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Environmental Policy and the Institutional System of Environment Protection in the Carpathian Basin

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Environmental Policy and the Institutional System of
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1 Introduction

The aim of the research is to define, through a complex survey of the environmental policy and institutional system in the Carpathian Basin, the effects of the environmental policies in effect and operating in the Carpathian Basin, and to compare and typify the attempts aiming at the implementation of environmental policies. Another goal of ours is to reveal how much membership in the European Union will homogenise environmental policy and the institutional system of environment protection of the respective states, and how environmental policy will be implemented in the Carpathian Basin, an area of sates at different levels of development, and within the macro-regions of the Carpathian Basin. A part of the issue is the comparison of the authorities responsible for the regional organisational system of environment protection and a sectoral comparison: what the territorial organisational system of environment protection looks like at the different administrative tiers and sectoral levels, i.e. what spatial characteristics describe environment protection in the Carpathian Basin and how the neighbour states of the Carpathian Basin cooperate for the solution of cross-border environmental problems.

A theoretical and practical significance of the research is that it may reveal the relations system in both the horizontal (among the regions or among the countries) and the vertical sense (sectoral systems: environment protection, nature protection and water management).

The single (homogeneous) environmental (physical geographical) features of the Carpathian Basin have been disintegrated into fragments by the economic policy processes of different intensity, the Basin is now a mosaic of areas with different levels of severity of environmental problems. There are significant differences in the level of organisation of the institutional system of environment protection, especially in its regional characteristics, although the regional features now bear the marks of the environmental normatives of the EU.

The integration of environment protection into the economic processes is now visible not only in new EU member states (Central Europe) but also in the environmental policy of the states in the second (or third) round of enlargement, making the different environmental policies of the Carpathian Basin comparable and assessable. The documents prepared by the ministries of the neighbour states in the Carpathian Basin (regional development and environment protection action programmes etc.) and the surveys carried out by OECD clearly demonstrate this.

The academic survey of cross-border relations and cross-border cooperation has been a significant subject for regional research projects in Hungary since the beginning of the EU-accession process, and now there is extended literature on this issue. A similar effort started in the other Central-East European states in the 1990s.

Research projects with an environmental focus have become more intensive since PHARE, SAPARD and ISPA support has become available, although they

are typically focused on specific border sections and are conducted as background studies for development plans.

The findings of the research activity of four years would contribute significantly to the implementation of a single environmental policy, as well as the management and institutional system of environment and nature protection in the changing European Union.

2 Research area and methodology

At the designation of the research area, two important criteria have to be met. On the one hand, the Carpathian Basin is a homogeneous spatial unit from the physical geographical sense; on the other hand, the subject of the research ensured we had to deal with a multiplicity of rather heterogeneous administrative units. The management systems of environment protection are manifested in the activities of smaller spatial units with complex functions. Accordingly, the spatial designation of the Carpathian Basin, the subject of our survey, has to be done with a methodology satisfying both criteria.

The first step in this methodology is the definition of the functional and spatial structure of the institutional system of environment protection in the "basin countries" in the territory of the Carpathian Basin. "Basin countries" are Austria, Slovenia, Ukraine, Romania, Serbia, Croatia, Slovakia and Hungary, inasmuch as at least a part of their territory is also a part in the Carpathian Basin. By functionality we mean those differentiated environmental tasks and competencies which are the responsibility of institutions defined by the environmental policy of the respective countries. For example the protection of air and water is not the competency of one single institution in all cases; also, environment protection and nature protection belong to different authorities in certain countries.

Among the eight states above, in addition to Hungary it is only Slovakia whose whole territory is in the Carpathian Basin (*Figure 1*). This also makes it important to determine the spatial structure, i.e. the area of competency of the institutional system. The research area – at this level – only covers those subsystems whose territory is also part of the Carpathian Basin. In most countries involved in our survey, the areas of activity (competency) of the institutional systems of environment protection (regional directorates, authorities and agencies) typically coincide with the borders of NUTS 3 areas (in Austria, Serbia, Romania and Croatia) or cover counties, županijas or districts (in Slovenia, Slovakia and Ukraine). In Hungary, after the reform of the institutional system of environment protection, the environment and nature protection, and the water management directorates formerly operating in the areas of counties or water catchment areas now all have authorities within the boundaries of water catchment areas.

Figure 1

The research area

Source: Authors' construction.

3 Results

3.1 Institutional system

The institutional system of environment protection in the respective countries – similarly to other sectoral systems – is divided into hierarchical tiers. The highest state administrative levels of this system are the ministries of the respective governments. The structure of the ministries responsible for actual environment protection affairs indicates in the better case the functional differences of the state administration institutions at the lower levels of the hierarchy. In Hungary for example separate authorities are responsible for environment protection, nature protection and water management, and this system was also valid until 2005 down to the level of the respective inspectorates (authority tasks in nature protection were done by the direc-

torates of national parks). Other ministries, e.g. in Slovenia where regional development issues also belong to the ministry responsible for environment protection, follow different structures.

In a first approach we can differentiate among three well separable functions among the competencies of the environmental institutions: *directorates* operating as service and economic organs; *authorities* supervising the lawfulness of the activities, and organisations undertaking concrete *research* and *development* activities. In Hungary, authority functions are exercised (since 2005) by the Inspectorates for Environment, Nature and Water, while service and economic activities are pursued by directorates of the same name as the inspectorates. The two functions are similarly divided in Slovenia, Romania and Slovakia. In Hungary, the Water Resources Research Centre (VITUKI) is a research company interested in environmental and water management issues; in Romania, the National Institute for Research and Development in Environment is responsible for similar tasks.

3.1.1 Ministries

In the member states neighbour to Hungary, a total of eight of them, environment, nature protection and water management activities are the responsibilities of ministries that can be categorised into three different types[1]:

- *Single complex ministry*, in whose activity environment and nature protection and the protection of the quality of water belong to the competency of the same ministry, each sector represented at state secretary level. Within this type, however, we can see an organisational structure where one of the three areas is only represented at lower levels (department or division).
- In case of a *divided type of ministry*, the fields of environment and nature protection and the protection of the quality of water are represented jointly with other areas (e.g. in Serbia and Slovenia), environment protection shares the same institutions as spatial planning, regional development, agriculture and forestry. The sectors in our survey usually appear within the framework of a state secretariat (directorate, authority) – state secretariat for the environment – or they belong to the competency of other ministries.

[1] Ministry of the Environment And Water Management (Hungary); Ministry of the Environment (Slovakia); Ministry of the Environment (Ukraine); Ministry of the Environment (Romania); Ministry of the Environment and Spatial Planning; Voivodina Autonomous Province Secretariat for Sustainable Development and the Environment (Serbia); Ministry of the Environment, Spatial Planning and Constructions; Ministry of Cultural Heritage; Ministry of Regional Development, Water Management and Forestry (Croatia); Ministry of the Environment and Spatial Planning (Slovenia); Ministry of Agriculture, Forestry, Environment and Water Management (Austria)

– *Group of ministries:* this is the case if all three fields in our survey are dealt with by different ministries, like in Croatia where there is a Ministry of the Environment, Spatial Planning and Constructions, but nature protection is organised in the frameworks of the Ministry of Cultural Heritage, whereas the protection of the quality of water is the responsibility of the Ministry of Regional Development, Forestry and Water Management.

The organisational structure of the respective ministries is thus very heterogeneous even in those countries where the protection of the environment, nature and water quality is managed together.

Because in the case of divided ministries a state secretariat for the environment deals with all three institutional areas of our survey, the weight of some sectors is probably not as great as in the case of a separate state secretariat level. This statement, however, should be examined in the framework of further academic research.

In the case of separate ministries, the three institutional areas are organised into separate state secretariats within the different ministries (there are variations at this type too), which we believe gives a greater emphasis to the institutional aspects of environment protection (although its division into several parts by no means contributes to the complexity of the institutional system).

In Serbia the ministry (and thereby the institutional field in question) is also divided regionally: besides the Ministry of the Environment and Spatial Planning of the Republic (of Serbia), the Voivodina Autonomous Province has, in accordance with the Omnibus Act, its own separate Secretariat for Sustainable Development and the Environment, with full competency in environment protection and nature protection tasks in its region, in harmony with the environmental act of Serbia. In this respect, however, the management of the protection of water quality is different from the above model, as it is in the competency of the Ministry of Agriculture, Forestry and Water Management that exercises its authority through its institutions delegated to the voivodships.

The selected issue of energy efficiency within the field of environment protection and environmental management, and the related issue of the integration of the use of alternative sources of energy into the national economies, together with the issue of climate change affecting the field of environment protection in many respects, and the institutionalised forms of the preparation for the climate change are integrated into the organisational structure of all ministries.

Especially in those countries that have recently joined the European Union, EU integration offices (divisions or departments) were created, and in most of the cases these organisations manage the implementation of environmental issues still to be harmonised, and the tendering activities for the environmental funds of the EU. The EU integration offices created in the ministries of the countries in the pre-accession phase are responsible for the continuity of the legal harmonisation and the procedure of the absorption of the available financial instruments.

