using quantitative and qualitative data and a two-pillar based method. The goal of the evaluation of both types of data is to reveal the enlargement of "advantages ...for an equitable distribution of environmental protection and access to environmental services" (Layard & Holder, 2010). The author argues that the increase of the nature protection areas and the increase of environmental related cooperation can fulfil this requirement and therefore as an outcome of the improvement of (cross-border) environmental policy is assessed. Nowadays, there are a wide range of tools and indices to measure environmental (protection) performance and a wide range of literature to discuss them (e.g. Neves Almeida & García-Sánchez, 2016). Methods for the assessment of the performance/results of a policy can generally be classified in two types: result-based and object-based methods. Result-based approaches focus on the outcomes of the interventions generated by the system and the actual impact in the wider policy environment. Object-based approaches aim to assess the effectiveness by assessing the perceptions, recognitions, and attitudes from the perspective of the evaluated stakeholders, usually with surveys and interviews (Liu et al., 2016).

Result based assessment can be undertaken in, at least, two ways. Firstly, we can evaluate the enlargement of nature protected areas in time, using GIS data. The increase of such areas can contribute to "an equitable distribution of environmental protection and access to environmental services" (Layard & Holder, 2010).

Another method for a result-based assessment includes a two-step analysis. Firstly, based on literature review, the historical and geopolitical background of the cross-border area is briefly discussed. The goal of the analysis was to reveal the most important

frameworks and milestones of the cross-border region. Secondly, based on Bali's (2012) primary research and the IPA (Instrument for Pre-Accession) HUHR (2007-13) project data (publicly available at IPA HUHR website - http://www.hu-hr-ipa.com/en/ and in project booklets as well), movements of environmental related cooperation and networking can be revealed in time horizon (results in Fig 2) (Environmental related projects' topics in the analysis were: nature conservation, habitat rehabilitation, water quality and water management, waste water treatments, environmental related planning and education, eco-tourism, renewable energy use). The present article only focuses on cross-border regional connections. To do so, the data of all the environmental related projects was collected and assessed with GIS based analysis of the spatial relations. The increase in the amount of the connections can ensure a developing environmental cohesion, on the other hand, the density of the network can indicate the spatial characteristics of it. Both second result-based methods are appropriate for revealing the elaboration of contacts from the viewpoint of (sustainable) "development". This method cannot be suitable for revealing the performance of environmental relationships where there is no financial "aid/development" relationship (e.g. cooperation between two bird-watching NGOs). To address the latter, object-based method is needed, in order to discover connections without economic interests.

To do so, in the presented research a questionnaire was used, as an object-based method. In this survey, all the project partners (both in Hungary and Croatia) dealing with environmental related projects – in IPA HU-HR (2007-13) CBC Programme – were asked to complete the (five-minute-long) questionnaire (available in both Hungarian and Croatian). The aim of the questions was to reveal attitudes on environmental related motivations, the performance of co-operation during and especially after the project implementation periods in order to assess the impact of environmental related cross-border projects on environmental cohesion. Out of the 169 realised projects, 38 (more than 22% of the projects) were related to environmental development representing more than 60% of the allocated budget of the IPA HUHR 2007-13 CBC calls. In the online questionnaire the 38 projects affected 37 organisations on the Croatian side and 35 organisations on the Hungarian side. Receiving the contact e-mails from the Joint Technical Secretariat online questionnaire links were sent to 50 different Croatian and 41 Hungarian e-mail addresses, respectively. We received (and finally analysed) 19 and 18 full responses (representing around a 40% response rate).

Additionally, a wide ranging press discourse analysis was conducted in order to reveal the motivations of the two countries on the directions of development, reflecting on the natural givens, between 1990 and 2015. The analysis used the Hungarian Parliament Library's databases, Pressdok - the index of all the Hungarian national newspapers - and Hundok – which collects coverage about Hungary in (102) main international newspapers – were used. Regional newspapers (Dunántúli Napló, Somogy Hírlap, Zalai Hírlap) are available at county libraries. Analysing national and regional newspapers in Hungary the aim was twofold: (1) to reveal the different directions and the changes of governmental level; (2) to demonstrate how the press engaged in framing and counter-framing (Baer & Brysk, 2009) of political and economic discourses. As the Croatian discourse analysis is not entirely finished, the discourse analysis is used here only as additional backgrounds for better understanding the processes and to support the explanation of the results deriving from the above mentioned methods.

