THE BARRIER EFFECT OF THE DANUBE IN THE REGIONAL DEVELOPMENT OF THE SOUTH-WEST, OLTENIA REGION. CASE STUDY

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ABSTRACT. – The Barrier Effect of the Danube in the Regional Development of the South-West, Oltenia Region. Case Study. The Danube River has always been a natural barrier as well as a navigable channel – these two major aspects being crucial for the economic development of its common border states for a long period of time. In the context of economic globalization, the barrier effect of the Danube tends to lose importance, becoming a major issue in regional development. The problems raised by the Danube in the territorial policies of development have a direct influence on the regional development of the South-West Oltenia Region. This represents one of the strongest issues for the future strategies of development. The Danube River must be contextualized again and transformed from a non-permissive barrier into a permissive one.

Keywords: *barrier effect, regional development, corridor of development, economic integration, globalization.*

1. INTRODUCTION

By its geographical location, flow and economic resources of its basin, the *"Danube river is considered to be the most important European river". "Although it is surpassed by Volga in length and flow"*, the Danube holds the advantage of crossing the European continent from West to East, down to its mouths into the Black Sea (after Sobaru, Al., Năstase, G., Avădanei, C., 1998).

From a geographical point of view, the Danube flows on a territory which is located at a relatively equal distance from the North Sea, the Baltic Sea, the Adriatic Sea and the Mediterranean Sea, and its final exit into the Black Sea, location which allows the development of some ways of communication with Central Asia. All these were the foundations of the well-known science man, Grigore Antipa's statement that *"Danube holds a global importance and role"*.

On the other hand, the Danube constitutes a true natural limit, holding a barrier effect in the organization of regional and local geosystems. For a long time, the barrier effect of the Danube held either a complete or a transient role, in this latter case being manifested in a partial or differentiated manner. Therefore, unlike the continental or regional geosystems, for which development the barrier effect did not have a crucial importance, the national, zonal and especially local geosystems organize themselves in accordance with it.

By the barrier effect we understand the capacity of some geosystems, which, by their dimension, become natural non-transient or partially transient limits and which,

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according to their dimension of limiting the territorial development of other geosystems and of arresting or diverting in a parallel dynamics, the flows of matter, energy and information. The barrier effect appears more frequently in the case of anthropogenic structures development, due to the fact that they generally adopt a linear territorial development, along the barrier, for most of the cases or in some other cases keeping a distance from it, thus generating underdeveloped areas.

At a national level, the Danube barrier effect has appeared to be more frequent within the South-West Oltenia Region, between Drobeta Turnu Severin and Corabia settlements, as there are no connection bridges in this area (between Romania and Serbia, as well as between Romania and Bulgaria). The anthropogenic territorial structures, located North and South from the Danube, developed independently and incoherently, nowadays turning into a major territorial dysfunction within the present framework of the European integration.

2. THE CONCEPT OF BARRIER

Limit stands for "*extreme point, margin (of an object, of an area), end"* (DEX, 1996).

Mihai Ielenicz (1999) states that "*the limit represents the border of a system through which it creates the connection with other systems, or it may be seen as the highest value a process tends to reach or a feature can manifest*. Gheorghe Erdeli (1999) understands the concept of "*limit*" as holding "*a geographical meaning as it characterizes the discontinuities between various natural or socio-economic regions and which is used especially in the processes of geographical or economic regionalization"*.

It is proper to assume that each geosystem has to be spatially delimited. The estimation of the limits of the geosystems influence areas over the environment and of the environment over the geosystems represents a rather difficult process. Sometimes, these difficulties lay in the lack of information; while in other cases in the fact that the intensity of influence diminishes as the distance from certain core areas grows.

The issue of projecting the limits has represented one of the basic difficulties in the field of natural sciences. It has become a major issue in geography as well, especially from a practical perspective. In this case, the limits dictate the manner in which the cartographic models (i.e. general or thematic maps), as well as the organizing models of the geographical space and territorial planning are established, through the capacity these limits have to spatially and temporally define a geosystem or a part of geographical space. Gheorghe Erdeli (1999) states that *"even though most of the times it has been reduced to a simple line, the limit establishes an order that is not only of a spatial nature, but also of a temporal one"*.