Although it would be a slight exaggeration to consider the Ministry of the Environment and Water Management of Hungary as a basis of comparison when analysing the ministries of the Carpathian Basin, still its organisational structure seems to show the logically most consistent structural harmony. Also, the balance within the organisational structure of the three institutional areas (state secretariat for environmental management, for nature and environment preservation and for water management) is more complete, as the logical unity of preservation, management and development (or the prevention of damage) suggests complexity.

The (Carpathian) Basin-centred attitude, however, is either totally missing or it is not efficient enough for the time being. Despite the fact that the participation in local and EU supported tenders enjoys a growing publicity and activates a growing number of institutions and municipalities, the management of the cross-border environmental issues and the bilateral and sectoral relations of the neighbour states have not yet been built out and are not efficient enough, except the relations in the field of water management.

3.1.2 The institutional system of environment protection

When assessing the institutional system of environment protection (and nature protection and water management) in the Carpathian Basin, we have to look at the responsibilities (competencies) and also the operational areas (areas of effect) of the special institutions of the "basin countries". The chapters below are a summary of the evaluation of the institutional systems of the three sectors.

In *Hungary* – in harmony with EU guidelines – the management and official control of environment protection are institutionally separated. The former tasks are provided by the *Environmental, Nature and Water Directorates*, while the latter is the responsibility of the *Inspectorates for Environment, Nature and Water*. The Inspectorates exercise in the first degree the environmental, nature protection, landscape protection and water management *competencies* specified by law. The Inspectorate operates the laboratory necessary for the authority operation; it keeps registrations specified in separate acts; it collects the data related to its activity and makes them available for the National Environmental Information System; also, it cooperates with other control and information systems. The Directorate contributes to the preparation of the national and regional programmes for the purification and safe deposition of municipal sewage, and to the research, training, education and knowledge dissemination activity related to environment protection. The Directorate is also responsible for keeping registrations specified by law.

The *operational areas* of the Inspectorates and Directorates are unique among the examined countries. Their operational areas cover the administrative boundaries of municipalities that belong to different water catchment areas, so they are opera-

tional areas of mixed character inasmuch as they do not follow either water catchment area boundaries of the borders of NUTS units.

In *Slovakia*, in the field of environment protection, the *Environment Protection Inspectorate of Slovakia* – as a budgetary organ, part of the ministry –, and the regional (micro-regional and district) organ (*Environmental Authority of Slovakia*) of the sectoral ministry (Ministry of the Environment) have responsibilities, the former has authority and the latter management tasks (*Mezei,* 2008). The inspectorate is divided into central and regional inspectorate offices. As regards its competencies, it is responsible for state control in issues of environment protection on the basis of the decrees in effect; it levies fines in the case of environmental offences, and is responsible for state administrative tasks and exercises the surveillance of the state in the implementation of Environmental Fund supported actions at national and regional level. The inspectorate issues decrees in its competency defined by law and cooperates with other state administrative institutions and other public actors and organisations for the protection of the environment. The Bratislava centre of the Inspectorate provides a professional and methodological support for the district inspectorates, organises national and international relations and acts as a forum of appeal in connection with the decisions of the district authorities in the first degree. The most important tasks of the regional inspectorates are to control legality in environment protection, the levying of fines and the promotion of improvement measures.

The tasks of the regional offices of the *Environmental Authority of Slovakia* are environment protection related administrative activity and acting as an organ of appeal in administrative procedures (the decision in the first degree is made by the district office). They control and manage the activities of the district offices, are also responsible for the protection of the quality and quantity of water, water management, flood protection, tapwater supply and canalisation, the control of fishing activities, nature and landscape protection, the protection of the wild fauna and flora by the regulation of their trade, the protection of the atmosphere, ozone layer and climate of the Earth, waste management, the prevention of serious industrial accidents with environmental hazards and the assessment of environmental impact analyses. The 79 regional environmental offices are the first degree authorities in environmental administration. Their activities and competencies in their operational areas are the same as those of the district offices in their areas. In addition, they are responsible for support services for the municipalities. In environmental issues they act a forum of appeal in all cases that are in the competency of the local/municipal environmental organs in the first degree. The operational areas of the districts of the Environment Protection Inspectorate of Slovakia (integrated and divided regions) are similar to the units at NUTS 3 level. The operational areas of the Environmental Authority of Slovakia are purely regional (NUTS 2 level), while the micro-regions or districts are at the NUTS 4 level.

In *Romania* there is a decentralised management system of environment protection (*Duray,* 2008). Two institutions under state (ministry) control are responsible for environment protection issues in Romania. One of them is the *Environmental Agency* (EA) controlled by the Ministry of the Environment of Romania; the other is the *National Environmental Guard* (NEG). The EA operates in an organisational structure covering three regions and 16 counties in the Carpathian Basin. Since 2005 a central National Environmental Agency (NEA) and 7 Regional Environmental Agencies (REA) have operated, the main task of the latter being the provision of information flow between the county EAs and the NEA and the sectoral ministry at the national level. The EAs are responsible for several measures and tasks related to the environmental laws. Their main functions are to issue permissions for (listed) activities with environmental impacts, the implementation of environmental impact analyses, control of the quality of air and air pollution in their operational areas and making periodical reports to the sectoral ministry. The local EAs make annual plans for the actions to be implemented and make quarterly reports on their measures realised; also, they are responsible for forcing the industrial plants, agricultural establishments, public works and other polluting activities to meet environmental standards. They play a considerable role in the application of the acts on the protection of the quality of air, in the collection of waste management data of the municipalities and they are also responsible for the supervision of the individual waste management plans of the companies.

The NEA is a decentralised environmental institution also under the control of the ministry. Its main activities include the supervision of the keeping of the legal regulations of hunting, environment protection and forestry, and it also makes actions in case of offences. Its regional competency is the same as that of the EAs, it has representatives in all three regions and 16 counties. The main tasks of the representations in the field of environment protection are the control of activities with environmental impact, and taking legal actions against offenders in harmony with the environmental act. The operational areas of the local and regional EA-as and the NEG are adjusted to the NUTS 2 and NUTS 3 levels.

In *Serbia* it became possible in 2006 to establish the *Voivodina Autonomous Province Secretariat for Sustainable Development and the Environment*, independent of the Ministry of the Environment of Serbia but in close cooperation with that, with adequate financial means. The basic activities of the Secretariat include the regular monitoring of the environmental quality, the making of environmental programmes, the control of the quality of the environment, making of analysing studies and the creation of the inventory of sources of pollution. In Voivodina the environment and nature protection inspectorates are in the direct competency of the Secretariat. The operational area in the Voivodina region is more or less adjusted to the NUTS 3 levels (by the integration of two levels in two cases).

As regards the *Croatian* areas in the Carpathian Basin, the environmental authority and directorate tasks are undertaken by the inspectorates located at the level of the županijas. This is realised through two institutions: on the one hand, the county (*županija*) level inspectorates belonging to the chief inspectorate of the environment – the regional organ of the Ministry of the Environment, Spatial Planning and Construction – is responsible for the control of the keeping of the decrees on air quality management, waste management, sea water and sea coast protection, and also of the international agreements on the protection of the environment and for making sure that all activities are in accordance with the procedures of the inspectorates. The inspectorate carries out the analysis of detrimental effects on the environment, and coordinates the controlling and professional issues related to taking measures concerning the environmental impact analyses and intervention plans. Its field of competence also involves the issue of permissions for and the control of the use of waste deposits, the transport of hazardous waste and greenhouse gas emissions. The authority prepares draft acts, regulations and plans and makes sure that they are kept. It prepares information to be communicated to the public, replies to the questions by representatives and organises the information of the public.

The other level of the institutional system of environment protection in Croatia is the Environmental Authority of the County Self-Government, organised – as an organ of administrative tasks – on the basis of the Environmental Act and the Act on Local Governments. The Authority, in addition to the environmental activities, can be responsible for other activities such as communal management, spatial planning etc. The environmental departments made within the županijas can integrate other departments and activities connected to environment protection activities. The operational areas of the two institutions are the level of the županijas (NUTS 3).

In *Austria,* at the national level (and competency) the Federal Environmental Office (FEO) is the authority of environment protection, responsible for environmental supervision and the preparation of environmental control reports covering the whole territory of the country. At the level of provinces, the responsible organs are the Provincial Assembly, the Provincial Government and the Provincial Office. The provincial administration consists of nine divisions. Of these, Division 5 deals with nature and environment protection. Division 5 is further divided into departments and sub-departments. In Burgenland, a provincial environmental agency was created for the protection of the environment, led by the environmental delegate of the province. The act on the *Environmental Agency of Burgenland* (EAB) gives the following rights to the environmental agent: cooperation in certain administrative procedures, right of initiative for legal remedies, access to and forwarding of documents, access to private sites and establishments. The EAB makes professional statements about the recommended legal regulations of the province, if they have an environmental impact. In every second calendar year its prepares a public report and

submits it to the provincial assembly. The inhabitants of Burgenland can turn in environmental issues to the Environmental Agency for professional advice. In Burgenland there are 7 district offices. Their structure is not homogeneous; in some cases the protection of the environment and nature is done by a separate office department, in other cases jointly with other issues such as healthcare or veterinary sanitation. The district offices are authorised to issue different permissions, control the keeping of rules etc. The environmental municipal council has to assist the administration of the mayor in local environmental affairs. It has to continuously inform the mayor on the municipal requirements of local environment protection and make suitable recommendations for him/her. The municipal environmental councillor and the municipal environmental council are responsible for keeping the rules of environment protection, reporting on the topical issues of environment protection, the implementation of adequate measures and tasks related to publicity.

