POLYCENTRIC DEVELOPMENT STRATEGY – AN EFFICIENT INSTRUMENT IN ADMINISTRATIVE DECENTRALIZATION

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Abstract: The elaboration of Romania polycentric development model was accomplished by the Interdisciplinary Center for Advanced Researches on Territorial Dynamics, of the University of Bucharest and National Institute for Development and Researches "Urbanproiect" SA. Polycentric development is an important objective at European level, which has the purpose of creating competitive economic spaces, distributed balanced across the EU, without differences between the center and the periphery, which will ensure the territorial cohesion throughout the areas of economic integration. Polycentric development strategy is based on the ranking of poles of development in terms of capacity of polarization and identification of structural axes that will be specialized in the same time with the increasing of polarization capacity. Polycentric development strategy can provide the spatial decentralization projection ranked a network composed of decision-making levels, at which will develop strategies for the realization of territorial specificities.

Keywords: polycentric development, regional disparities, decentralization, territorial cohesion, territorial dynamics

1. INTRODUCTION

Polycentric development is one of the major objectives of the European Union whose realization is conditional on the creation of competitive economic spaces, distributed balanced across the EU, without differences between the center and the periphery, a human settlements ranked according to their potential for development, inter-networking function. This model of development is considered the main objective of the Territorial Agenda of the European Union[1] which will ensure territorial cohesion throughout the areas of economic integration. Also the application of this model will lead to achieving the Lisbon Agenda which aims to transform the European Union the most competitive and dynamic economy in the world.

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A comprehensive definition of polycentric development is given by and Joan Trullén Rafael Boix (2003) considers that the concept of polycentrism trend as population and economic activities to agglomerate in urban centers that have the ability to exercise influence on the whole urban structure and spaces around them.

Hallgeir Aalbu (2004) considers that the urban network is the backbone of a regional system - ensuring transmission polycentrism development effectively and harmoniously in the whole territory. The same idea is seen in Petra Gudrun Haindl and Hirschler (2008) who believes that polycentric development can contribute to balanced economic development and reducing regional disparities in the European Union.

Developing such a development strategy linked to the decentralization process will achieve a transfer of responsibilities from central to regional levels of decision, county and local directions well established. Basically polycentric development model designed spatial directions to be followed by the decentralization process to obtain a local optimum functionality.

Construction of this model of polycentric development helps to increase the functionality of the administrative mechanisms through spatial design of effective channels of information diffusion between the poles of development, to ensure balanced territorial development, said the objective of decentralization policies, which aim to transfer a number responsibilities from central to local structures.

Polarization of the theoretical approaches is based on the ideas expressed by Schumpeter (1939) at the beginning of XX-th century ideas taken and developed by French Perroux (1964) in the '50 and '60, which defined the theory of growth poles, which bears his name. Theory of growth poles of Perroux (poles de croissance) is drawn into nine sections:

- growth does not occur everywhere simultaneously, but with different intensities in some points;
- growth is distributed from these points using different channels on the total economy;
- these points act as poles of a field of forces, where start centripetal and centrifugal forces;
- the poles are considered in the economic growth;
- Economic Area is defined as a field of economic relations which are formed by the linkages between economic sectors and their elements;
- growth poles are appointed and driving units;
- the motive may be, for example, an enterprise or group of enterprises;
- when the unit is driven exercise influence over other units (enterprises), influences that stimulate economic progress. For Perroux, especially in the secondary sector are seen as carriers of economic progress;
- for a motive to exert influence over other units must have certain features:
    - Have important quantitative dimensions (undefined exactly Perroux);
    - To demonstrate significant links with other sectors / units of the economy;
    - To develop / grow rapidly;
    - Showing a high degree of dominance over the other.

Gunnar Myrdal (1957) extended the model poles sector growth in Perroux's theory of regional growth, and the assumption of circular causal a socio-economic effect, in order to explain interregional imbalances in economic growth. In market economy conditions of a changing economic factor (for example,

income, investment demand, etc.) causes a change in the whole structure in the same direction, which is again a change of emphasis, that there is a feed-back.

In short, this means using a circular effect. Circular means "repetition in a circle, an accumulation effect with a side chain. Circular cumulative process triggered within a state, but at international level and a spatial differentiation in growth centers and regions that remain behind in the development.

Interpretations similar to those expressed by Perroux and Myrdal, and appear HIRSCHMANN (1985) which introduces two terms that have been widely used in literature. These positive effects of drainage and the negative effects of polarization come from the centers of growth. This pair of terms corresponds to the content of the spread and effects of centripetal used by Myrdal.

Starting from the results Perroux, Myrdal and HIRSCHMANN appeared many theoretical works on the polarization. Of these the most important works are his Boudeville and Lasuen, who developed the concept of growth poles sector Perroux's growth pole in regional and sector. Given the importance of the contribution, we'll mention a few items related spatial theory of growth poles of Boudeville.