Results and discussion

Some geographical circumstances

The studied cross-border area is a belt stretching along both sides of the lower part of Mura, Drava Rivers and the Danube above the Drava firth. Partly due to the following reasons, this area is ecologically the most unified, organic and continuous river-system with green-belt. Recently, this area has also been called the "Amazon of Europe" (Fig. 1). Based on this, from the 1990's there was an increasing "meta-governing" need for a common nature protection area/Nature Park that joins the natural values of Croatia, Hungary and Serbia.

Being a border river, the Drava cuts the area into a Hungarian and a Croatian part. Along the Drava River, both sides of the border area are historically peripheral, characterized by poor economic performance. Between 1920 and the end of the 1980's the Drava-region was almost perfectly closed. During the Soviet era both countries were subject to socialist ideology, however, former Yugoslavia was not part of the Soviet ascendancy area. Because of the very strict border guarding only local citizens or a person with permission could approach the border area, including villages nearby the border. The whole area had a very unfavourable position in terms of investment due to the geopolitical risks on the Hungarian side and the Yugoslavian civil war in the 1990's. In the past 25 years the trajectory of the development of this cross-border area differed from other parts of "the mother-countries". On the Croatian part "while the coastal areas and the metropolitan region (Central Croatia) went through an expansion, Slavonia, the Eastern part of the country, is clearly a loser of the same transformations" (Rácz, 2016; Varjú et al., 2014).

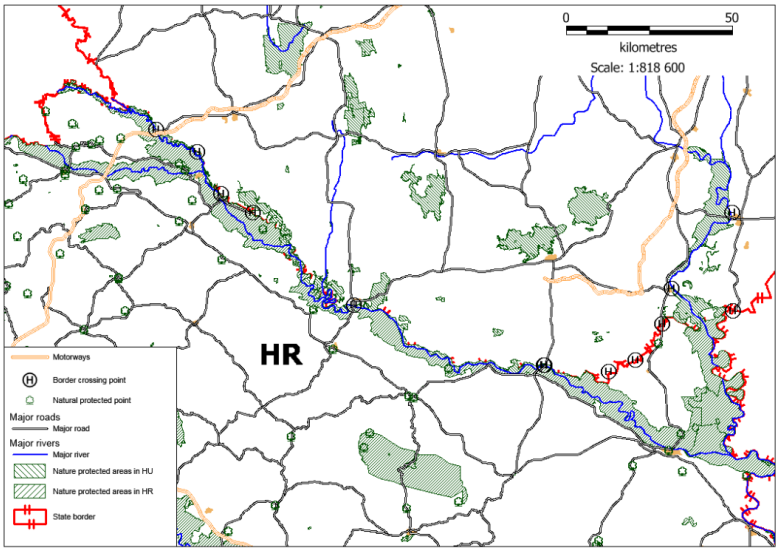

Fig. 1. The studied cross-border area and its natural protected areas

Source: Own contribution based on public data available at MTA KRTK. Data were collected during the IPA HUHR DUPLO (HUHR/1101/2.1.4/0014) project.

In Hungary, Budapest, as a metropolitan region and the North-West with its vehicle industry are the winners in the transformation, while the south of South-Transdanubian region writhes from the effect of mine closures and industry-restructuring, seeking loopholes from the two-decade-long crisis.

Hence the whole area still represents an underdeveloped and increasingly backward region. The majority of the rural settlements have an ageing demographic structure; the population is decreasing dramatically in most of the villages (and recently in the major cities as well) and the education and adaptability level of the active population is relatively low. The EU planning period and its funding round of 2007-2013 has had little if any impact on the general state of development in the region. Subsidies have been concentrated in urban areas leaving henceforward blank rural areas especially close to the border (Hajdú, 2003; Varjú et al., 2014).

The weak access to transport infrastructure in the region is to be explained by its geographical as well as macro-regional location, being left intact by European mega-corridors and peripheral for South-Eastern countries (Erdősi, 2003). Insufficient local road and rail infrastructure is also a result of weak economic performance stemming from the border side position. There is slow progress on motorway building on both part of the border, however, the gap in the V/C corridor between Hungary and Croatia is still approx. 100 km in clearway, while fast track railway is not in the plan.