The Ministry of the Environment of *Ukraine* established the *Environmental Inspectorates* (EI) to control the keeping of environmental regulations. The joint task of the state Environmental Inspectorate and the other organs subordinate to the ministry is the control of environmentally harmful activities at national and regional level. Further tasks of the EI include the prevention of environmental emergencies and disasters and the provision of information for the ministry. The EI pays special attention to the prevention of offences against environmental regulations, interest representation activities, the promotion of environmental consciousness of businesses and inhabitants. The EI as an authority in the first degree can exercise supervisory activities and levy fines. In Transcarpathia, in environment protection it is the county self-governments that have administrative authority. The operational areas of both organs coincide with the NUTS 2 and NUTS 3 categories.

In *Slovenia* the environmental authority functions are exercised by the *Environmental Agency* (EA) and the ministry. The EA is also a directorate that does professional, analytical, regulatory and administrative tasks related to environment protection. The Agency deals with nature protection and the protection of the quality of water in an integrated way. It collects fees and levies fines. Unlike in other "basin countries", it is a single-centred authority, with operational area and competency covering the whole of the country.

On the whole, we can say that the ministries in each of the countries in our survey have set up the institutional frameworks endowed with authority and directorate responsibilities. We can also see, on the other hand, that these organs are rather heterogeneous as regards their operational areas; we can see types following the boundaries of water catchment areas and others following the administrative borders of NUTS units, in the development of which the competencies played a role too – like in Hungary where the competencies of environment protection, nature protection and water management are concentrated in one single authority.

The most hierarchically constructed and also the most fragmented type can be found in Austria, where responsible organs can be found at all territorial tiers. Directorate tasks are located at the municipal and district levels, while provincial and federal levels are assigned authority competencies. The breakdown of the institutional system of environment protection in Transcarpathia, Croatia and partly in the Voivodina region of Serbia resembles each other the most, where both directorate and authority tasks are located at the county level, through the county self-governments, on one hand, and the inspectorates with control functions, also located at the county level, on the other hand. The Slovakian type of the management system of environmental protection is different from the solutions of the other countries in the spatial competency of the inspectorate with authority tasks. The state administrative control organ hierarchically following the administrative breakdown of Slovakia has quasi-regional competency.

The *administrative* tasks of *environment protection* – with some transitions – are done by one responsible organ in each country. In the research area there are thus a total of 147 spatial units belonging to the authorities of 8 countries (*Figure 2*). The spatial heterogeneity is indicated by the fact that out of all these, 79 are Slovakian organs, due to that system's extreme fragmentation on the territorial level (it is true, on the other hand, that these district organs operate under 45 regional units, which makes the system seem slightly less fragmented[2]). In four countries (Ukraine, Romania, Serbia and Croatia) the county, or županija or municipal level is the lowest territorial unit (in the Voivodina region four županijas were integrated into two units). It is only the boundaries of the operational areas of the Hungarian Inspectorates for Environment, Nature and Water that represent a hybrid type (based on both water catchment areas and municipalities), the other countries usually follows the NUTS 3, in some cases NUTS 2 division.

Looking at the cooperation possibilities of these organs in the Carpathian Basin, a total of 37 institutions are adjacent to the organs along the borders of Hungary. This is more than a third (36%) of all institutions in almost half (45%) of the territory of the Carpathian Basin. If we add to this the inter-state and cross-border relations of the respective countries, we can see that more than half (63%) of these organs cover with their operational areas a total of 66% of the Carpathian Basin (*Figure 3*). We can state then that the single environment management of the Carpathian Basin depends to a large extent on the cooperations of these institutions.

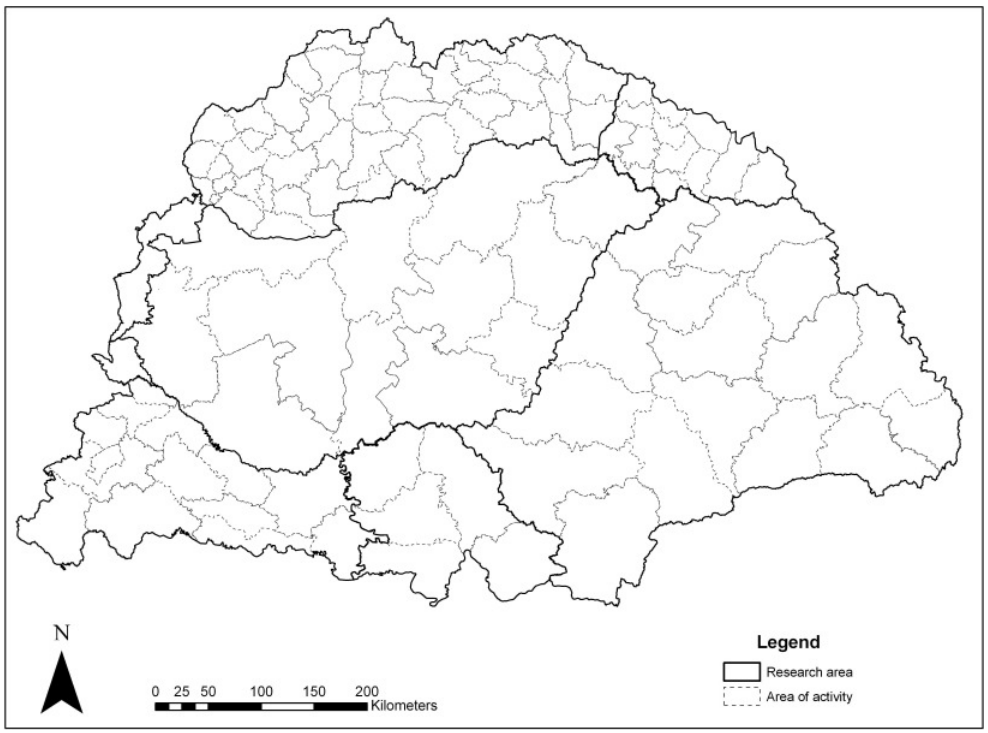
[2] The analysis of the institutional system was done in accordance with the regional levels.

3.1.3 The institutional system of water management

The administration and the authority tasks of water management in *Hungary* – similarly to the tasks of environment protection – belong to the competency of two organs. Administrative tasks are done by the *Environmental, Nature and Water Directorates (ENWD)*, with the cooperation of the *Inspectorates for Environment, Nature and Water (IENW)* as authorities in the first degree. The Directorate coordinates the preparation of water management concepts and plans concerning its operational area, or contributes to their making. It is responsible for the harmonisation of the development and operation of the public – national and municipal – and own water establishments. It participates in the research, education, training and knowledge dissemination activities related to water management. It keeps registers as required by law. The Inspectorate contributes to the implementation of international tasks, in case of 3rd level flood protection (i.e. the highest level of hazard) to the

Figure 2

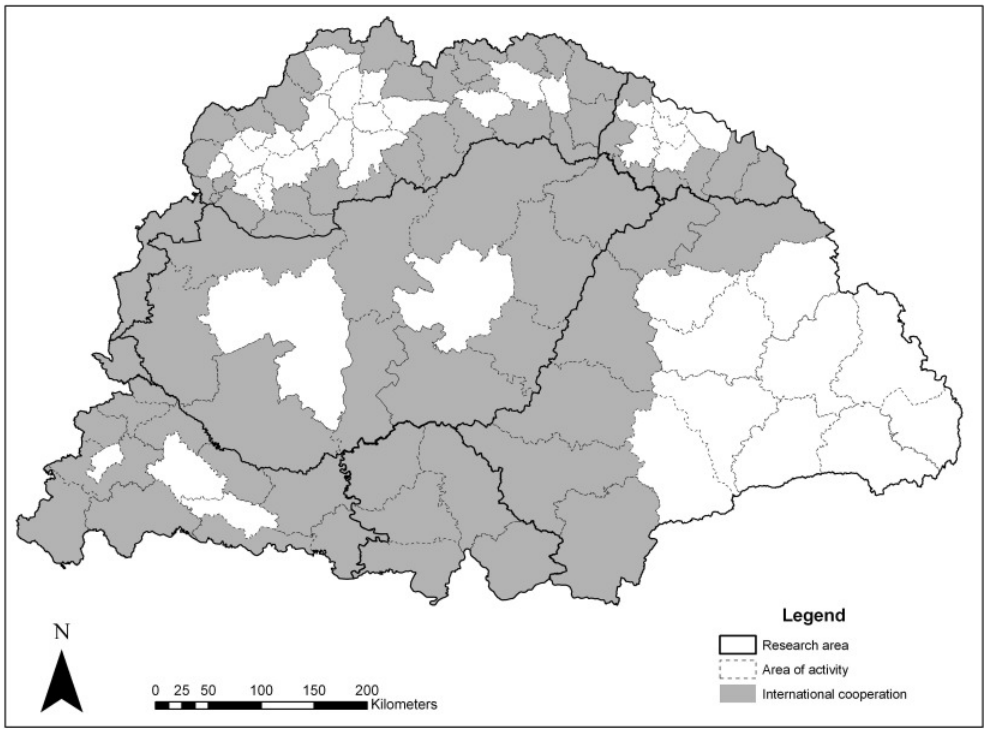
Operational areas of the environmental institutions (with administrative tasks) in the research area



Source: Authors' construction.