Boudeville attempts to transpose the sector polarization using structural location theory of Christaller (1933) and Losch (1955) on geographic area. He starts from the assumption that the polarization is related to sector regional polarization, considering sector growth poles like regional poles.

2. WORK METHODOLOGY
Developing polycentric development strategy was based on a set of questions concerning the structure and function polycentric network:
- What cities should be promoted to remain or become poles of development?
- What economic activities must be promoted and what units should be established motive?
- What can be taken for the effects of reverse polarization of urban centers started to turn into a trial of the effects of diffusion?

Some answers to the questions above you can find in Richardson (1973) the theory of regional growth. He believes that developing a long-term space has a first phase of polarization and then a phase of decentralization in which the center becomes polarized polarizing for other settlements in the area of influence (fig. 1).
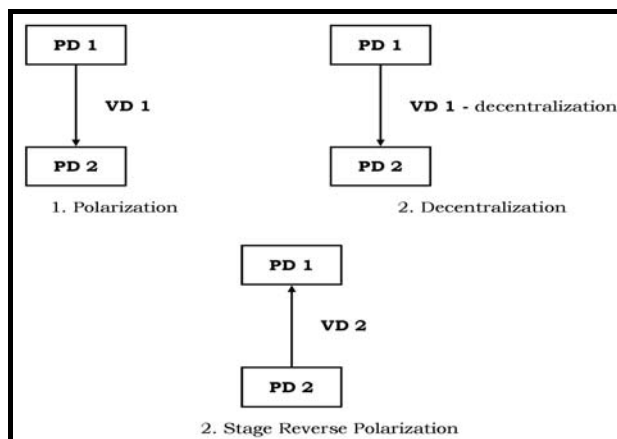

Fig.1. Evolution of the polarization PD-pole development VD-vector development

Polycentric development strategy aims to ensure the functionality of the territory, to increase the complexity of territorial powers by administrative decentralization to the regional level, which becomes the main decision-making level, where they are developed and implemented strategies specific coordinate system, in accordance with the strategies developed at national level. The implementation includes an institutional network that is based on polycentric network is also hierarchical, depending on capacity development in polarization upon premises.

In developing the strategy of polycentric development has started with the idea that cities cannot exist isolated in their environment and are constantly related to these urban networks forming the resistance of a "construction" territorial development.

In Romania developed a polycentric development model[2] based on five levels of decision-making (capital, national, regional, county and local) model that includes dissipative ranked nuclei, organized in networks.

Elaboration of this model was based on theory dissipative structures within the systems of human settlements individualizing the processes of aggregation-disaggregation, concentration-non-concentration, disrupting rebalancing-functional processes that lead to a temporary optimization of relations between its main structures. The intensity of these changes are reflected at the level of settlements, the more obviously affects the dynamic poles of growth[3].

In the present study was an analysis of capacity of polarization components of the national system of settlements, depending on which were identified and ranked the poles of development in each region. In analyzing the ability index of polarization have been taken into consideration the following criteria:
- population size and attractiveness;
- power and economic competitiveness;
- ability polarization services belonging to tertiary education;
- the number of lower-ranking cities in the area of influence;
- territorial representativeness and perspectives to support the consolidation of regional settlements.

Depending on the capacity of polarization sign poles, structured axes were divided into structured axes of national importance (which are sectors of national development corridors) characterized by a large structuring functional space, and axes structured regional significance is will specialize as they develop polycentric regional network.

Research field and a series of indicators of support led to the individualization of the relationship between these poles of development and prospects for developing relations between them, in the context of concerns at the European level to ensure territorial cohesion. Rethinking mechanisms administrative territorial is a major concern to the European bodies, interested in strengthening regional functional structures by which to transmit information from the European macro system to locally optimal time.

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[3] Dissipative Structures Theory is presented in the paper *Teoria sistemelor de aşezări umane* (Ianoş I., Humeau J.B., 2000).