Tourism has a varying economic significance within the area. The role of tourism is relatively high in the bigger cities due to their heritages (e.g. Pécs, Osijek). Some areas have higher role due to wellness and bath sites (e.g. Harkány) or being a quality wine area (e.g. Villány-Siklós wine area) (Somogyi, 2003; Aubert et al., 2010). Owing to the adjacent draining systems, to the level of pollution and to relatively heavy water-borne freight, the Danube is less attractive for water tourism, whilst on the Drava, one of the most pristine waterways of Europe, water tourism is on the increase in co-operation with natural protection authorities. On the Drava River the traffic load of large motorboats is minimal due to strict environmental protection and the lack of river regulation on the one hand, and to water level fluctuation and bed motion caused by the daily performance variability of water power plants situated on the upper sections of the river on the other (Varjú et al., 2014).

The concept of Drava, as energy resource, appeared during the 19th century already, during the era of Austria-Hungary Monarchy. Several, more than 20, hydroelectric power plants were built on the upper part of the river. There were several concepts to build a hydroelectric station in the border region of Hungary and Yugoslavia (Croatian part), however an intergovernmental negotiation was achieved only at the end of the socialist era, in 1988, when Hungary and former Yugoslavia signed an agreement to build a power plant on the Drava near Djurdevac. After the (Hungarian) systemic change, (and in parallel with the big debate on the planned Gabčíkovo–Nagymaros dams on the Danube) Hungary turned towards an environmental related direction. Due to this turn, Croatia decided to build a power plant in Novo Virje, instead of Djurdevac. The negotiation and debate between the two countries (hydroelectric power station vs. nature protection and environmental interests) took until the middle of 2000's, once Croatia turned towards the EU. Negotiations for the accession started in 2005 and due this process, environmental issues and environmental sustainability came to the forefront in Croatia as well (Reményik, 2008; Cvritla, 2000; Bali, 2012). Croatia turned to an environmental-related

direction, however, plans relating to hydroelectric power stations appeared from time to time, recently as well.

Due to the above historical reasons natural assets remained in a good state, especially on the Hungarian side. From the 1990s high attention has been drawn to natural protection in this area. On the Croatian side Kopački rit was designated on the List of Ramsar areas in 1993. On the Hungarian side Danube-Drava National Park (and Directorate) was established in 1996 in order to pay high attention on the natural heritage. This nature conservation area is the largest protected area of national importance in the region. Wetlands are ex-lege protected, waters are continuously monitored under the umbrella of the European Water Framework Directive (EC 2000/60). Not only is the Drava under national natural protection for-and-aft on the Hungarian side. Almost 20% of the study area is NATURA 2000 area, 6.6% is under high national protection and 1.1% is under strict national protection totally closed from the public (Varjú et al., 2014).

Recent activities and results in environmental cohesion

From the literature review and the press-discourse analysis, it can be shown that the co-operation between the two countries in the new era started at the end of 1990's and around the millenium, however, their thematic objects were hardly environmental related. Based on the result-based assessment, it can be said that Duna-Drava-Sava Euroregion (established in 1998) was an economic initiation with a very few sustainable goal. The HU-HR pilot small-project fund (initiated by the South-Transdanubian Development Agency in 2003) had only 2 environmental related projects out of 17, representing a 11% rate. The two INTERREG calls in the middle of the 2000's had 9 such projects, increasing the rate for environmental projects to 20% (Bali, 2012).

The turning point in environmental cohesion – between the countries and the border region – was the process of the EU accession and one of its financial tools, the IPA HUHR CBC programme (2007-13), which finally started in 2010. In this cross-border programme more EU funds became available than beforehand, which brought about the possibility for stronger cohesion in the area and, accordingly, it has triggered territorial transformations (Čelan, 2016). In this period 60% of the great budget of 52443 EUR was allocated for "sustainable environment and turism" related project proposals. In the first and second call the budget was very much concentrated resulted in a more than 2 000 000 EUR budget/project within the priority of "1.1.1. Development of landscapes in the Mura-Drava-Danube area and its natural and rural surroundings". (In the third call the focus was on tourism, including eco-tourism related development). These main projects were implemented by organisations dealing with nature and water protection and management (IPA HUHR CBC Project Booklet 2013).