From a gnosiological perspective, the issue of delineating limits can be approached from two antagonistic viewpoints:

- some geographers perceive limits as being projected and delineated in order to reach different goals such as regionalization, or classifications, therefore contesting the definite existence of the limits (after Armand D., Preobraženskij, V., Armand, A. 1969). This apparent lack of limits within the geographical space is determined by the overlapping of multiple contexts of evolution of the elements of various systems within the same space unit, thus the structure and the complete shape of the geosystem being hidden, therefore the geographical reality emerges in an apparent continuum;

- other geographers acknowledge the existence of limits, though insisting on the difficulties in mapping them out (after Sočava V., 1978). Thus, regardless of which form,

method, type of relationships or indexes a geosystem is to be represented by, there is no certainty that there will be enough marks that will certify that the elements that are analyzed from a certain geosystem are in connection with the multitude of elements belonging to the environment or to other geosystems. Therefore, one can conclude that each component of a geosystem and a geosystem as a whole, respectively, have a limited extension, this being separated by other geosystems or by the environment through limits with various degrees of permeability for the exchange relationships (of substance, energy, information) that are really the ones that keep the geosystem in a dynamic equilibrium. As a matter of fact, the limit of a geosystem corresponds to the limit of its flows, with the limit of its areas of accumulation and dissipation, respectively of substance, energy, information that is dictated mainly by the law of gravity and is determined by the gravitational models and the law of a system, respectively. The limit of the accumulation areas crosses both the divergence areas of flows (interfluves, anticline, anticyclone, and administrative limit) and the convergence areas (valley bottom, riverbed, syncline, cyclone, settlements). Still, the limits that form in the convergence areas have a relative character, as they delineate geosystems that, in fact, integrate themselves into a new geosystem of a higher rank, because of the junction created between flows upstream the convergence area. Thus, the delineation of geosystems represents a gnoseologic reality, possible to be accomplished strictly based on a quantitative basis. Therefore, so as to prove the success of this delineation approach/ attempt we hereby mention the systemic paradigm, which sets its philosophical and conceptual premises. It states that an objective reality (including the terrestrial reality) is organized into independent functional parts that, through exchange relationships, form new systemic entities of a higher rank;

- however, sometimes it has been proved that both situations/locations presented above have legal statuses, the first having a paradigmatic status while the second an ontological one. M. Grigore (1993) states that "*theoretically or in practice, in supposition or in reality, the multiple categories, types of spaces, elements, geographical processes or phenomena are marked by the limit factor without which the environmental elements and components themselves cannot be understood, identified and separated, analyzed, researched, correlated, theoretically or fundamentally interpreted, regarding the management of their borders"*.

Concluding, the closest approach to the truth seems to be the theory, which states that both positions are legal, while natural limits existing in reality within the geographical space, therefore becoming patterns for the delineation of anthropogenic limits, these following the route of the natural ones.

Concerning the issue of approaching the issue of limits, there are two manners of interpretations:

- the geographical limits as a consequence/result of the inner interaction among geosystems (implicit shape of the limits);
- geographical limits as a consequence of the effects the environment has on geosystems (explicit shape of the limits).

M. Grigore (1993) states that *"through their qualities, limits represent integrative parts of numerous functional categories of processes, phenomena, geographical units and subunits"*. Therefore, limits objectively represent structural elements holding features that result from the specificity of the geographical processes and phenomena, of the natural and anthropogenic components, of the existing differentiations between theories, and between separate categories of landscape.

The dimension, as a quantitative expression of space, as well as a result of a man's need to express himself, to define space, including the geographical one, directly and indirectly individualizes both the type of limit and their delineation.

The holarchy of the geographical space, which designates new lower rank spaces within the geographical space, determines the differentiation of the holarchy of limits that explains the presence of general, global limits that generate lower rank, or local limits.

Limits, as transient areas, develop differently in space, in accordance with the holarchy level they are approached from. Therefore, a global or regional limit, approached from a local level, which is of the lowest rank, corresponds to a transition corridor or even an area within which other types of limits can be individualised.

Nevertheless, a local limit, approached from a global level, it becomes invisible, as its specific spatial characteristics become homogeneous.

Hence, the limits issue needs to be approached from a holarchy perspective (considering geographical scale) in accordance with the aim of research and the necessary required spatial peculiarities. Given the functional consequences that the natural, anthropogenic and post-anthropogenic limits have within the geographic systems, it becomes compulsory to identify them and then to research the territorial reality along with the functional context determined by its limits. The spatial dimension of the natural limits as well as the rank of the anthropogenic ones imposes dissimilar behaviour of both the geographical elements and the systems within the same space. Thus, in the case of a geosystem or its component dynamics, the limits of either low or average size or rank hold a *guiding role* (heading the flows), while the limits of a higher dimension or rank hold a *barrier role*.

The guiding or the barrier role of a limit is also determined by the dimension of the geosystem or its *synergic cumulative force*. Therefore, in the case of small scale geosystems, which dispose of synergic cumulative forces of low intensity, their small sizes and inferior rank limits cannot be included into the category of barrier limits. This would not be the case of large systems of regional or global scale, like hydrographical systems, air masses, national communities, industrial clusters, because these could go through or include lower rank limits, such as: secondary watersheds, small scale mountainous or hilly areas, zonal or local administrative limits.