3. PROJECTION POLYCENTRIC SPATIAL STRUCTURE OF NATIONAL AND REGIONAL

The polycentric development model includes several levels of decision-making systems, each one containing hierarchized systems of human settlements, and the information's transfer between levels is provided by institutional mechanisms with the purpose of transmitting and accomodating to each issue's level, developement strategies established at territorial suprasystems. As a matter of fact, as we approach the local level, the specificity degree increases (fig 3).
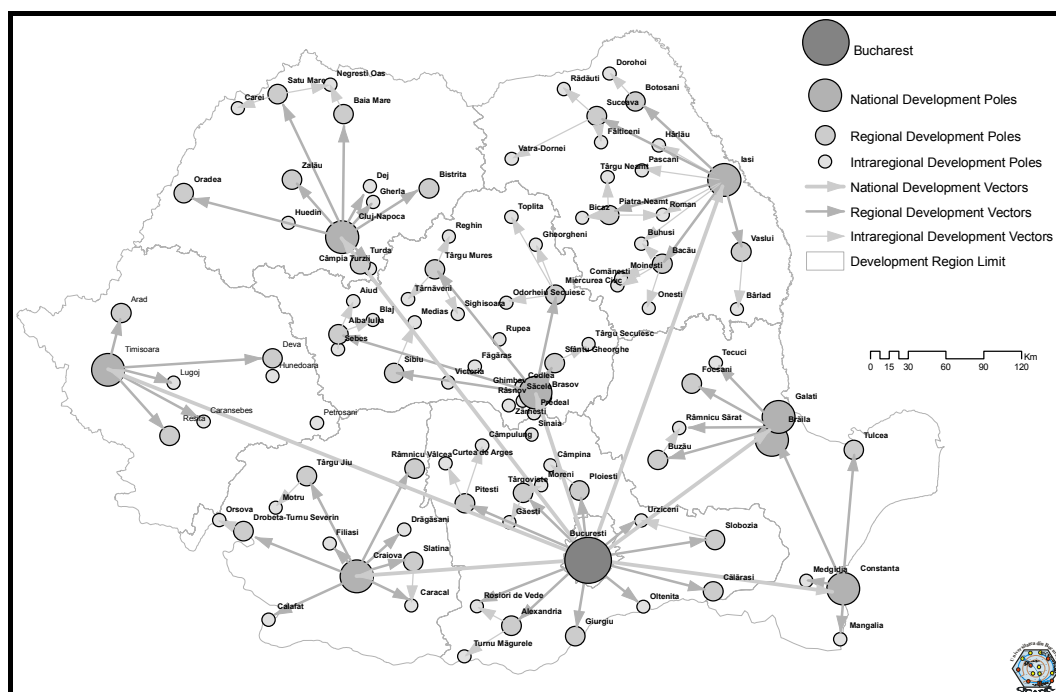
Fig. 3 Phyisionomy of the national polycentric network

The Capital comes into prominence through its territorial representation, demographic potential and attractiveness, economic power, the polarization capability of tertiary superior services and number of subordinated towns. It plays the most important role in the polycentric structure, the one of establishing and coordinating the development strategies.

The national decision level includes the developement poles Craiova, Timişoara, Cluj Napoca, Braşov, Iaşi, Constanța, and the competition area of Brăila-Galaţi. Their main function is coordinating the regional polycentric networks of elaboration and implementation of developement strategies, including their adaptation to regional specificities.

The regional decision level includes the current county seats and have a role in coordination of the developement strategies, based on the specificities of the subordonated space. We emphasize that, with the approaching on the local level, it increases the specificity degree.

The intra-regional decision level includes the cities which have imposed by a significant capacity of polatization, determined by adding value to a complex of local conveniences.

The local level contains the local development poles and the centers of growth, some clearly emphasized on the local settlements network, others, under certain conditions, able to polarize.

Polycentric network structured so will cause a short-term mono centrism at the regional level by strengthening the national poles. On medium and long term, will be produced a process of decentralization through lower levels and an appropriate constitution of the space regarding the accessibility corridors between the development poles. Along with the decentralization process, it will also be developed the decision-making components at local and intraregional poles.
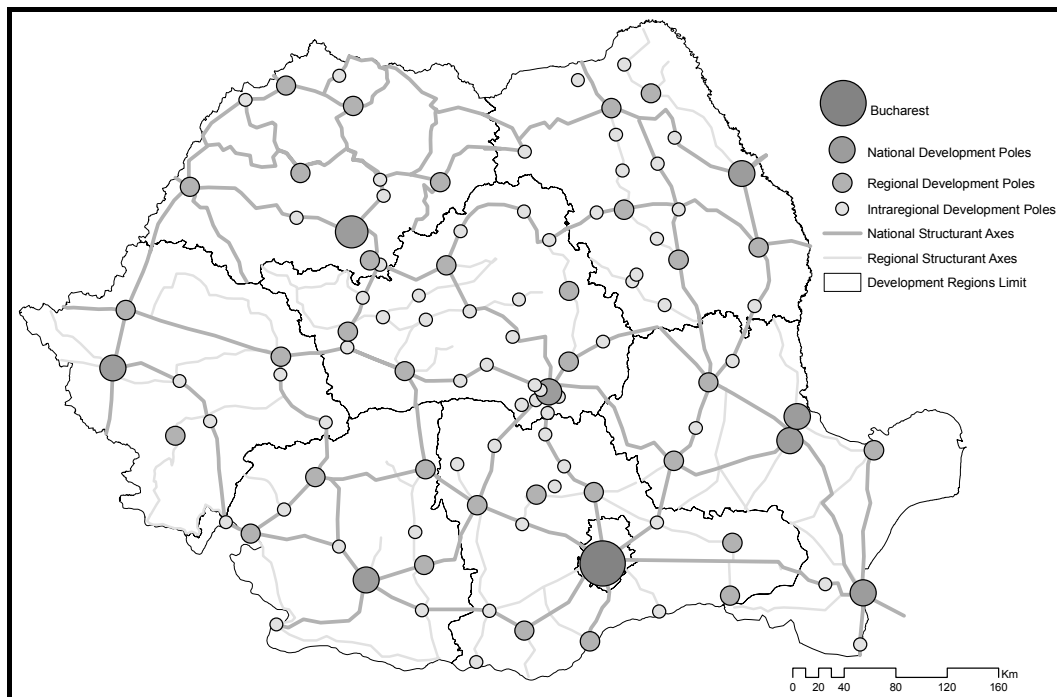

