

TYOLOGY OF MOLDAVIAN RURAL SETTLEMENTS ACCORDING TO THE POPULATION ACCESSIBILITY IN RELATION TO THE POLARIZING CENTERS OF LABOR FORCE IN THE FIELDS SPECIFIC TO RURAL ENVIRONMENT

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ABSTRACT - The study of regional underdevelopment has been, during the last few decades, the main issue in fields such sociology and economic sciences that have mainly used subjective approaches and research methods, such as surveys and queries. By using integrated mathematical coefficients and a comprehensible transparent map base, the main interest of the present paper is to reconcile the methods and instruments of modern-day geography with the classical methods of social sciences, finally proving that underdevelopment is a geographically-induced phenomenon, as well as creating new geographies itself.

Keywords: accessibility, polarization, disparities, disfunctionalities, isolation.

Set into contrasting organizing circumstances, Moldavian rural spaces have had latent evolutions in the last 20 years. Only those areas were favoured that benefited by a favorable localization in the territorial game imposed by the «*holy trinity*» type of structures², trinity in which the role of inherited infrastructures seems to have been the triggering factor for the local emancipation policies.

Even since the beginning of the Old Kingdom, Moldavia admits the peripheral position of the new state entity, centered on the Danubian export and on the privileged position of Bucharest in the East-West relations, becoming interested in consolidating the North-South oriented linkages, so that the majority of the trans-regional investments which aim at the Moldavian communication routes have created longitudinal structures, according to the various natural axes (Siret, Bârlad, Bistrița, Prut, etc.). In this context, the transversal structures were avoided, and when they do appear, they serve as connectors to the previous ones, in order to free some regional and microregional poles (Iași, Botoșani, Piatra Neamț).

Set within these preferential directions, the rural area has participated to an unequal spatial competition and its role in triggering the vertical relations of territorial development has not been recognized. The auspicious positioning of certain rural settlements has favoured their urban evolution, while, on the opposite side, there are wide neglected areas, stimulated by certain programmes during the communist regime and abandoned by the subsequent strategies.

These isolated areas, affected by agrarian dependency, by the lack of investments, by the demographic aging, are the very object of our study, which tries to see the manner in which the diversity of Moldavian rural environment appears in the new regional development tendencies, trying, in the same time, to identify the isolated areas where there are integration reactions, as well as the regions in crisis.

The logic of this research comes from the importance of accessibility in relation to different categories of services and activities within society, the placement of rural settlements in the economic and social relations which take place at zonal, microregional and regional level, trying to offer a

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² The *Holy Trinity* concept was introduced by the American Michael Stroper in his 2001 work *The Regional World. Territorial Development in a Global Economy*. Thus, he denotes the importance of three factors in any given territorial process: infrastructure (technologies), actors (investors, economic agents, social and political actors) and territory.

medium-term and long-term projection through geography, on the evolutions and involutions of the rural settlement system in West Moldavia.

In these circumstances, the first aspect which manages to particularize the diversity of the rural space in the studied area is the differentiated accessibility to work, essential factor of demographic stability and possible engine of centripetal mobility to influence economic and social prosperities beyond social scale.

It is true that in the actual context of the Romanian village, the possibilities of acting on the labor market are reduced and depend upon the quality of the labor force, as well as upon its number, the village having as priorities only certain activities; when it surpasses them, it acquires urban features, so that the stability of these communities largely depends upon the prevalence of some *activities specific to the rural*, the only ones able to answer to the community integration needs, as well as to the interest in maintaining a diminished deficit in relation to the genetic competitor- the city.

Thus, it is very difficult to determine which of the activities of the CAEN system are specific to the rural and, on the contrary, which ones, even when they are placed in rural area, do not have the feature of long-term activities, being sometimes transferred according to the interests of the transnational companies³, or which have undergone the fiasco of a rural exceeded by the giant size of the planned enterprises, founded before 1989 (sugar or integrated textile industries in Bucecea, Trusești, Săscut, etc).