The complexity of the organization and structure of the geographical space reveals a multitude of geosystems of various hierarchical ranks, holding different functions, shapes and structures, spatially located on different levels and angles along with the flows of mass and energy, as a consequence of the continuous action of endogenous (Earth) and exogenous (cosmic) forces over the geographical space; therefore, complexity involves the materialization and development of various limits.

In order to better assess and interpret limits, their typology must be approached in accordance with the suitable categories, types and subtypes.

Considering the type of interaction between the natural processes, natural limits can be.

Barrier limits (that inhibit any connection). They can be determined as they represent natural limits of various elements of the landscape, such as: mountains, high discharge streams, rocky coasts.

There are several categories of such barrier limits in accordance with the intensity of action and the type of effect they have on systems and their elements:

- *barrier limits that have a maximum absorption.* This type of limits attracts and absorbs the flows, the system elements or the system as a whole, even the information, thus

determining their disbanding (i.e. mountain ranges, high debit watercourses, state borders, the influence areas of bank and industrial companies). These limits mainly affect the flows and the small and medium-size systems;

- *barrier limits that have absorption properties.* This type partially captivates and absorbs the flows, the system and its elements, thus determining only structural changes;

- *barrier limits that have rejecting properties. They* reject the flows, the system and its elements, therefore inhibiting the dynamics, adjusting and guiding their direction or diminishing their intensity.

Contact/Connection limits (of linkage). These reflect a contact transition and they are characteristic to contact areas or corridors (wood outskirts, small hydrographical units, low coasts). The contact limits can be shaped linearly, sinuously, in stripes/corridors or spots.

The threshold limits. These reflect the leap/ skip transition which is characteristic to spaces that suffer a radical change in structure, typology and shape.

The foundation of existence, development and evolution of natural limits has been coordinated by *"the laws of nature",* whether they are physical, geographical, systemic or ecological.

The foremost function of limits within the geographical space is that of *barrier* or *filter* against the external factors, which act like disturbances. Hence, we can induce that the geosystems themselves tend to build and develop such limits, fact that represents the first form of protection of their interests and inner structure.

In the case of limits that are delineated artificially in order to reach some goals in studies like regionalization or typology, the *location function* becomes more significant than the *segregation function*, thus the connection/linkage - segregation functions becomes the key subject of research studies.

3. THE BARRIER EFFECT OF THE DANUBE IN HISTORICAL TIMES[1]

Beginning with the Antiquity, the Danube River has represented an important navigable way, as well as a strategic one, as the border that has separated the Greek - Roman Mediterranean world of the Germanic and the Getae - Dacian ones.

The strategic and military role of the Danube was first highlighted by the *Empire* (kingdom) of *Macedon* that, under Phillip II followed by Alexander the Great, successively tried to ensure the control over the Danube mouths.

Later, the Roman Empire continued the attempts that lasted until 395 AD and, for the first time, succeeded to create a political and economic synthesis/union of the two worlds: the Eastern and the Western located aside the Mediterranean Sea. During the first years of the Christian Age, the Roman State would focus on territorial expansion, towards North, over the Danube.

The first attempts regarded Dobrogea, area that, for centuries, was in the attention of the Greek world, and subsequently, during Julius Cesar reign, there was the first attempt to occupy the territories located North of the Danube, actions abandoned after Cesar's and Burebista's deaths in 44 BC.

During Octavian Augustus's reign, the efforts to break through the German territories were unsuccessful; therefore the long-standing border between the Roman

[1] *This chapter was drawn up by using the research made and published by Bran Florina, Creţu, Raluca Florentina (2005), Probleme economice şi ecologice ale Dunării şi Mării Negre, Edit. ASE, Bucureşti*.

Empire and the German world was finally established on the Danube. Yet, on the middle section of the Danube a certain success was registered, hence Pannonia region was created.

The Roman failure on occupying the middle section of the Danube was balanced a century later, when, by conquering Dacia (101-106 BC), Trajan integrated a great section of the Danube, to its outlet into the Black Sea, into the Roman world. The conquest over Dacia province transformed the lower Danube, the section from Dobrogea to Pontus Euxinus, into a fundamental axis of the Romanization process in Eastern Europe.

Therefore, it emerged into what Vasile Pârvan calls *"the Danube Romanism"*. By all means, the Romans succeeded to strengthen both the strategic and military role of the river and the economic one. By building the bridge at Drobeta, they transformed this Dacian settlement into an important urban, economic and political centre of the Roman Dacia. The middle and lower Danube did no longer represent a state border; nevertheless it became an important Romanization factor due to its integration into the Roman Empire. The two areas that were part of the Roman Empire, located North and South of the river, linked through the Danube. However, the attacks of the migratory tribes against the Romans determined the abandonment of the Danube provinces, except for Dobrogea, that strategically became extremely important, as Constantinople was established as the imperial capital. In 602, due to the Slavic invasion in the Balkans, the Eastern Roman Empire also lost the last section of the Danube.