Fig.4 Structurant Axes Disposal

In the *North-East* Region was designed a hierarchical polycentric network centred on Iasi city, which has a range of a national development center, a real driver for this region. The polycentric index value for this city is 53.83, far from the 5 regional development poles, which have values between 51.72 and 52.29 (Bacău, Suceava, Piatra Neamț, Botoşani and Vaslui), plus the intra-regional development poles (Vatra Dornei, Rădăuţi, Dorohoi, Fălticeni, Hârlău, Paşcani, Tg. Neamț, Bicaz, Moineşti, Comăneşti, Oneşti, Roman, Buhuşi, Bârlad), with values between 51.55 and 51.58. The polycentric network is supplemented by a significant number of poles and growth centers (Fig. 5).

Structuring the network poles of development is the result of industrialization, dominant before 1990, and of some functions development, as is the Universitary one, which, since 1990, has been propelling some cities (Suceava).

A detailed analysis of the polarization ability of cities in the NE Region highlights the intensity and directions of relations between the polycentric network components, and the manner in which one can interfere to develop these relationships, through the spatial design of the decentralization process.
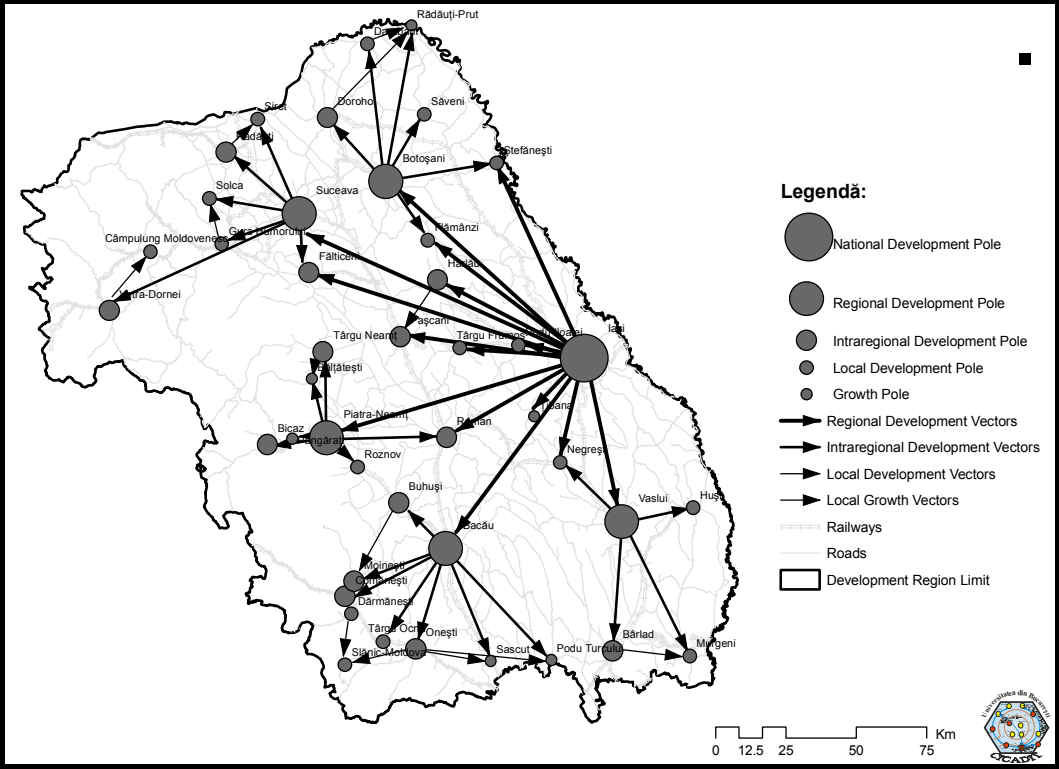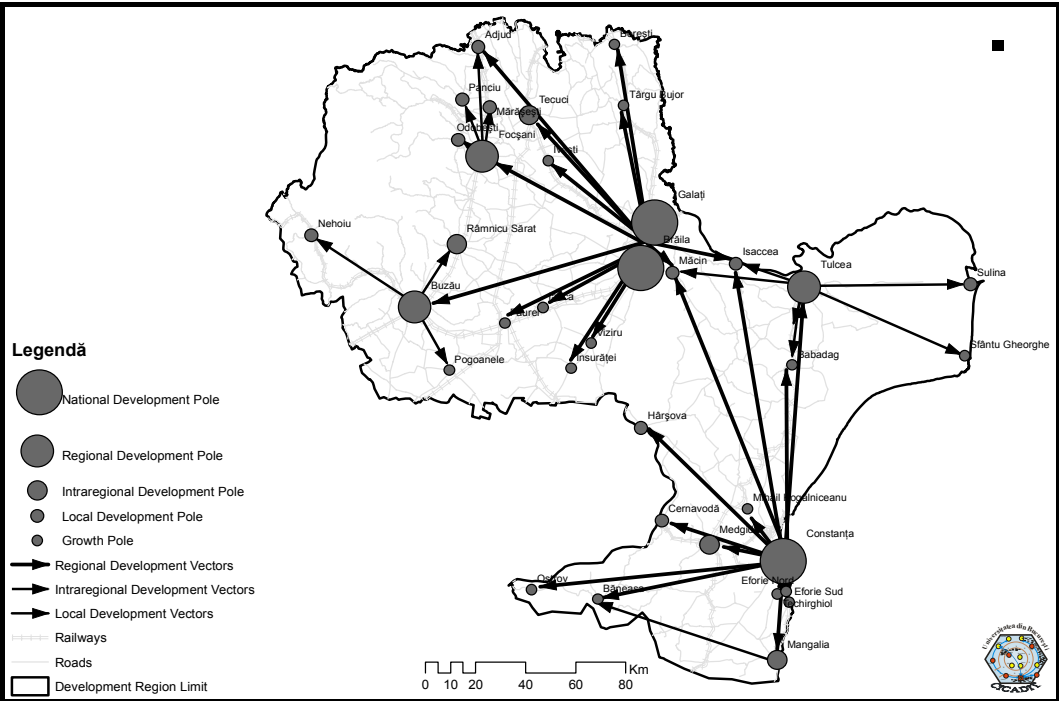
Fig. 5 Polycentric network of North East Region