Taking into consideration these arguments, those economic activities that are essential for the long-term stimulation of rural settlements have been preferred, which have the intrinsic quality of stabilizing the population and the peculiarity of favouring the vertical and horizontal development of the multiple relations with other activity fields, functions in conformity with the dependence of the State upon the activities that intimately exploit the neighbouring geographical space.

The localities which have active companies in economic fields were seen as having an advantage in winning an important spatial role in integrating and long-time developing of rural communities. According to the number of companies per community and to the quantity of employed population, the settlements were classified into five hierarchical levels: *localities with local serving capacities*, *localities with local polarization capacities*, *localities with zonal polarization capacities*, *localities with micro-regional polarization capacities* and, finally, *localities with regional polarization capacities*.

Each of these hierarchically classified levels presents certain categories of necessities for rural settlements.

Thus, the first category responds to strictly local needs as regards the absorption of labor force, being the incipient developing form of rural enterprises. The activities peculiar to this class are always primary, mostly within agrarian farms or associations, the number of employees being generally very small, while the quality of the labor force is inferior and mostly unqualified.

There is no polarization force for these small rural centers, as they cannot attract labor force from other localities, and thus it is useless to calculate the accessibility; nevertheless, they have regenerative effects for the communities, offering stable incomes «in-situ».

The second category, *that with local polarization*, has modest rural localities and new urban settlements which include between 3 and 10 companies specific to the rural area, mostly commune residencies or just villages near medium-sized or large cities.

Peculiar to these settlements is the increase in diversity of offers on the labour force market, together with the agrarian and forestry activities, as some agricultural products processing units appear, as well as some companies specialized in depositing, transporting and commercializing these goods.

Unlike the first category, the settlements from this category benefit from a certain polarization area, generally limited, considered in the calculus of our indicator up to the 15-minute isochrone, the time-distance beyond which the attractiveness degree diminishes considerably, until it becomes null.

³ See lohn industries in Negrești, Flamânzi, Țibănești, etc.

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In conclusion, the most dynamic rural settlements taken into consideration will be included in this category, as well as the most rural of the Moldavian towns, affected by reorganizations, unemployment, dominated by the monoindustries developed during the Communist regime or by recent industries with foreign capital, very mobile in space, such as *lohn* industries, tobacco industry, etc.

The *zonal polarization* centers have the peculiarity of exercising diverse functions, as they are almost always small-sized to medium-sized towns, sometimes small, still dynamic, industrial centers, or integrated peripheries of the great Moldavian cities, which have evolved as dormitory quarters in the previous periods and which are currently the source of some entrepreneurial speculations.

These localities manage to have a multi-scale territorial role, on the one hand being recently detached from the rural they preserve certain traditional features of the economic sector, mostly with primary processing activities, or even with the majority of the population involved in agriculture, on the other hand, they manage to become stop locations in receiving any innovations coming from the upper urban levels towards the basis of the settlement system.

Their presence in space becomes vital for the possibility of emancipating new developing centers in the rural area, being, from this point of view, as more useful as they are separated by rural areas from the lower levels.

Thus, the polarization ray may be extended up to the 25-30-minute time-distances, beyond these time limits being rivaled by centers situated on the upper levels.

Taking the counties into consideration, the following localities were established to belong to this category: Buhuși, Târgu Ocna and Podu Turcului for Bacău County, Bucecea, Darabani, Răchiți and Săveni for Botoșani County, Târgu Bujor and Matca for Galați County, Târgu Frumos, Cotnari, Podu Iloaiei, Valea Lupului, Tomești for Iași County, Poiana Teiului, Biczaz, Săvinești, Hangu, Grințieș, Ceahlău, Dămuc, Bicazu Ardelean, Dumbrava Roșie for Neamț County, Vicovu de Sus, Siret, Sfântu Ilie, Vama, Marginea, Sadova, Moldovița, Pojorâta for Suceava County, Nereju, Adjud, Panciu, Odobești for Vrancea County, while no locality met the requirements for Vaslui County.