We can thus understand that the Roman Empire was the first one that tried to transform the Danube into an integration axis of both the European Eastern and central areas, as well as to succeed a temporary expansion towards North.

During the first part of the Middle Ages, due to the territorial migration processes, the Danube River lost its role of strategic axis, yet it partially preserved an economic role by the existence of several commercial city-ports along the middle and lower Danube.

The Christian Schism (mid 11th century), movement determined by the existence of two empires that fought over the same Roman heritage, divided the Danube and hindered its role of a factor for the European unification.

Nevertheless, the Middle Ages dominated by intolerance and religious fanaticism as well as by local economic interests, yet by using the Danube and Rhine rivers, could not find the necessary ways to ensure a medieval unity but looked for military solutions. Still, it is remarkable to notice that, during the first half of the Middle Ages, the Christian civilization extended up to Northern Europe, thus the Danube ceased to represent a border, as it was during the Antiquity.

The fall of the Byzantine Empire and the ascension of the Ottoman Empire brought up a new entity in the European competition that, through a century and a half policy based on force, between 1389 and 1526, ended in controlling a long section of the Danube, from central Hungary to its outlet into the Black Sea. The powerful Romanian resistance for a century hindered the Ottoman invasion in the Central Europe, with important consequences.

The efforts made by the Christian world to take back the Ottoman section of the Danube were long and continuous and succeeded only in the 19th century, in other economic and historical conditions.

The lack of interest manifested by Central and Western Europe regarding the section of the Danube that was dominated by the Ottomans has to be clarified through the economic mutations caused by the fall of Constantinople, moment in which the European economic circles, particularly the Italians, cut out from the traditional trade with spices, looked for a new trade way towards India, thus opening the age of the great geographical

discoveries. This had repercussions over the Mediterranean and the Black Sea, which were withdrawn from the economic circuit for a long period, thus directly influencing the functionality of the Danube. Since 1683, the Ottoman defeat in Vienna, a new issue aroused, under the mark of *"the Oriental Issue"*, which aimed to divide the territories under the Ottoman Empire and to re-establish Christian power on the shores of Bosphorus.

During the following years, due to the victories at Buda and Mohacs, Austria occupied Hungary and achieved the control of the upper sector of middle Danube. During the 18th century, Austria and Russia, through several military conflicts, tried to expand their influence up to the Romanian Danube, as a first attempt to reach Constantinople.

If the events in Western Europe in the years after 1789 temporarily eliminated Austria from *"the Oriental Issue"*, Russia still sustained the pressure over the Ottoman Empire, eventually succeeding to occupy Bessarabia (the Moldavian territory between Prut and Dniester rivers) and to reach the mouths of the Danube in 1812.

At the end of the 18th century, when the republican France showed interest in the Eastern Mediterranean as well as in the straits, the Great Powers (especially Great Britain) became active again in the Black Sea and the Danube mouths areas.

The interests of the great European powers increased once Russia took control over the Danube, as a consequence of the Adrianople Treaty in 1829. By this treaty, the Ottoman provinces called rayas, Turnu, Giurgiu and Brăila, were definitively eliminated/ dismantled, along with the Ottoman presence on the Romanian Danube. Few years later (1836-1837), Brăila and Galați city-ports were declared free areas, fact that increased the commercial dynamics at the mouths of the Danube. During the same period, Austria became interested in controlling the navigation on the Danube, the section between Vienna and Galați. The economic and commercial interests in the Danube continuously increased as the Danube was integrated in the international circuit.

After the Crimean War and the Paris Congress in 1856, Russia surrendered the Southern part of Bessarabia, therefore losing its control over the mouths of the Danube, as well. The following were stipulated by the peace treaty: the free navigation on the Danube, the establishment of a European Commission to monitor the activity, with its headquarters at Galați and its representatives to be part of the great European powers.

Another commission was established to be in control of technical problems. This included riverside states such as: German states (Bavaria, Württemberg), Austria, the Ottoman Empire, Serbia, and the Romanian countries. The Congress held in Paris brought a major change regarding the status of navigation on the Danube, therefore conferring it a European significance. Hence, the Danube for the first time represented a cooperation factor for Western and Eastern Europe. This new approach of the Danube issue was also related to the first attempts to build the Danube-Black Sea channel, which dated in 1834.

Even though at the Paris congress the Danube issue carried a strong economic significance, still the rivalry among the Great Powers prevailed, thus preventing the transformation of the river into an instrument of European integration. If, during the Middle Ages, the attempt of integration could not be accomplished due to the political and religious disagreements, during modern times, the political and military rivalries had the same effect.

The Danube issue became interesting to the Great Powers once the Oriental Crisis was active again, in 1875, eventually concluded through the Russian-Romanian-Ottoman conflict between 1877 and 1878.