Taking into account the result based assessment, it can be said that the enlargement of nature protected areas is significant on both sides. Protected areas in Croatia account for 8.54% of the total area of the country, or 11.38% of its land area (Martinić et al., 2012). On the Hungarian side the creation of Danube-Drava National Park (in 1996) had a significant role, besides this, the EU accession process (and its requirement), Hungary's joining to several natural convections (e.g. RAMSAR, NATURA 2000), as reasons, had

also impact on the increase of protected territories. The latter can be seen in Croatia as well but later on, with a time-shift.

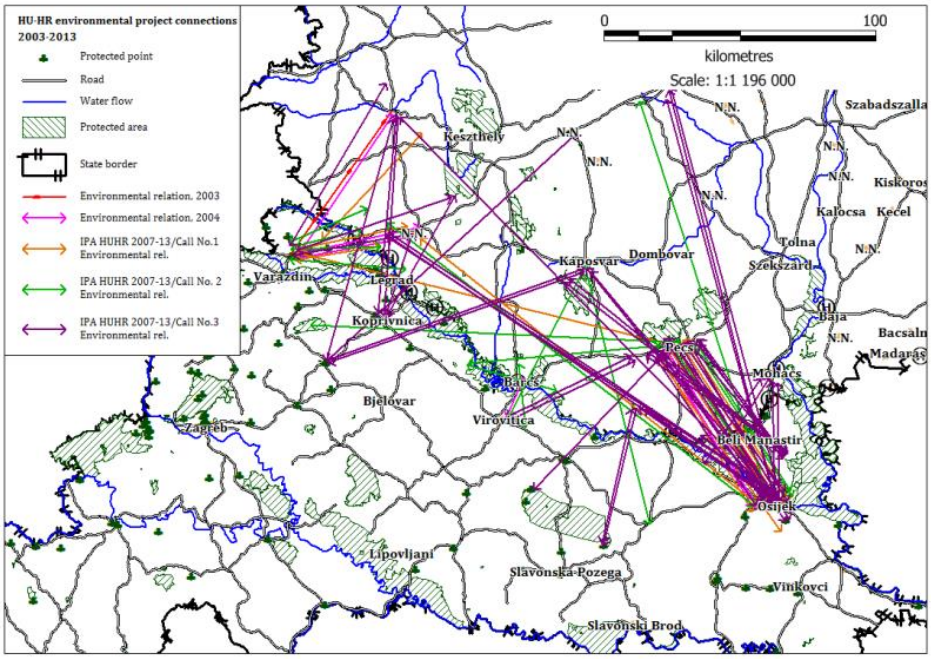

Fig. 2. Environmental related connections from 2003-2013 in the HU-HR CBC area.

Source: Own contribution. Basic map based on public data available at MTA KRTK. Data were collected during the IPA HUHR DUPLO (HUHR/1101/2.1.4/0014) project. Data relating to cooperation based on Bali L. (2012) and were collected from the HU-HR IPA CBC Project Booklets (http://www.hu-hr-ipa.com/hu/)

Analysing the network-development in environmental related projects since the beginning of 2000's, we can also realise, that connections were very much concentrated, linkages were mainly created between major cities (Pécs-Osijek; Nagykanizsa-Varasdin and Cakovec) (Fig 2). Having reviewed the connections (especially between public organisations) in environmental related issue, the eastern corridor became much strengthened than the western one, although the number of participating partners are not higher. Most of the connections are between a few (strong) partners dealing with environmental issues, such as the Danube-Drava National Park Directorate, the Hungarian Water Management Authority, and Croatian Water organisations. Territorial heterogeneity on the Croatian side is higher. Additionally, connections started more heterogeneous only within the third call of IPA HUHR 2007-13 CBC programme (Fig 2).

Not only money, but people are also important in a process for environmental cohesion. Concerning the analysed questionnaire, respondents (implementing environmental related projects) had a relatively high environmental attitude. They ranked the importance of environmental protection to 3.97, almost the highest among the 7 given

various social problems. (There was a possibility to rank each questions from 1 to 5, where the answer of 1 meant not important at all, 5 meant very important. There were no significant differences between the two countries). Analysing the observed impacts, respondents stated that there was a significant impact of the projects on the state of the natural resources (70% of the respondent ranked the positive impact with 4 or 5 grade), however, there was a weak impact on climate change mitigation and water quality. Regarding the cross-border impact, almost 95% of the respondent said, that the IPA HUHR CBC programme had a positive (grade 4=40.5%) or significantly positive (grade 5=54.1%) impact on the cross-border cooperation. (This attitude was enforced with another checking question later on, resulting in a rate of 89% positive grades.) What is more important in this field is that after the closure of the projects, 35.1% of the respondents had partnerships with almost all, and 29.7% with most of the partners on the other side of border. It means that – based on the survey results – more than half of the environmental related project partners had a remaining cross-border partnership.