Fig. 6 Polycentric network of Southeastern Region

The good-working of polycentric network of this region is being conditioned by the construction of an institutional network, through which information should be forwarded from the territorial super systems to local level, at each decision making level is re-making the decisional impulses, so as to give specificity to the development strategies.

In *Southeastern Region*, the polycentric network has two important characteristics: is a bipolar network and is the only region in which exists a competition area, Brăila-Galați, which, along with the city of Constanța, manages the polycentric network. Configuration of the competition area Brăila-Galați is due to overlapping areas of influence which they undertake, despite the historical competition, to cooperate at regional level (Fig. 6).

At regional level, both Constanța and Galați and Brăila, impose their selves by the high values of polarization capacity 53.10, 52.62 respectively 52.05.

Polycentric network includes three regional poles of development-Buzău (51.97), Focșani (51.96) and Tulcea (51.96), which are being imposed by the functions they hold at the regional level.

At the level of local development poles and growing centers, various settlements have been locally imposed by functions of agriculture, mining and even industrial (Pogoanele, Ianca, Măcin).

South polycentric network was designed by hierarchical development poles development regions from the South and Bucharest-Ilfov, according to their capacity Polarization (Fig.7).
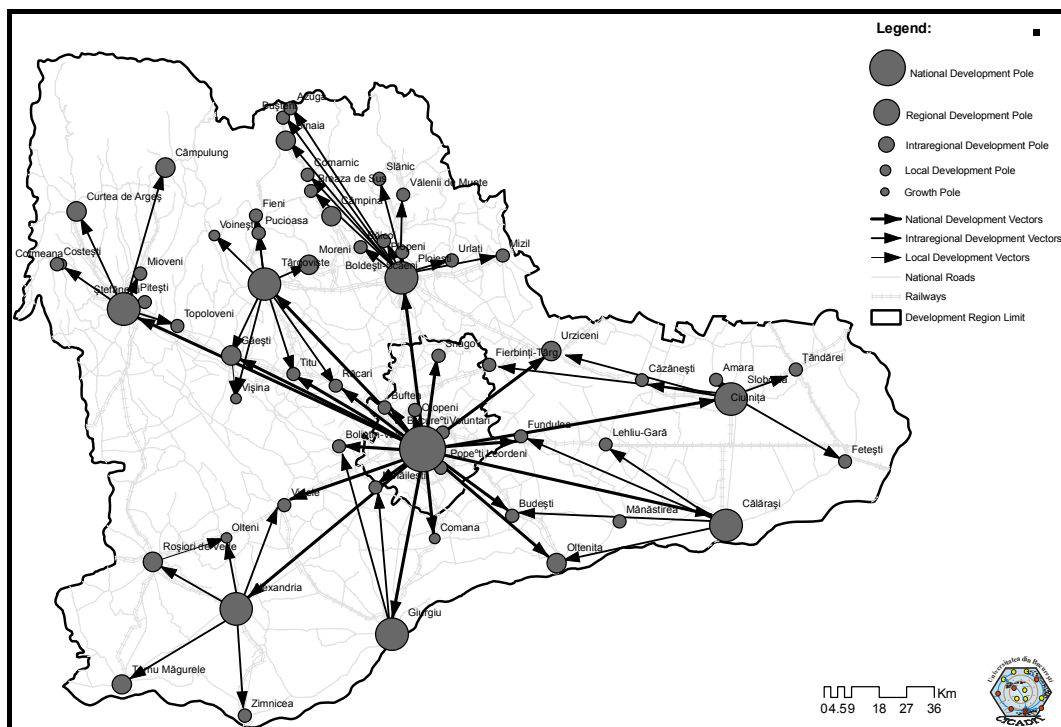

Fig. 7 Polycentric network of South Region

Polycentric network coordination is achieved by the Capital, which recorded the highest value of Polarization capacity index (63.33), and who

managed to configure and polycentric network of well individualized at metropolitan level.