After signing the Peace Treaty and the Congress in Berlin, Russia regained the power over the Danube region; hence, the Danube Commission's status was re-evaluated,

therefore including Romanian members, which held the right to control the Romanian section of the river.

The Great Powers, mainly the Austro-Hungarian Empire, had divergent opinions, thus Vienna fought for an advantageous position regarding the commercial traffic on the lower Danube and for monopoly of the modernization works of the navigation process at the Iron Gates. Austria also supported the neutralisation of the Danube River, downstream the Iron Gates. Russia replied unsatisfied to the Austrian claims, especially to the issue of river neutralisation. The most important provision was stipulated in article 55*: "the regulations concerning navigation, fluvial police and supervision from the Iron Gates to Galați will be established by the European Commission assisted by the delegates of the riverside states and will have to be in accordance with those established from the section downstream Galați"*.

This way, the Austro-Hungarian Empire managed to divide the Danube into two sections: one that included the middle Danube, as well as the Iron Gates, which was under its exclusive control, and another section, which included the Romanian Danube, administered by the Great Powers represented in the European Commission.

The decisions of the Congress in Berlin disadvantaged the small riverside states, especially Romania and Serbia, which proved to be unpleased. Now, the contradictions on the Danube status got a new dimension; if, at first, the Great Powers were competing between them, it became necessary to compete with these small Danube countries, as well.

Under these conditions, a new conference of the European powers took place in London in February 1883. Its main subject was the status of the European Commission on the Danube. Romania refused to participate as a guest with a right to consultative vote and it also announced that it did not consider necessary to obey the provisions of the Conference that seriously infringed Romanian sovereignty, as the jurisdiction of the Commission had been extended to Brăila.

Romanian acceptance as part of the Triple Alliance, in October 1883, diminished the rivalry with the Austro-Hungarian Empire on the Danube issue.

In the following years, Germany strengthened its relationships with Romania, the latter becoming the main trade partner, in preference to the Austro-Hungarian Empire. The interest manifested for Constanța city-port, as it represented a gate to the straits and beyond, towards the Middle East, determined Germany to use Romania as an important transit area for goods towards the Ottoman Empire. The modernisation of Sulina channel as well as the construction of the navigation channel bearing the same name created rather a competition regarding the navigation on the Danube and on the Black Sea.

Until the First World War, a certain rivalry regarding the Danube could be noticed between Germany and the Austro-Hungarian Empire, as the former preferred to use the Romanian Danube navigation way to the Black Sea in order to maintain its trade relationships with the Middle East, and Vienna chose the commercial road via the Adriatic Sea and the Aegean Sea, thus disadvantaging the Black Sea.

In the last quarter of the 19th century, after the Suez Channel was inaugurated in 1869, the commercial routes to India were redefined, consequently bringing Romania, along with the Black Sea, in the global economic circuit. The Danube, as a natural commercial way, held its importance even after the railways began to be used, because of the low cost of transportation on tonne. Yet, transportation on the Danube was still marked by technical difficulties. Even though important technical efforts were made, these technical problems represented an obstacle in making the river one of the most important

European navigation ways until the First World War. They were only partially solved, and only in some crucial areas like the Iron Gates and the maritime section.

During the First World War, Germany used the Danube to transport the Romanian products to Central Europe, thus highlighting a possible solution to economically integrate the central and Eastern parts of the river.

The defeat of the Great Powers, in 1918, imposed a redefinition of the Danube. In this context, the French idea of Danube Confederation appeared under France's auspice as a formula for the economic integration of the Danube countries such as: Czechoslovakia, Hungary, Austria, Yugoslavia, Romania and Bulgaria. The idea was also supported by Hungary, which had already made significant economic concessions to Paris, this way hoping to regain the dominant position in the field. However, the new confederation's plan was contested by the war winning countries that perceived it like a chance for rebuilding the Austro-Hungarian Empire.

Once this project was abandoned, the permanent status of the Danube was established at a meeting in Paris in 1921 at which France, Italy, Greece, Belgium, Yugoslavia, Romania and Czechoslovakia participated. According to this, all pavilions were free to navigate, under equal conditions, on the entire navigable route, between Ulm and the Black Sea. Two commissions used to supervise the navigation process:

- the International Commission that had representatives of the war winning European Powers (France, Italy, Great Britain), along with the riverside states;
- the Danube Commission, located at Galați and included representatives of the countries mentioned above, along with Romania, aiming to supervise the maritime sector of the Danube.

The new international committees reflected the changes occurred after the First World War, when Germany and Russia were no longer part of the Great Powers. The new international regulations were maintained until the end of the interwar period, when Central Europe suffered several significant territorial changes. Once Germany annexed Austria, dismantled Czechoslovakia (1938-1939) and imposed itself in Hungary, it became the largest power in the Danube and European area.