Analysing press discourses, certainly there are some differences between national and regional newspapers. Main topics occurred in national newspapers were the political debate on water dam(s) from the 1990's until the 2000's and the potentially commonly created cross-border nature conservation area. The latter was emphasised especially from the Hungarian part. The other bigger issue in the national media was the de-mining actions and projects. Regional newspapers also reflected the mentioned topics but they also dealt with others, such as renewable energy, environmental education and eco-tourism, especially focusing on new biking routes in and around the NATURA 2000 areas.

Conclusion

In Hungary, by the 2000s NATURA2000 areas and other nature protected areas covered 20% of the territory of Hungary and in the study area as well. This significant amount is the result of a systematic environmental policy improvement since the 1990s (Varjú, 2015) which resulted – amongst other outcomes – in the creation of the Danube-Drava Natural Park in 1996. Approaching the EU accession, environmental policy cohesion also started in Croatia at the end of 2000s. Strategic planning and actions aimed at developing nature protection areas (Martinić et al., 2012). Personal network connections improved during the 2007-13 IPA CBC Programming period and – concerning the survey – remained on a good trajectory after the closure of the programme. New CBC INTERREG V-A programme can provide more financial support for that.

Due to the environmental related networking dynamics, a EU accession and integration process had two consequences. Firstly, there was a significant shift in (ecological) sustainability that recently resulted in the creation of Mura-Drava-Danube Cross-border UNESCO Biosphere Reserve in 2015. On the other hand, although there is a continuously increasing and spreading amount of environmental related cooperations, the limited number of the partners and the spatial density of the links could not facilitate the extension of environmental network for the whole area, hence ensuring a wide-range environmental cohesion.

Summarising the above, we can also accept Čelan's argument. He wrote that the assumption is that current development trends, although the most intensive in the last

100 years, are still not sufficient enough to mitigate the huge geographical handicap in the Drava region, the transport and language barriers and in general the strong periphery status in comparison to the capital cities (Čelan, 2016). The CBC projects could not exactly reveal/unfold the middle area between the western and eastern corridor, which is historically the most backward area within the Drava region (Čelan, 2016; Csapó et al., 2015; Pap, 2006). Figure 2 demonstrates that this statement is true for the environmental related projects as well. EU's CBC financial tool contributed increasingly and significantly to the success of the improvement of environmental cohesion. However, there are still tasks to do.

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КОХЕЗИЈА У ОБЛАСТИ ЖИВОТНЕ СРЕДИНЕ НА ПРИМЕРУ МАЂАРСКО – ХРВАТСКОГ ГРАНИЧНОГ ПРОСТОРА

Резиме: Кохезија у области животне средине (као нове парадигме ЕУ за интерпретацију еколошке правде) јасно је повезана са територијалном кохезијом. У државама које нису чланице ЕУ регионална кохезија у области животне средине, коришћена је као инструмент убрзања прикључењу ЕУ. Кохезија у области животне средине у граничним просторима може се индентификовати оног тренутка када региони са обе стране границе почну сарађивати у циљу побољшања услова животне средине и обезбеђивања приступа природним ресурсима. Након прегледа и анализе литературе, кохезија у области животне средине је процењена на мултидимензионалан начин, коришћењем емпиријских квантитативних и квалитативних података. Хрватско – мађарско гранични простор је био затворен дуго времена, што је као последицу имало одсуство развоја са једне и очување природних ресурса са друге стране. Две државе су имале различите приступе за коришћење простора: док је Хрватска уложила напоре да изгради још једну хидроелектрану, Мађарска је покушала да очува и прошири Национални парк. Ова контрадикторност била је присутна све док Хрватка није ушла у процес приступања ЕУ. На крају, неслагање између две државе завршено је стварањем Резервата биосфере са обе стране границе 2015. године што је повећало кооперацију у области заштите животне средине.

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