At the level of *microregional polarization centers*, all the localities with more than 50 societies active in fields specific to rural areas have been included, which enjoy, in these conditions, a great capacity of attracting labor force, difficult to determine in time-distances, resulting a polarization independent from their time factor.

The influence of these development poles becomes decisive where the lower levels are weakly represented or even absent, even though through their size and dynamics the towns in this category can engage definitive mobility from the rural environment, accentuating its repulsiveness⁴.

The last hierarchical level, that of the *centers with regional polarization capacity*, includes all the county seats in the studied area, as well as the municipality of Roman, more precisely all the cities with more than 100 societies active fields peculiar the rural area.

The quality of these cities is to respond to ample necessities in the labor field, along with the complexity of the activities proposed to the market, having a great capacity of specializing in collateral fields to the training of the rural personnel.

The attraction force is independent from the time factor, most of the cities belonging to this category generating polarization waves beyond the county administrative limits or even regional limits.

The calculus of the final index of accessibility towards services and activities specific to the rural area will mostly take into account its importance in a weakly-matured territory as settlement system, the appearance of some growing local poles of social and economic life, with direct influence upon the stability and the effectiveness of rural communities, so that it will consider the initial level of

⁴ The category includes the following towns: Moinești, Comănești and Onești for Bacău County, Dorohoi for Botoșani County, Tecuci for Galați County, Pașcani for Iași County, Târgu Neamț for Neamț County, Câmpulung Moldovenesc, Gura Humorului, Vatra Dornei, Fălticeni and Rădăuți for Suceava County, Huși and Bârlad for Vaslui County, while Vrancea County does not have such polarization centers.

simple local serving as optional, while starting from the second level, a calculus will be made, under the form of progression to favour the partial indices of local polarization, by reporting those from above as their product.

Synthesizing it under the form of a mathematical formula, the specific accessibility to the labor market will appear as follows:

$$Afml = \frac{DI + Apl + Apl(Apz + Apmr + Apr)}{5}$$

Where,

Afml - accessibility towards polarizing centers of labor force in fields specific to the rural area, according to the local polarization index

DI - local serving index

Apl - accessibility towards local polarizing centers of local labor force

Apz - accessibility towards zonal polarizing centers

Apmg - accessibility towards microregional polarizing centers

Apr - accessibility towards regional polarizing centers

As regards the calculation methodology of partial indices, they were conceived as concentration coefficients of the employed population, counting the relations between the employed population in the locality and the whole employed population, as well as in relation to the total population, but also the relation between the employed population “in-situ” in the locality which also serves its total employed population. The denominator is represented by the double of the distance between the served locality and the polarizing one.

By combining the partial indices of the rural population’s accessibility to various levels of the labor force polarization, an aggregate indicator with an integrator character will be obtained, the methods of synthetic assembling these secondary coefficients being made by taking into consideration different methods, according to the factor accepted as being the most appropriate in creating the discrimination.

In consequence, the following typology was obtained, according to the quintile statistic method:

1. Settlements which benefit from their own polarization capacities of labor force in fields specific to rural areas.

The concentrations of this typology follow two predominant directions:

- First of all, the concentrations under the form of rural-urban conglomerates can be noticed, having in center the dominant town, as it repeatedly appears in all the county seats, as well as in large towns, taking into account the difference in size of these micro-agglomerations. In this respect, the city of Galați stands out, which seems to polarize in the most effective way the neighbouring rural area, also due to its localization, taking into account the size of this Danubian port and the three-direction obtruding of the hinterland. In an intermediary position, there are the polarizations realized by large-sized urban centers, some with a positional advantage, others dependent on the hegemonic neighborhood of some centripetal forces, all of them having at least eight rural localities in the first zone of influence: Iași, Focșani, Bacău and Botoșani. Beyond this level, there are several situations in which the dominant town preferentially chooses certain polarization directions, leaving rural communities unconnected to the advantages of the urban areas outside the maximum influence zone: Vaslui, Bârlad and even Onești seem to be the most sustainable examples, which, together with Suceava, has a slightly more complex profile, that of a town which has historically developed its suburban regions from south-west, the villages in the commune of Șcheia, respectively.