Polycentric network complexity is determined by the presence of regional poles of development characterized by a large functional complex (52-Piteşti 70, Ploieşti-52, 44, Târgovişte-51, 75, Giurgiu-51, 73). At the interregional and local level, some development poles imposed itself by an important dynamics of the economic activities, that take required in the local network of settlements (Sinaia-51, 55, Găeşti-51, 53, Turnu Măgurele-51, 51, Limassol-51.50, Mihăileşti-51, 29, Buftea-51, 10, Volunteers-51, 12, Buşteni-51, 15).

Operation of this polycentric network of high complexity is subject to the decentralization of decision making levels lower, thus ensuring an optimal functionality locally.

The South-West polycentric network is coordinated by Craiova, whose value of the polarization capacity index is 53,08. At very long distance there are the regional poles Râmnicu Vâlcea-52,24, Târgu Jiu-52,15, Drobeta Turnu Severin-51,96 and Slatina-51,95 (Fig. 8).
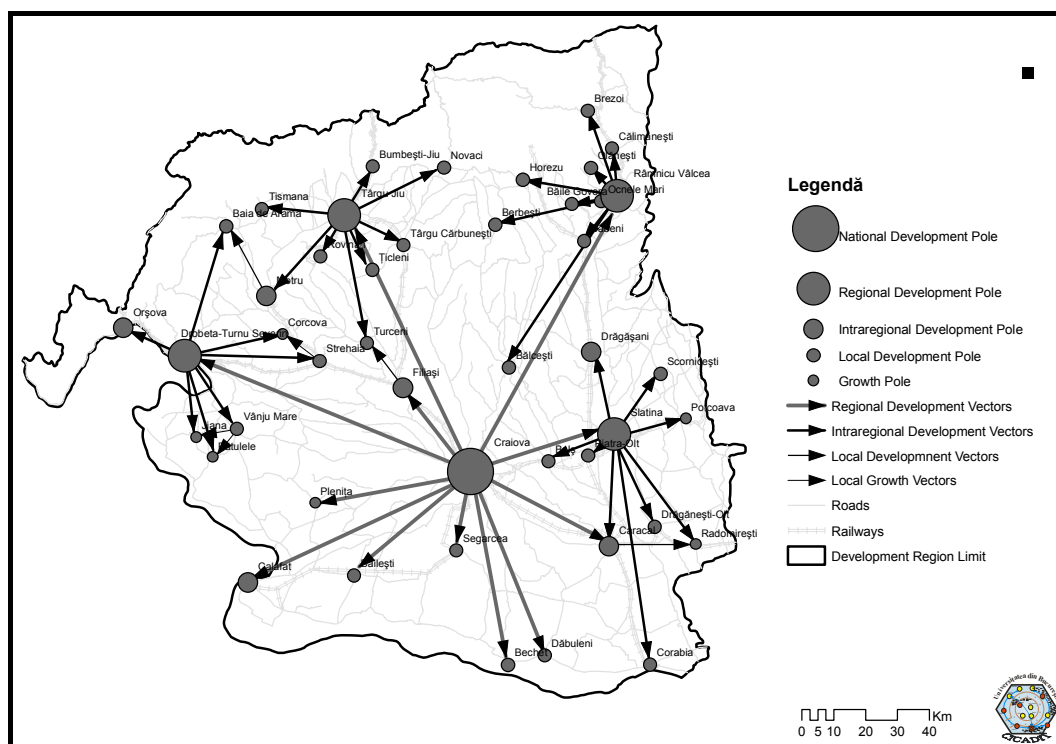

Fig. 8 Polycentric network of Southwestern Region

The regional poles imposed itself in the settlements network by the development in the comunist period of some industrial activities, having a national importance.