Figure 3

Relations system of the organs of environment protection



Source: Authors' construction

protection against flood and topsoil water, as well as water quality damage prevention defined in separate acts. Their operational areas are the same, more or less following water catchment area boundaries (see environment protection).

In *Slovakia* the *Hydrological and Meteorological Institute of Slovakia (SHMÚ)* is responsible for the assessment of the quantity and quality of the water assets, on the basis of data available. In its field of competency following the boundaries of water catchment areas it contributes to the making of water management planning documents, the control of the quality of surface and subsoil waters and the monitoring of water consumption. They cooperate with the water management organisations of the countries along the border.

In *Romania* the *"Romanian Waters" National Directorate (RWNI)* operates in the form of Public Limited Company, with 100% ownership of the state (Ministry of the Environment). The company does the administration of its affiliates in the 11 water catchment areas and the local offices. The company is responsible for administrative tasks in the water catchment areas, flood prevention and the preparation

of plans against drought, makes agreements with the holders of permissions issued by the Agencies – i.e. with the users of water – makes sure that the agreements are kept; supervises the permissions and collects fines. In addition to these tasks, it operates a hydrology and water quality information monitoring network, handles water management works and takes care of the operation of water management establishments, reservoirs and canals. The local authorities are responsible for tap water supply and the treatment of sewage, and the Environmental Agencies are also interested in waste management issues. Besides these organisations, the Ministry of Health and Family Affairs has competencies in the control of the quality of drinking water, while the Ministry of Labour and the Ministry of Transport and Constructions are competent in water transport and related activities.

In *Serbia* – including the Autonomous Area of Voivodina – regional water management tasks are the responsibility of the *"Vode Vojvodine" Water Management Company*. The basic activity of the company is the utilisation of water (supply of the inhabitants with water, irrigation and waters for industry technologies, provision of water transport, fishing, holidays and tourism), but its activities also include flood prevention, the discovery of the sources of pollution, the equipment of sewage treatment plants, the prevention of topsoil water and ice damage, topsoil water drainage and measures against the slowing down of the stream of the rivers caused by the "Iron Gate" hydroelectric plant. This is all relevant for the surface and subsoil waters alike, including the provision of drinking water and the utilisation of thermal and mineral waters. Tasks are realised through the Chief Directorate of water quality protection within the frameworks of the Ministry of Agriculture, Forestry and Water Management (MAFW). The water management supervision in Voivodina is provided by the water management inspectorate. On the other hand, the Secretary of agriculture, water management and forestry of Voivodina has no tasks related to the quality of water.

In *Croatia*, water management and supervision is the responsibly of the water management public company called "Waters of Croatia". The most important tasks of the company are protection against the damages of water, the control of the use of water and the protection of water quality.

The water management, water protection and control tasks in *Austria (or Burgenland)* are done in a system the same as that of the administrative system of environment protection, i.e. the authority tasks are done at federal and provincial level, while the district and local level is responsible for administrative functions.

We have very little data on the water management in *Transcarpathia, Ukraine*. Nevertheless, we can say that system of directorates and authorities concerning the water quality and water management issues of Transcarpathia is managed in the Transcarpathian region under the supervision of the ministry, through its county level representatives.

In *Slovenia*, the Environmental Agency operating under the ministry is responsible for the tasks of water management and water quality protection. It participates in administrative procedures, handles water infrastructure establishments and equipment, and furthermore it deals with flood prevention and the legal regulation of water management (MEPP, 1988).

On the whole, water management policy and its implementation in the framework of the institutional systems are done in each country in a spatial structure following the boundaries of water catchment areas. As regards the research area, Transcarpathia, Voivodina, the Mura Region and Burgenland can be taken as single water management units, while we can differentiate four areas of competency adapted to water catchment areas in Slovakia, five in Romania, twenty (!) in Croatia and 12 in Hungary. The *administrative system of water management* of the research area is relatively homogeneous. With the exception of Burgenland and Voivodina, all regions have water management directorates established on the water catchment area principle. A total of eight authorities with 41 organisational units carry out the administration of water management in the Carpathian Basin. In harmony with the Water Framework Directive (WAFDIP, 2005), in case of international water catchment areas the countries concerned have to find joint solutions for the coordination of water management issues. For the national and international water catchment area units, one single catchment area management plan has to be made, besides the member states with area in the international water catchment area have to do their best to cooperate with the non-member states in the making of the joint water catchment area management plans. Almost three-quarters (73%) of the territory of the Carpathian Basin is made by territories in trans-border water catchment areas (*Figure 4*).

In light of this, we looked at the relations system of the state institutions responsible for water management in the Carpathian Basin, on the basis of water catchment areas. We found that only four Croatian water management affiliates have no relation to the neighbour country through a joint water catchment area, there are four Hungarian organs, one in Slovakia and one in Romania that have bilateral relations to each other, all other water management institutions have to cooperate with at least two organs of similar functions in other countries (*Figure 5*). The analysis of this relations system definitely underlines the necessity of the cooperation of the countries in the Carpathian Basin in water management issues.

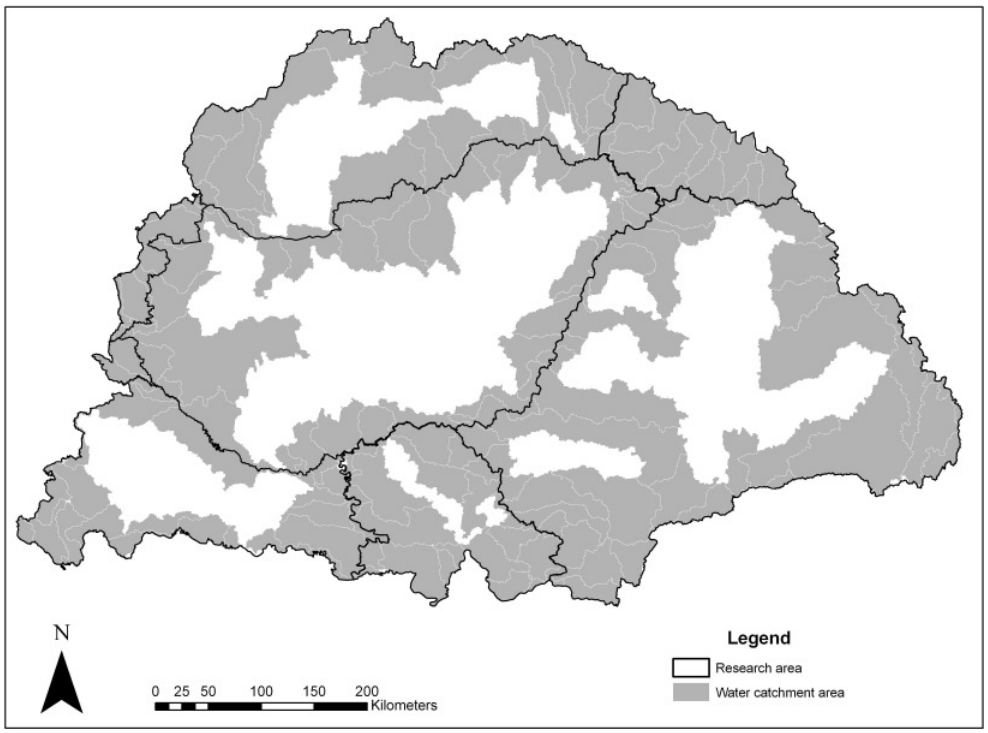
3.1.4 The institutional system of nature protection

Among the institutional systems of the surveyed “basin countries”, the national level management and organisation of the nature protection tasks is the most heterogeneous in character. It is only Slovakia, Slovenia and Hungary where we can talk about an institutional system of nature protection covering with their area of

competency the total territory of the respective countries (*Figure 6*). In Slovakia there are 11 organs, in Slovenia 7 and in Hungary 10 that are responsible for the administrative tasks of nature protection (*Nature Protection Authority of Slovakia; Nature Protection Institute of Slovenia; Hungarian National Park Directorate)*. The national park directorates only carry out non-state authority activities and the related property management and maintenance tasks (accordingly they are still responsible for the regional tasks of nature and landscape protection, they prepare the protected status award of areas and landscapes worth protecting and preserve the protected natural areas and protected natural values). The institutes in Slovakia and Slovenia are authorised to issue permissions, do control activities, collect data and make analyses on the state of the environment. They supervise the interventions into the operation of the environment, they are responsible for the maintenance of the ecological stability and the protection of the biological diversity. In accordance with the European regulations they stop the trade of protected species.