On August 13th, 1938, Romania, France and Great Britain signed an agreement at Sinaia by which Romania obtained the control over the maritime Danube. Later, Italy and Germany adhered to it. Meanwhile, a major military conflict appeared between the Great Powers (Great Britain, France and Germany) aiming to gain the control over the Romanian Danube. Beginning with 1940 Germany took control of the Danube navigation route that lasted until 1944. This constituted an essential factor of the German military effort in the Balkans and on the Eastern front.

After the Second World War, the Soviet Union came back and took control of the Danube area; hence, most of the navigation section of the river was under the communist command. The Danube European Commission, consisting of the riverside states, was now dominated by the Soviet Union. The Danube was divided into two segments: the Austro-German and the Soviet. During this period, the river could not play an integrative role in the European economy.

In the following years, efforts were made to transform the Danube into a pillar of European integration. Especially after its West-European integration, the Federal Republic of Germany increased its interest in economic cooperation with the riverside communist countries, as well as Romania that also made efforts, this time helped by the World Bank, so as to build the Danube-Black Sea navigation channel.

After 1990, the efforts for European integration continued, nevertheless the instability manifested in the Balkans, easily generated by the division of Yugoslavia, prevented the Danube to fully represent an axis of European integration. In the present political context, real premises are set for the Danube to ensure the economic integration of the Eastern European countries into the European Union. This would also facilitate a harmonization of the European economy, therefore establishing new grounds for the economic complementarity of both Western and Eastern Europe. The reunification of Germany as well as the end of the war in former Yugoslavia, represented favourable factors for the redefinition of the role Danube had in Europe. Geographically, the German state, crossed by the Danube and Rhine, the two rivers that reunited Europe, represented a cornerstone for the Central Europe, being able to determine the economic cooperation and collaboration with the Eastern European countries and the ones in the Caucasus and Caspian Sea area. Having two ways to the sea, the Delta – Sulina and the Danube – Black Sea channels, Romania seems to represent now the most important partner Germany could have in the Eastern Europe, thus limiting Ukraine's claims of controlling the mouths of the Danube, as a need of power inherited from the former Soviet Union.

4. THE BARRIER EFFECT OF THE DANUBE IN THE DEVELOPMENT OF THE SOUTH-WEST – OLTENIA REGION

The barrier effect of the Danube has significantly manifested in the process of development of the South-West Oltenia region through the following aspects:

- *it has determined the activation of the core-periphery effect in the repartition of production forces at regional level.* Therefore, the development process has been concentrated around Craiova City and its metropolitan area, so the Danube became an underdeveloped peripheral area. If we take into consideration the strategic and economic role of the Danube at the European level, we conclude that it should no longer represent a peripheral area both at regional and national level;

- urban settlements such as: Calafat, Corabia and others that developed along the Danube are small-sized while their river-port functionality is practically inexistent;

- the cross-border cooperation with Bulgaria has been inhibited due to the lack of bridges over the Danube;

- the communication function of the Danube has been poorly valorized, as it does not have enough strength to generate a development corridor both due to the barrier effect and the centre-periphery one. This fact is mainly determined by the lack of road and rail bridges over the Danube on a consistent length, as there are no bridges between Drobeta Turnu Severin and Giurgiu. Hence, the only ways of crossing the Danube would be at Calafat and Bechet, by ferry;

- the poor development of road infrastructure, along the Danube, as a result of the inexistence of development centres and a rather low flow of people and products;

- the extended rural areas within the Danube corridor, as agriculture prevails against industrial or service activities;

- the low level of regional polarization manifested by Craiova City, which extends only to the Danube, thus the cross-border influences being slightly perceived. The main reason lays in the fact that Craiova City has a polarization potential definitely larger in the cross-border European context than its actual area. The continuous barrier effect of the Danube consequently becomes a deficiency for the future development.

The continuous influence of the barrier effect of the Danube has determined the configuration of new types of lower rank barriers within the South-West Oltenia Development Region, such as:

- *a socio-economic barrier* that develops in the North-Western part of the region, its influence being rather much amplified by the effect of centre-periphery. This type of barrier has caused the concentration of mining activities and energetic industry, therefore exploiting the rich coal resources in the North-Western part of the region. At the same time, a great number of people inhabited this area, having a privileged status in the past, yet with a precarious economic state in the present time;

- *an ethno-cultural barrier*, developed in the Eastern part of the region, which, along with the mountainous barrier up North, has led to the individualization of Oltenia historical province;

- the injudicious management of forestry resources, as they always represented the only available economic resource for the population inhabiting the rural areas, has caused massive deforestation and the increasing climatic aridity, which transformed nowadays into a new shape of natural barrier - *the climate barrier*. Its effects are fully perceived in the area through their influence on the development of agricultural activities, the process of inhabitation, as well as the level of territorial economic development, still having a tendency of continuously amplifying the role of barrier (see figure 1).