In the spatial projection of the South-West polycentric network it was taken into account the profond disadvantaged areas, that cover an important part from the south of this Development Region. Here was individualized some development poles, that could become local poles of development in the perspective of some good development polzcies.
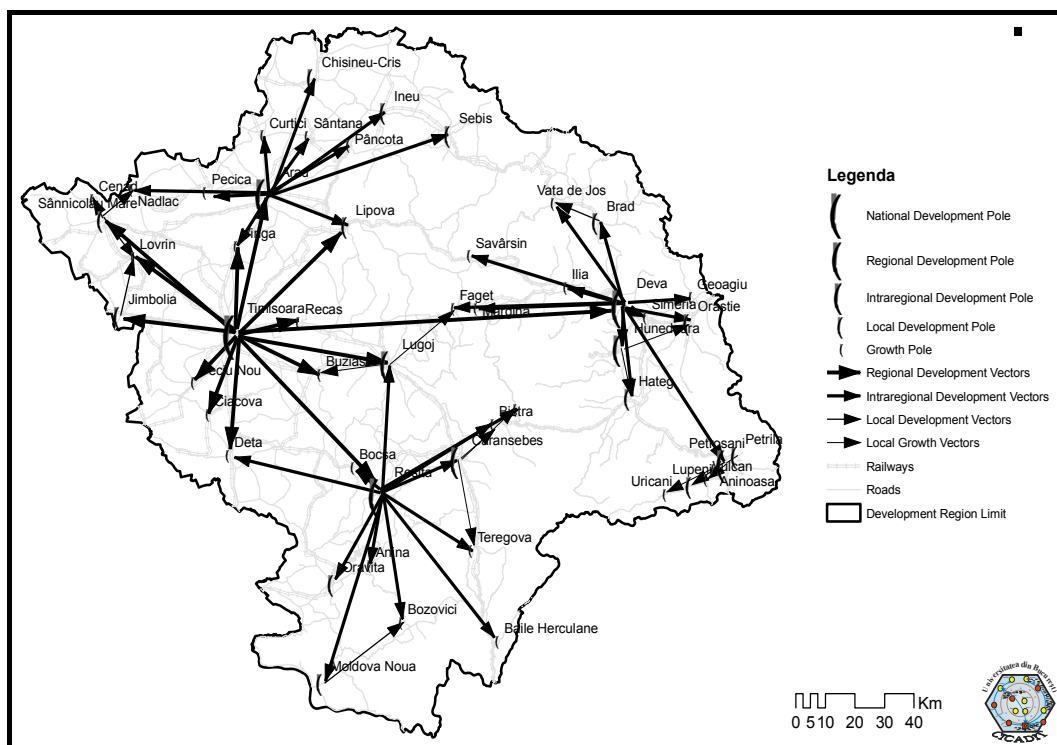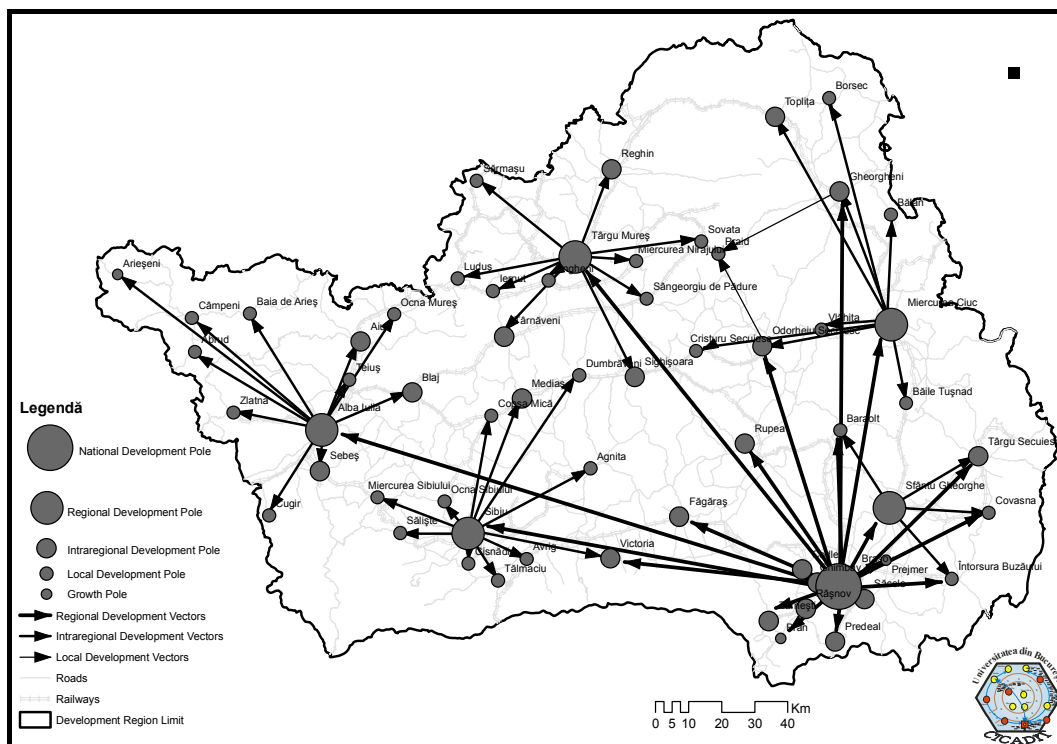
Fig. 9. Polycentric network of Western Region

Fig.10. Polycentric network of Centre Region

An important focus has structured the Danube Valley, the function of facilitating cross-border cooperation ties. An important role is the Danubian ports Drobeta Turnu Severin that are converging towards structured four axes, three of national importance and an important regional and Calafat, with a number of structured three axes, one of national importance, which it links directly with the city of Craiova and two regional importance.