Figure 4

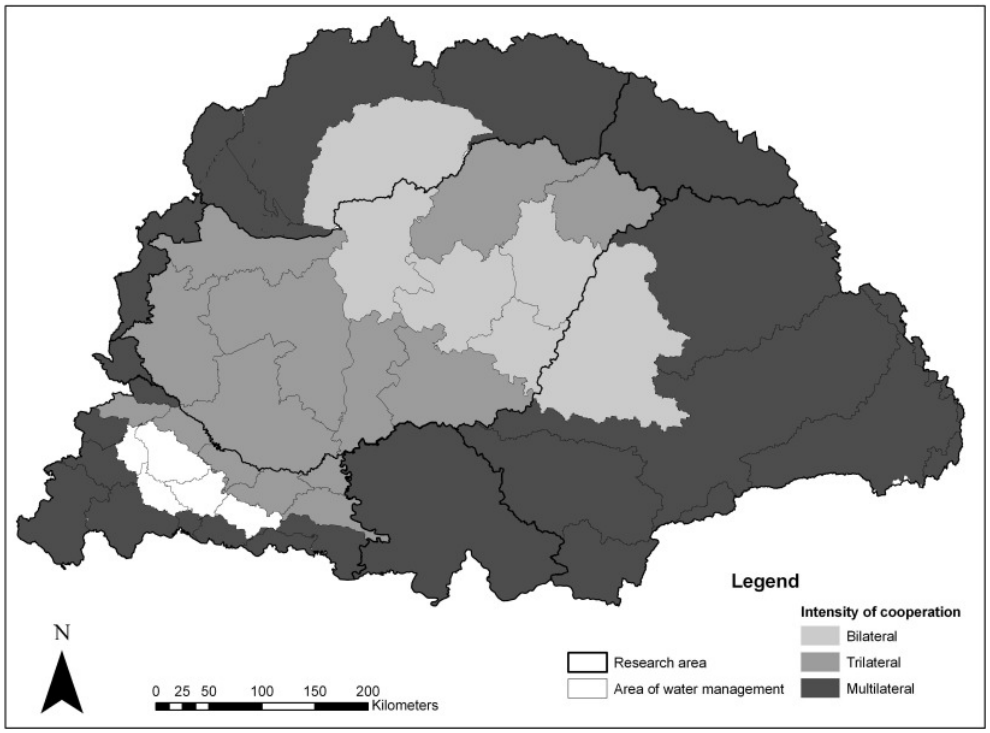
Trans-border water catchment areas



Source: Authors' construction.

Figure 5

Cooperation of water management organs

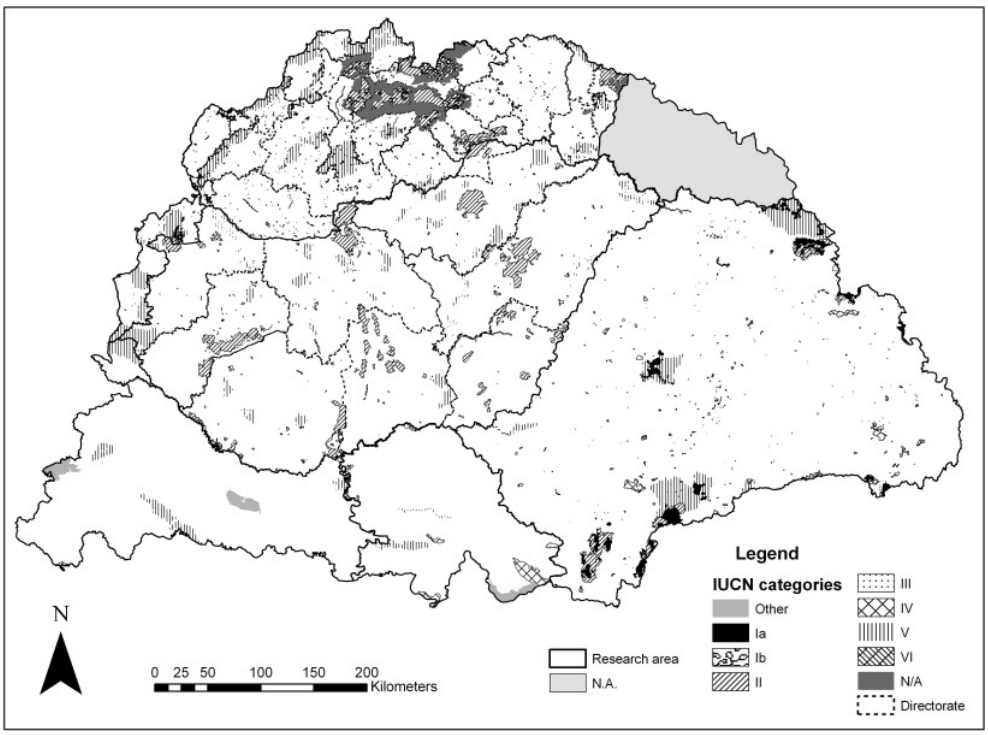


Source: Authors' construction.

In the other surveyed states, the organisational structure is more diverse. The management of the nature protection areas of *Romania* is the responsibility of the Ministry of the Environment of Romania. In addition, the ministry has contractual relations to most national parks and nature parks. The national parks and protected areas are subordinate to the Forestry Authority (ROMSILVA), which is a source of conflicts of interests as forestry is an economic activity that is partly pursued in protected areas. The Danube Delta Biosphere Reserve is under the direct control of the Ministry. Protected areas that do not belong to the areas of competency of national parks and nature parks are handled by natural persons, non-governmental organisations and foundations. The infrastructure of no more than four national parks are provided with substantial financial support and only three protected areas have physical plans approved by the Ministry of the Environment. In *Serbia and Croatia* the activities of the competent ministries involve the regulation of the preservation of protected natural values, the public utility companies managing the protected areas, biodiversity and landscape diversity, the organisation and control of the

Figure 6

Nature protection areas and the areas of competency of the directorates



IUCN Protected Area Management Categories: CATEGORY Ia – Strict Nature Reserve: protected area managed mainly for science; CATEGORY Ib – Wilderness Area: protected area managed mainly for wilderness protection; CATEGORY II – National Park: protected area managed mainly for ecosystem protection and recreation; CATEGORY III – Natural Monument: protected area managed mainly for conservation of specific natural features; CATEGORY IV – Habitat/Species Management Area: protected area managed mainly for conservation through management intervention; CATEGORY V – Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation; CATEGORY VI – Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems.

Source: Authors' construction.

nature protection inspectorates and the maintenance and operation of the ecological networks.

Of all institutional systems in our survey, that of the *administration of nature protection* is the most heterogeneous. With the exception of the three countries mentioned (Hungary, Slovenia and Slovakia), not one state has created an institutional system covering the total territory of their country. Also taking the heterogeneity of the nature protection categories into consideration, in the single nature protection administration of the Carpathian Basin this seems to be the most problematic area that requires further researches.

3.2 Environmental policy and international relations

The countries of the Carpathian Basin – with the exception of Austria – consist of four new EU member states (Hungary, Romania, Slovakia and Slovenia) and three accession countries (Croatia, Serbia and Ukraine). This makes it necessary to look at certain framework conditions of the accession process, as this was the basis of the shaping environmental policy of the by now uniform post-socialist "basin countries". It is inescapable, on the other hand, to examine the cooperations among the "basin countries" themselves in the protection of environmental resources and natural values (REC-CEE, 1996). The quality of the environment of certain areas has significance beyond the administrative and state borders; in many cases some objectives (road network, quality of air and water etc.) can only be realised by cooperation and effective collaboration. The socio-economic and political possesses of the different administrative systems, and accordingly the diverse conditions of the environments, have an effect on each other.

The highest level of cooperation is the international agreements among several states. The national development plans are basically determined by these cooperations.

At around the turn of the millennium, parallel to the obligation to meet the EU directives, the (environmental) cooperations of the member states among each other were deepened, and this process was manifested in the birth of different inter-state agreements, with concrete ideas about the priorities aiming at the improvement of the state of the environment in the respective states. Hungary made such agreements with all the respective states, except for Serbia and Montenegro, and Slovenia.

The next level of cooperation is relationships through Euroregions and the implementation of their development objectives of macro-regional view. This process unfurled in the EU-supported bottom-up (cross-border or interregional) cooperations. At lower horizontal levels of cooperation, we can see institutional collaborations that can be both cooperations within the same nation state and also inter- or multinational

institutional cooperations. Examples for this are the targeted cooperations of environmental inspectorates, directorates, municipalities or non-governmental organisations, and the integrated realisation of such cooperations at higher levels, among other things the level of Euroregions.

Of course not one of the cooperations can be examined in themselves. It is becoming more and more obvious that the border counties and municipalities must inevitably integrate in their development ideas the cooperation possibilities with the neighbour states (all regions of Hungary are adjacent to a neighbour state). No flood prevention development is possible, for example, without the examination of all reaches of the respective river, and in the Carpathian Basin this necessitates the cooperation of several countries. This means that it is not only institutional cooperation (of environmental directorates and research and development firms) that is necessary but also the harmonisation of the planning processes at different levels.