The South-West Oltenia region holds the status of the least developed area mostly due to the effect induced by this natural barrier, subsequently determining the centre-periphery secondary effect as well as an accentuated development in the region's central area. In the EU political context this barrier effect must be eliminated through the following measures (see figure 2):

- to reconsider the role of the Danube as the major fluvial communication axis at continental level and to intensify the navigation process by a suitable management of its potential;

- to build at least two new bridges over the Danube, at Calafat and Corabia so as to be able to cross over this natural barrier and to diminish the time and cost length for road and rail transportation;

- to properly manage the potential of development hold by the Danube corridor and transform it from peripheral into central area, first by exploiting the fluvial communication potential, and secondly by building the necessary bridges over the Danube at Calafat, Bechet and Corabia, significantly important is the advantageous position for urban development as well as for improving the cross-border cooperation; last but not least, the balanced exploitation of water resources for irrigation in agriculture.

6. CONCLUSIONS

The barrier effect generated by several types of natural barriers such as mountains and rivers represents the ultimate obstacle that needs to be overcome so as to harmoniously develop the regional and national territory, using constructive technical solutions as consequences of diminishing the barrier effect caused by frontiers. Therefore, the Danube represents a natural barrier for the national territory and whose effect has always been perceived, carrying out distortion effects in equally distributing the production forces within the territory, in projecting the road and rail infrastructure, in placing the centres of socio-economic development, as well as in adjusting the intensity and type of cross-border relations. The decrease of the Danube barrier effect stands as the main priority in the policies for territorial planning regarding the reduction of development disparities. Hence, the most important attempt and with the most efficient results would be the penetration of the Danube barrier by building two mixed bridges (both road and railroad) at Calafat and Corabia.