Polycentric network is coordinated by the *Western* pole national development Timişoara, with a polarization of 53.94, the following being levels three regional poles of development Arad-52.39, and Deva Reşiţa with 51.9 each, and several police intraregional, and local growth (Fig.9).

Characteristic of international competition at this region is that the two cities (Timişoara and Arad) emerges net other poles of development by the ability of polarization and functional structure of space.

Polycentric network *Centre* is coordinated by the center pole national development Braşov (with a high-index polarization 53.61) and comprises five regional development poles (Sibiu-53.01, Târgu Mureş-52.98, Alba Iulia-52.90, Miercurea Ciuc-52.11 and Sfântu Gheorghe-52.10), and a dense network of intraregional policy development, policy development and local growth centers (Fig.10).

This is a polycentric network of the most complex because, although the center has a coordinator by individual well capacity of polarization, three required three poles of development that require nearly equally in the territories that it coordinates, in terms of capacity of polarization (Sibiu, Târgu Mureş and Alba Iulia).
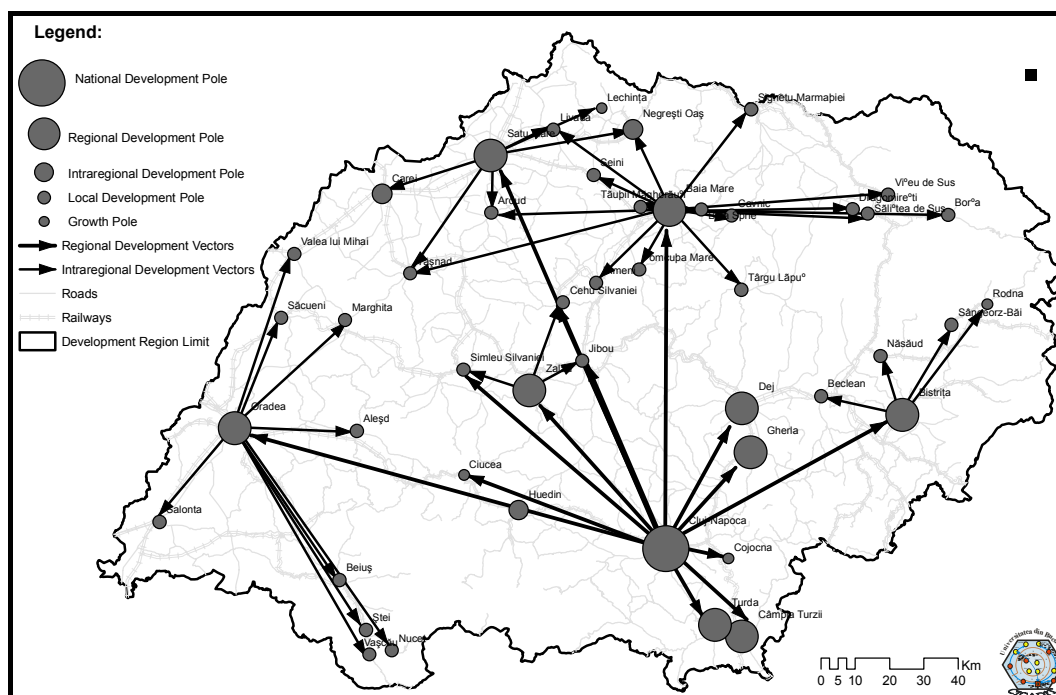

Fig.11. Polycentric Network of North West Region

Structured national axes based on a divergent structure radiar Braşov Municipality unind most regional poles of development, facilitating their

exchanges of information to the centers of growth. Regional axes are connected with the first through the development of intraregional poles, so that throughout the region to benefit from a balanced development.

Polycentric Network North West comprises a polycentric network depends, in terms of the spread of development, Cluj-Napoca city with a capacity index of polarization of 54.33, plus six regional development poles (Baia Mare-51.96, Satu-Mare 52.26, Oradea-53.16, Zalău-51.68, Bistrița-51.82) and poles for development at the local and intraregional (Fig.11).

4. CONCLUSIONS

Polycentric model of development of Romania requires a new approach to the management of the territory, through its reorganization in terms of relationships between system components ranked settlements. Polycentric development strategy is a way of rehabilitation of areas with major structural problems, ensuring an efficient territorial management, spatial planning through institutional mechanisms dealing with development planning.

Polycentric development model provides decision-makers scientific support for the objectives of the Scheme Major Development Area Community[4] (ESDP-1999): development of a polycentric and balanced urban and new urban-rural partnership, ensuring equal access to infrastructure and knowledge sustainable development, prudent management and protection of natural and cultural heritage.

Polycentric development of the network will determine the shape of axes structured, which will be offered by favorites attract investment and development will enable high availability on routes between the poles of development.

Polycentric development strategy is an effective process of decentralization which will take into account the polycentric network look at each pole of development is to determine strategic directions for the realization of territorial specificities, functionally correlated with the general directions of development in a decision making level higher.

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