In case of non-harmonised developments, several problems can arise: an example for this was the construction of a hydroelectric plant on the Drava River, initiated by Croatia, which would have been implemented to the detriment of Hungarian environmental efforts.

3.2.1 Environmental conditions of EU accession

In 1998, the European Commission outlined the environmental strategy of the accession. This contained those preliminary conditions by the meeting of which the Central and East European countries could become members of the EU.

The aim was to prove the preparedness of the respective countries for accession. The primary objective is to assist the accession countries to adjust their national programmes to European laws. In order to achieve this, the European Commission worked out its strategy called *Agenda 2000*. With the use of this, the accession countries had to define their national strategies and had to start the implementation of the objectives in these strategies already before accession. The strategies had to include the main action fields, the topics that would be implemented by the time of the EU accession and those that could only be realised later. This meant a planned process and the necessity of making a schedule.

The Commission also helped the respective accession countries to work out their own programmes for the adaptation of European laws: it defined those areas – such as air pollution, water pollution, and waste management – the detailed analysis of which is a good indication of the situation in the given country. When defining the above fields, the starting point of the Commission was that it felt probable that the most serious problems in the accession countries were connected to these fields. The situation was exacerbated by the fact that while the accession countries had to establish the protection of the environment with legal and organisational arrangements,

parallel to this they had to promote the development of the market economy. In order to help to solve this problem, the Commission published in 1997 a guideline for the promotion of the legal regulation of environment protection, in which the main cornerstones were also defined.

In order to meet the environmental regulations, the accession countries had to rely on their own resources as well. For this purpose, both the Community and the respective member states provided support through bilateral relations. This was assisted by the PHARE programme and other financial support for the protection of the environment. Prior to the accession, after 2000, support serving environment protection was increased in the framework of ISPA, concentrating on the relationship between nature and transport.

3.2.2 International relations

The cross-border effects of environment, nature and water quality protection mean an extremely important task for environment protection in the Carpathian Basin. During the implementation of these projects the small links of environmental cooperations are created.

In 2000, on the initiative of the minister of the environment of Slovakia, the ministers of the Visegrád Group (Czech Republic, Hungary, Poland and Slovakia) had a meeting. In 2003 they held two sessions. The ministers of the environment mostly discussed the joint tasks to be done after the accession. They agreed on further joint cooperation.

Within the framework of *Hungarian–Slovakian* relations, on 19 March 1995, the two governments signed a basic treaty in Paris. A part of this document was the development of relations in environment protection and nature protection. In order to realise this, a considerable step forward was the signing of the agreement on the cooperation in environment protection and nature protection in Bratislava on 12 February 1999. The agreement entered into force on 27 May 1999. For the coordination of the implementation of the agreement, the Hungarian–Slovak Joint Cooperation Committee of Environment- and Nature Protection was set up, whose first meeting was held in Budapest on 31 May 1999. The work of the joint committee is managed by co-presidents. In the joint committee and its task forces, in addition to the ministries of the environment, other ministries interested in the activities are represented from both sides. On the Hungarian side it is the Prime Minister's Office, the ministries of education, economy and transport, healthcare, social and family affairs, the national public sanitation centre and the directorate general of disaster prevention in the ministry of interior.

In the framework of the joint committee, nine task forces and a professional consultancy forum operate.

An especially great level of activity can presently be seen between *Hungary and Serbia* as a requirement of the development programme, for the integrated protection and utilisation of the border zone. On the Serbian side, we have to mention – due to its special endowments – the sandy area around Subotica in the north Bačka region, and two special natural reserves, the Puszta ("Waste Land") of Selevenj and the Ludaš Lake. These regions, in the water catchment area of the Körös River, make an organic unit together with the neighbouring Hungarian areas. Cooperation between the provincial institutions and the National Park of Kiskunság in Hungary has been continuous for decades. The aim of this cooperation is the protection of the natural values in an ecologically single area divided only by a state border. The development and protection programme and joint actions and management are also considerable in the careful use of the Tisza and Danube River, including the preservation of the sensitive ecosystems of the steppe and saline and sodic soils and the protection of the rare species such as the great bustard (*Otis tarda*) and the Eurasian crane (*Grus grus*).

The cooperation between the *Autonomous Province of Voivodina* (APV) and *Romania* in the field of environment protection came into force in March 2001 in Szeged, within the framework of the Danube–Körös–Maros–Tisza Euroregion (with the participation of four counties from Hungary, four counties from Romania and the APV) (*Nagy,* 2003). It is especially important to draw the attention to the vulnerability of two water systems: the issues of the management of the Bega Canal and the Bega-Timiş. Long term cooperation, according to the agreement, will include the regulation of the river system, following the example of the Zlatica pilot project. The objective is the award of protected status to these areas (Vršac [Versec] hills regional park and the Carpathians). Cooperation is also possible for the protection of the wetlands around the mouth of the Nera River; this area would be a protected Ramsaar area. In the border region of North Banat, there is a habitat of the great bustard (*Otis Tarda*), so this region must be awarded a special natural reserve status.

The objective of the cooperation of *Serbia with the Republic of Croatia* is to come to an agreement in order to establish a joint system of environment protection, with special regard to the natural heritage and the richness of biodiversity. An especially intensive cooperation is developing in the international Sava Committee; this will make the backbone of the cooperations in the coming years, and will also serve as the basis of the operation of the ICPDR (International Commission for the Protection of the Danube River) around the Danube River (*Nagy*, 2008).

The joint water management cooperation committee consisting of the delegates of *Hungary and Croatia* deals with the water management and water quality protection issues of the Danube, Drava and Mura Rivers. Besides this committee, in the framework of the Croatian–Hungarian–Serbian trilateral agreement, the

issues of flood protection and ice drift along the two banks of the Danube River are regulated.

In addition to this agreement, the convention on the sustainable use and the protection of the Danube River, and the convention on the protection of the cross-border rivers and international lakes also serve the cooperation with the neighbour states in the fields of water management and water quality protection.

The countries in the water catchment area of the Sava River have signed a framework treaty of cooperation, the objective of which is the creation of the conditions for river navigation on the suitable reaches of the Sava and the promotion to the birth of water management cooperation among Slovenia, Croatia, Serbia and Bosnia and Herzegovina. The most important tasks coming from the framework treaty are the preparation of the water management plan of the catchment area of the Sava River, and the organisation of the tasks of flood protection and anti-disaster measures.

Within the framework of the Hungary–Croatia Small Project Fund, the hydrological, hydraulic, water quality and ecological parameters of the Drava River are monitored, and monitoring stations are planned whose integration into the existing system will allow the gathering of continuous information on the water management and ecological conditions of the river, contributing on both the Hungarian and the Croatian bank of the Drava River to effective environment and nature protection as well as meeting the normatives of the European Union. The cooperating partner of the South Transdanubian Environmental Inspectorate is the Croatian Waters Water Management Company as the national water management organisation of the respective areas of Croatia. This organisation actively cooperated in both the definition of the content of the project and the making of the study (designation of the location of the monitoring objects).

In the framework of the Neighbourhood Programme realised with the use of EU assistance in 2004–2006 by the cooperation of Hungary, Slovenia and Croatia, several cross-border environmental actions were implemented that made progress in the protection of the environment and the water quality by the solution of problems concerning the triple border region (*Belanka – Nagy,* 2007).

In the 2007–2013 planning period, in the framework of the IPA programme, Croatia is eligible for support for participation aiming at the development of border regions with both Serbia (West Bačka, South Bačka and Srem districts) and with Hungary. These programmes have environmental priorities as well.

The legal foundations of the *Hungarian–Romanian* environment and nature protection cooperation is the document called "Agreement of the Government of the Republic of Hungary and the Government of Romania on cooperation in the field of the protection of the environment", which was signed in Bucharest on 26 May 1997 and came into effect on 14 December 2000. Since the 2003 establishment of the Hungarian–Romanian Joint Committee of environment protection, managing the

implementation of the objectives set in the Agreement, a total of seven meetings have been held – one every year – the last meeting took place in Budapest September 2009.

Three expert groups have been set up for the implementation of the tasks specified in the Agreement (for Nature Protection; Environment Protection; and International Projects and Programmes). The first two groups have been operating continuously since 2004, while the third held its first formal meeting in Budapest in March 2007. Beyond these organisations, for the examination of activities with a potential environmental impact an ad hoc expert group was set up in 2005, with the participation of the state secretaries responsible for environmental affairs within the ministries.

Hungarian-Romanian cooperation in the issue of cross-border rivers has several decades of experience. The first agreement was made in 1970. The new agreement presently in effect, called "Agreement of the Government of the Republic of Hungary and the Government of Romania on the cooperation to be carried out for the protection and sustainable use of the cross-border rivers" was signed in Budapest on 15 September 2003, and came into effect on 17 May 2004. This new agreement is compatible with the relevant international agreements and also in harmony with the Water Framework Directive of the EU (2000/60 EC). The implementation of the tasks defined in the agreement is coordinated by the Hungarian-Romanian Water Management Committee, operating with the leadership of the delegates from the governments of the two countries.