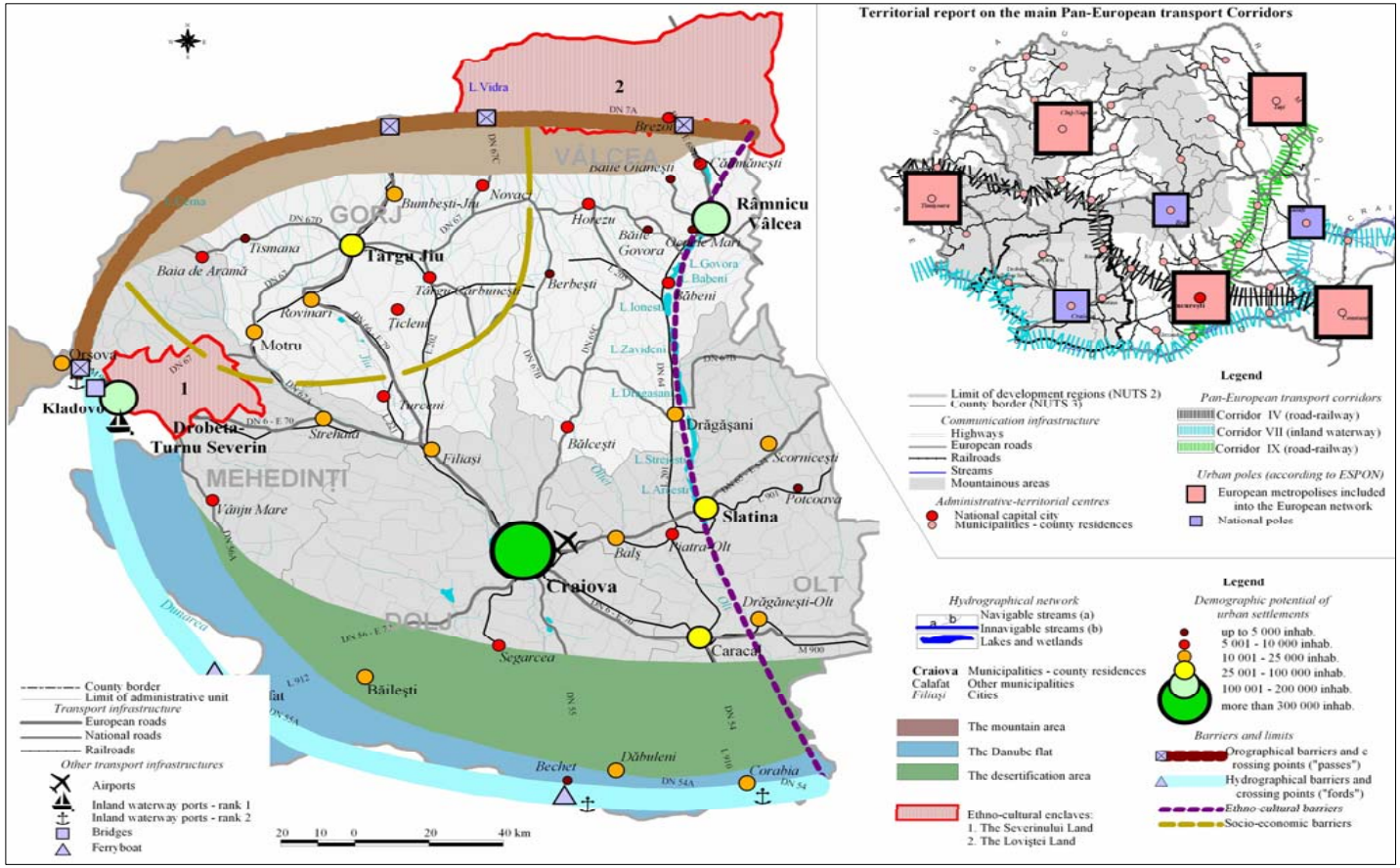

Fig. 1. The South-West Oltenia Region of Development. Barrier effect. Current situation.

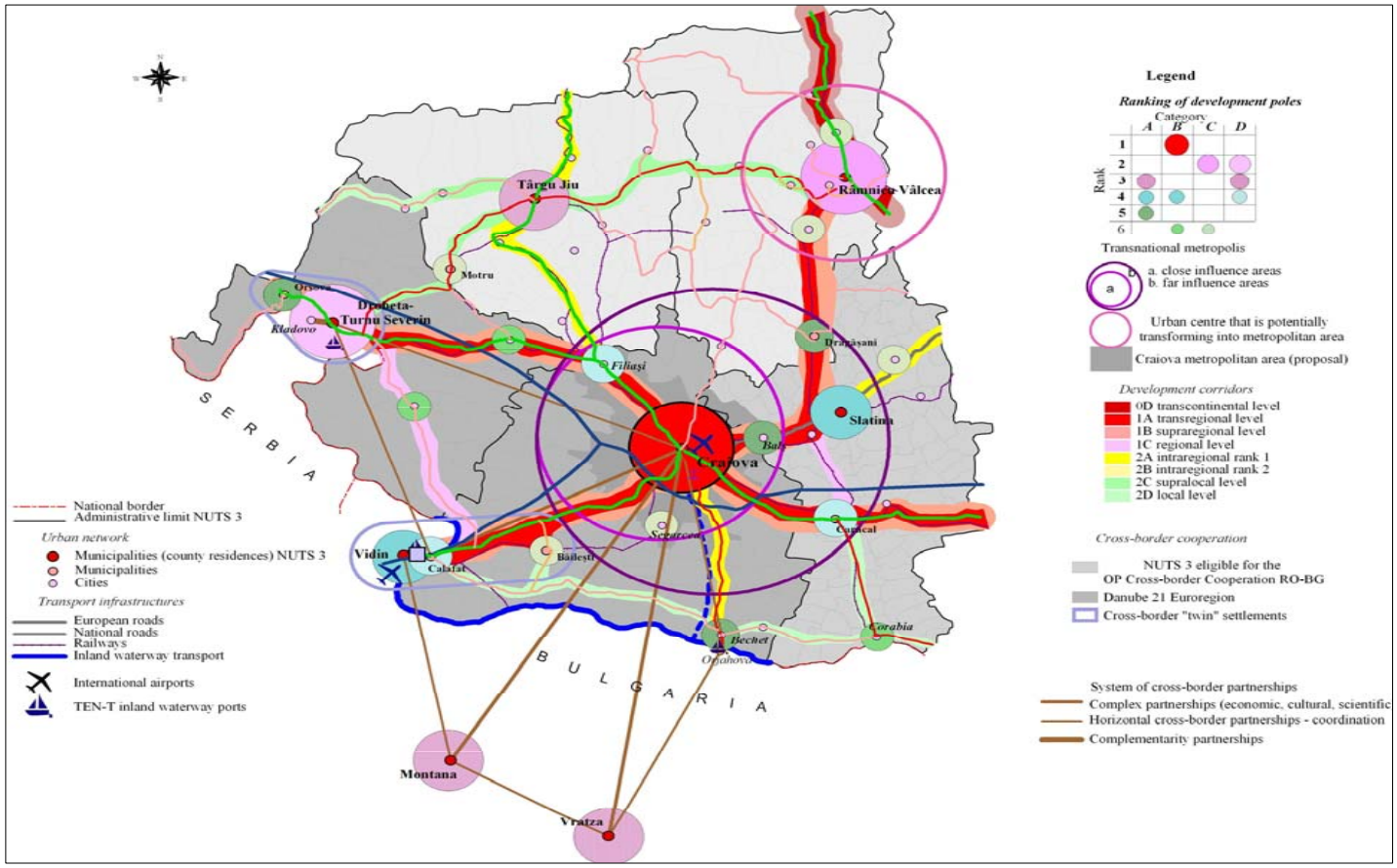

Fig. 2. The South-West Oltenia Region of Development. Proposals for diminishing the barrier effect.

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