A framework for these versatile cooperations is provided by the joint meetings of the governments of Hungary and Romania that have been held annually since 2005. On these meetings the decisions reinforcing the cooperation in environment protection and water management are made among other things.

Ukrainian–Hungarian cooperation in environment protection mostly concerned the solution of hydrological, ecological and landscape protection issues in the reaches of the Tisza River in the triple border area and its floodland. In the framework of Phare CBC, a number of bi- and trilateral environmental policy and flood prevention developments have been supported, whose objectives were the modernisation of protection against topsoil water, as well as sustainable water management and water tourism. Interreg IIIA funding was available for the preparation of the development models of sustainable tourism, Hungarian-Ukrainian complex flood prevention, water management and floodland revitalisation plans (water catchment areas of the Borzsa and Bereg Rivers), for the removal of waste and restoration of damages in the floodlands and flood plains along the Hungarian–Ukrainian reaches of the Upper Tisza River. A joint Ukrainian–Hungarian strategy has also been worked out for the sustainable management of the water assets in the Szatmár-Bereg region.

3.2.3 Common management of the environmental problems in the Carpathian Basin

In the spatial structure of the Carpathian Basin that is divided by state borders but single in a physical geographical sense, the single cross-border management of environmental problems is of special importance. The institutional and financial frameworks most suitable for the creation of the single attitude, the joint conceptualisation, planning, implementation and monitoring actions, the complex management of the problems are the cross-border programmes realised with the co-financing of the European Union – primarily due to the lack of national regulations and the missing harmonisation of the institutional system. As the makers of the actual programmes have always done their best to harmonise the content of the calls for tenders and the actual needs and requirements of the tenderers (the success of this effort is well indicated by the fact that the demand for support exceeds several times the amount of the available support framework), the spatial structures of the actions eligible for support within the programmes are not fully compatible with each other, because of the extremely heterogeneous development path and level of development of the respective border sections, their altering spatial structures and different future challenges. However, even with such heterogeneous programme content, environment and nature protection as well as flood protection have been announced as areas eligible for selected support in all border regions.

In the beginning, after the accession of Austria to the European Union in 1995, the Hungarian-Austrian border region was the first where the initial steps of cooperation could be learnt and experience concerning the implementation of cross-border gained, through the Phare CBC programmes.

This border section has always been the flagship of cooperation, the implementation field of innovative developments of decisive importance in environment protection. The pioneer elements gradually spread in the border regions and were integrated into the programmes of other border areas as well. The breakthrough was brought by the year 2002, when a separate support fund was opened for the development of cross-border environmental infrastructure networks.

A special support fund was available from 2002 for the development of the cross-border environmental infrastructure network. The programmes of the previous years also contained projects with large budgets (e.g. for the implementation of regional waste deposits or biomass fuelled power stations), but its was the programme of 2002 that first allowed in the framework of a separate fund the development of resource management, technical infrastructure and the renewable energy supply in the border region – primarily by the utilisation of the examples and know-how from Austria. The total amount of support in the programme was € 6 million, and among the 13 projects implemented there are large-scale developments such as the expansion of the capacity of a regional sewage treatment plant, the implemen-

tation of wind and biomass fuelled power stations, canalisation and sewage treatment network and the implementation of training programmes. In the same year a separate fund was set up in the Hungarian–Slovakian relation for the support of local initiatives in environment and nature protection, but with a much more limited amount of support (€ 2.4 million) available.

The project owners, following the accession of Hungary to the European Union could utilise their experiences, gathered in the Phare programmes, within the framework of the Interreg Community Initiative (in Hungary, Slovakia, Slovenia and above all in Austria). Both the Phare CBC and the Interreg programmes, coming from their basic objectives, required and still require a change of attitude, a shift in thinking and partnership cooperation of the project owners during the whole life cycle of the projects. The joint actions gave a framework to formerly existing relations on the one hand, and they assisted the further development of project concepts already financed by the CBC or the Small Project Fund on the other hand. Third, there were brand new cooperations, when the partners got to know each other and each other's organisations during the planning phase, and they jointly formulated the project logic chain. The relations of different length of traditions have cross-border impacts of different quality, but in the evaluation of the projects not only those were supported – fortunately enough – that were meant to further develop a previous relation; this way the opportunity was provided for the expansion of the range of institutions and organisations that wished to join in the cooperation. The cross-border impact of the implemented projects and the quality of the partnerships made are hard to judge as yet, as we only found information on the actual relations networks in the follow-up phase.

Looking at the programmes, we can make a general conclusion that the management of environmental, flood and natural problems classically ignoring state borders was given a special emphasis during the implementation of the programmes – especially in the programmes realised in relation of Hungary and the respective neighbour states. In the 2004–2006 period, for example, we could witness the following proportions in the breakdown of support distributed in the programmes with the participation of Hungary:

- In the Hungary–Slovakia–Ukraine programme, of the 4.89 billion HUF available (which is 25% of the total support framework), 31.5% of the support amount was used for the financing of the cross-border coordination of environmental policies and the connected small-scale investments, and 13.75% for the financing of cross-border cooperation in environment protection.
- In the Hungary–Romania–Serbia cross-border cooperation programme, where the total available support amounted to 9.71 billion HUF (making 41% of the total support framework), 59.8% of the support amount was paid for the financing of the handling of joint challenges in the fields of environment protection and flood prevention.

- For the Hungary-Slovenia-Croatia neighbourhood programme, there was 3.6 billion HUF available (making 19% of the total of the support framework), of which 29.96% was used for the financing of the sustainable use of environmental resources and environment protection, and another 8.12% for the financing of nature protection.
- In the Hungary-Austria community initiative programme, of the 3.2 billion HUF available (which was 15% of the total of the support framework), 19.73% was paid for the financing of sustainable development and environmental developments.

The above data reinforce the promising tendency for the future, i.e. that the management of the interventions formerly done at the national level will more and more shift to the interregional level, largely increasing the efficiency, problem solving capacity and sustainability of the interventions. The legislators have recognised the need for cooperation instead of ad hoc palliative treatments and the re-emergence of "treated" problems. Of course, there are still many things to be done in this field (too), but the transformation of the development policy in this direction greatly contributes to the establishment of the joint coordination of long-term problems and the setting up of joint institutional and financial frameworks.

Because of the altering endowments, each of the programmes has unique characteristics, but common results and conclusions can also be found in their operation in the past 10-15 years. Looking at the circle of applicants, we can see that the cooperations among municipal governments and the regionally competent organs of environment and water management directorates are of special importance in this border region, in addition to the circle of those eligible for support, project managers can be non-governmental organisations (associations and foundations), the directorates of national parks, micro-regional associations, and higher education institutions. When creating the partnerships, the legal status of the project owners is of decisive importance. In practice, it is typical that institutions with experiences in similar sectors, having a similar staff of experts and facing the same problems make partnerships within the respective projects. Accordingly, municipalities associate with municipalities, professional organisations with other professional organisations, higher education institutions with higher education institutions, and non-governmental organisations with non-governmental organisations in order to realise the desired objectives. An exception from this rule was when the beneficiaries associated within the same country. The Hungarian-Austrian relation was different in this respect; here the legal status of the project owners was not so important when selecting a cross-border partner. Accordingly, we can see partnerships between municipalities and the local representatives of government organs; between a chamber and a non-governmental organisation; between a directorate of environment and water management and a municipality, or among economic companies (mainly engineering firms).

Among the applicants from Hungary, Croatia and Slovenia, municipalities have an outstanding role, besides them – in line with the other programmes – it is business development foundations, national park directorates, public and private non-for-profit organisations, higher education institutions and environmental and water management directorates that establish project relations.

The contents of the projects are rather heterogeneous, which can be traced back to the variety of problems and endowments. In the Hungarian, Slovakian and Ukrainian relations most projects aimed at the working out of impact analyses, development plans, action plans, concepts, feasibility studies and environmental programmes in the fields of flood protection, renewable energies, the protection of subsoil waters and water management. Other projects included the shooting of a documentary film on the values and characteristics of the common physical geographical units; documentation of the construction of flood storage reservoirs; and a series of publications and programmes featuring the natural values. However, the number of cooperations with actual physical implementation is low, the reason for which is the long time needed for the preparation of the investments of this type on the one hand, and the limited availability of financial resources compared to the amount of investment costs on the other hand. Constructions were implemented along the Ipoly River: these were fish passes besides dams, wells for monitoring subsoil water quality and an ecological technology theme park and educational centre.

In the Hungarian, Romanian and Serbian relation, the partnerships created and the projects implemented by the water management directorates played an especially important role. Already in the framework of the Phare CBC programme, a large-scale Körös Valley flood prevention development project was implemented, and this was followed by an increased volume and number of joint actions implemented in the field of water management and flood prevention. Eighty-two percent of the cooperations concerned our research area, while 58% of the project owners were from this area. The significance of this programme is indicated by the fact that more than half of the support framework of the programme was used for this purpose.

In the *Croatian, Slovenian* and *Hungarian* relation attitude formation, issuing information leaflets and nature and environmental films, series of presentations and organisation of education camps have an outstanding role. A large number of large-scale investments were realised, including, in addition to health investments, the extension of the drinking water supply also serving tourism and competitiveness purposes, the construction of flood storage reservoirs, procurement of equipment for the treatment of construction waste, regeneration of living habitats and regeneration of wetlands. Coming from the budget and the local significance of the project, we should also selectively mention the preparation of the construction of a local biomass fuelled power station, whose planning documentation has been recently completed.

In this relation of these three countries, the Drava River was of special importance for the whole programme, coming from the river's natural, economic, transport and tourism significance.

In the *Hungarian, Austrian* and *Slovenian* relation, it was mainly nature protection, the use of renewable sources of energy and waste and sewage treatment where joint developments were prepared or implemented.

Along those borders and among those member states of the Carpathian Basin that are not members of the European Union yet, only a minimum level of cooperation can be seen at the moment in the field of environment protection and flood prevention. On the one hand, they are eligible for limited resources in the co-financed programmes for the implementation of joint developments; on the other hand, there is still a tremendous amount of work to do in changing the attitudes and consciousness concerning environment and nature protection. Of course the situation is not homogeneous across the different border sections, but in all cases it is far from the necessary and desirable level.

The intensity of *institutional cooperation* should be enhanced at the Ukrainian-Romanian, the Romanian–Serbian and the Serbian–Croatian border. In the relation of Serbia and Romania for example, the most significant impact was made by the working out of the "Regional ecology action plan" covering the areas of the historical Banat region, a project of not more than € 95.000 budget.

In general we can say that Hungary plays a kind of generating role for institutional cooperations in the field of environment protection and flood prevention, coming from its geographical features and historical traditions. The joint efforts along the so-called "inner ring" are much more intensive and durable than the tendencies experienced at the so-called "outer ring".

On the outer ring, the number and quality of joint actions mainly depends on the volume of resources available for the given programme, the traditions of cooperation, of handling problems together, and the scale of the willingness to "break down" the barriers that lasted for decades. It is not surprising then that a much broader range of projects is implemented on the western edge of the Carpathian Basin, while moving eastwards the intensity of relations is decreasing.

Austria and Slovenia – as the two most advanced states of the Basin – gave a selected priority in their jointly implemented programmes to the joint management of environmental challenges; accordingly the supported activities are quite varied in nature. The project implemented included, among other things, attitude forming in the framework of cooperation among national parks, calling attention to natural values and to local tourism and agricultural products, the creation of local opportunities of sustainable sylviculture by the provision of water sources, or the assessment of the geothermal potential of the border region. In a physical geographical sense the Carpathian Basin also reaches to the Mura Project implemented by the Ministry of Spatial Development and Environment and the

Provincial Water Management Association in Slovenia. This project concerned large areas of environment protection.

As regards the cooperating organisations, the respective projects included cooperation between provincial government offices and regional development agencies, higher education institutions and research institutes, museum and nature protection societies, directorates of national parks, and tourism associations.

The Austrian-Slovakian relations are also quite active, but as we will see, they are not as diverse as the Austrian-Slovenian cooperation. Among the implemented projects, we find for example actions aiming at the harmonisation of cooperations between adjacent national parks on the two sides of the border, focusing on the development of joint infrastructure and supply of programmes. Also, actions were made for the working out of cross-border know-how for handling the shortage of and imbalances in precipitation seriously impacting agricultural production, in the cooperation of a background institution of the Austrian government and the Ministry of Agriculture of Slovakia. In the collaboration of the City of Bratislava and the Regional Management of Upper Austria, a series of action concentrating on the sustainable cooperation of city relations (between Vienna and Bratislava) was implemented, besides working out the feasibility study of a biosphere reserve. The direction of cooperations is oriented to a large extent by the relations of the two capital cities, their demand for and use of space and the Danube River as a dominant element of the space from natural, transport, tourism and aesthetic aspects.

The amount available for the Ukrainian party in the Slovakian–Ukrainian cooperation was curtailed by the decision made by the Kiev Delegation of the European Commission in which they rejected the call for tenders for the second round of the Hungarian–Ukrainian–Slovakian trilateral neighbourhood programme. Accordingly, the Ukrainian organisations were not entitled to submit applications for joint projects and they were only allowed to participate as (non-supported) partners in the mirror and auxiliary projects submitted by Hungarian or Slovakian tenderers. As a consequence of this decision, cooperations between the Slovakian and the Ukrainian party were restricted to a few projects only, so this is the border section after the Croatian–Serbian border area where the most serious deficiencies can be seen in the field of joint problem management. Cooperations usually took place with the "mediation" of some Hungarian partner. Among the environmental projects, the most important were the plans and studies for the use and sustainable development of the Tisza River as an ecological corridor, and the elaboration of joint steps and actions for the prevention and management of floods. Furthermore, a joint feasibility study for the complex management of biomass was made in the triple border area, done in the collaboration of administrative units (county self-government), a development agency and an educational non-governmental organisation. In the framework of strengthening the cross-border initiative for the use of the renewable energy gained from biomass, joint actions were made for the improvement of cross-

border nature and environment protection cooperations, and the reinforcement of the sustainable cross-border management and regulation concerning renewable energies. It is import to emphasise in general and to mention also in the framework of this project that a great emphasis was laid by the partners on the increase of the environment consciousness of the public opinion. The making of the study allowed the creation of a basis of utmost importance for the implementation of new investments in the region. Also in triple partnership, a river management concept for the Slovak–Hungarian–Ukrainian border rivers was made, together with the evaluation of the establishment and sustainability of a 4th class inland waterway and the assessment ands harmonisation of the development needs of settlements along the Tisza River. Also, a joint strategy was worked out for the Uzh, Latorica and Bug rivers for the monitoring of water quality, the prevention of pollutions and the decrease of their impacts.

As regards Ukrainian–Romanian cooperation, it is the Tisza River again that is one of the most important elements in environmental cooperations. A two-year complex large project gave the partners the first opportunity for the joint evaluation of the environment health impacts of the Tisza River and the development possibilities of flood protection. The aim of cooperation is to decrease the negative environmental impacts of floods and human intervention. An attempt was made for working out the long-term complex system of the utilisation of the river, creating the Flood Information Centre in Tiachiv, carrying out a large number of examinations for the assessment of the ecological state of the respective reach of the river and serving the development of the flood protection infrastructure in several settlements along the Tisza. The budget of the project was € 900,000; in the implementation, regional and national level organisations took part from both sides.

In the future the partners in member states have the possibility, during the implementation of the European Spatial Cooperation programmes started in 2007, to establish and fund so-called European Territorial Cooperation Associations in accordance with the decree No. 1082/2006/EC of the EU Parliament and Council. The Association is taken as a legal entity, and has in each member state all the legal rights that legal entities enjoy in the law of the respective member state. The Associations can thus be suitable for the establishment of the organisational frameworks of the former partnerships, the development and implementation of projects with large budgets and activities pursued in common interests, and in the long run for the harmonisation of the institutional system, the (partial) elimination of the bottlenecks caused by the altering competencies and for the creation of common organisational structures.

3.2.4 The role of Euroregions in environment protection

Along the borders of Hungary several Euroregions of initiatives of Euroregional character have been founded in the recent years. Most of them were established after the announcement of the Madrid Convention (European Outline Convention on Transfrontier Cooperation between Territorial Communities or Authorities) in 1997.

In the deed of foundation of all Euroregions, the wish to deal with environmental and nature protection issues is mentioned. However, not one organisation has either the competency or the working organisation for this. Their main task may be the establishment of relations among the partners concerned. In the development of the environment the cooperations of non-governmental organisations are decisive.

Unfortunately we have to admit that the operation of these organisations is contradictory. We can rarely see an adequate operation in accordance with the objectives stated, a stopping short is more typical after the initial enthusiasm. The first signature ceremonies and meetings were often not followed by any real work. It is true on the other hand, that these organisations are too young to be judged; what we can do is draw attention to the factors blocking their operation, which can serve with morals for the further operation. First of all we have to make it clear that cross-border cooperation is not an obligatory task of any municipality or other regional organ. The participants usually do their activity without remuneration, i.e. taking part in a committee of a Euroregion is not the same task as working in a similar committee, e.g. a general assembly of a county (*Hardi,* 2006). The dominant characteristic of the operation of the organisations is common

4 Recommendations

On the basis of the research findings the following main recommendations were made:

- as several academic events that deal with the environmental considerations of the Carpathian Basin are not more than presentations of a heap of studies dealing with every and any issue, we recommend that those events should be supported among the conferences on the Carpathian Basin (either from EU or national resources) which are more focused, mainly those that rely on the participation of environment protection experts groups from the "basin countries", i.e. events that have a "brain-storming" character;
- because of the limits of the interventions at national level into the state of the environment of the Carpathian Basin, a physical geographical unit divided by state boundaries, developments implemented in the homogeneous physical

geographical units should enjoy priority for a more efficient and uniform environment development;

- the classification of the cross-border environmental strains and those affecting the border regions, and of the nature protection areas based on cooperation, joint investments and operation would greatly contribute to the definition of environmental and nature protection priorities and goals in the future and to the as careful as possible selection of the joint development measures realised in operational programmes.

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