- The second category is specific to some axial concentrations, sometimes independently developed, some other times under the form of a microregional model, in the latter case having the possibility of an evolution towards new concentrations, which can offer more durability and

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consistency to the existent socio-economic structures. It is the case of the settlements on the Suceava Valley, where the local enterprise has found many supporters, creating – hyperbolically speaking – a “model of rural development”. There are also other regions to be taken as example, with an older tradition in self-organizing functional gearings, such as the “Câmpulung field”, the Dorna Land, or, even from other perspective and having other bases, the contact area between the Plain of the Lower Siret and the Subcarpathians of Vrancea, equilibrated on the direction of two urban micropoles: Odobești and Panciu.

- A last category belongs to certain urban or quasi-urban elements, which, because of an introvert economic profile, cannot take over some of the tasks of their peripheral territory, being frequently the last levels for spreading the entrepreneurial innovation from urban towards rural. They are more frequent where the education level and, simultaneously, the level of the entrepreneurial relations complex is more effective, as in the case of the Hilly Plain of the Jijia, towards the contact with the Suceava Plateau, where there are small concentrations around Hârlău, Săveni, and Darabani, the area of Trușești-Ștefănești-Românești, even Cotușca. Rarely, these settlements appear also in the places where the relations within the settlement network are obtruded by restrictive physical-geographical conditions or by poor communication axes, such as in the case of the Tutova Hills or of the Fălciu Hills, spreading north of the Covurlui Plateau, were the potential urban breaches (Podu Turcului, Puiești, Berești, Murgeni), are surrounded by large areas with no private enterprises.

2. Settlements well served by polarizing centers of labor force.

At this level, there are also two dominant types:

- Settlements which complete the free spaces enclosed by the urban-rural conglomerates described by the first category, being typical for the Bucovina Ridges, where they occupy mainly the interfluvial territories, the valleys being served by polarizations already mentioned as being very effective, but they appear also in the mountainous area of Neamț County, such as in the case of Bicazu Ardelean, as well as at the contact between the Ibănești Hills and the Hilly Plain of the Jijia, in the communes of Cristinești, Suharău and Hudești.

- Settlements which play, at a more modest scale, the role of some polarizing agglomerations, meant to compensate the functions where the urban element is missing: Zemeș in Bacău County, Viișoara in Vaslui County, Cavadinești in Galați County, Hlipiceni and Todireni in Botoșani County.

3. Settlements partially served by polarizing centers of labor force.

As a median category, the settlements in this category indicate intermediary states, although, through the intense development of the upper part of the values, this category is closer to the lower characteristics of the indicator.

Within the developed territories, they indicated almost in unanimity areas with peripheral accessibility, situations exemplified by the villages of Neagra, Pietroasa, Valea Bancului and Teșna in Suceava County, Vameș- in the commune of Pîscu, Galați County, or the villages of the Lutca commune, in Bacău County. On the contrary, in the regions characterized by the presence of the settlements situated mainly in the lower part of the index, they personalize areas with high fluidity of economic relations, being settled on roads of regional importance, receiving sometimes quasi-hilly tendencies, such as in the case of the villages situated along the national road linking Vaslui and Roman: Vulturești, Todirești and Poienari, or even the localities close to the 15 B road, linking Moțca and Târgu Neamț, and also in a syncopate form, along the most important roads of Vaslui County, E581 and DN24A, which can be interpreted as a symptom of an accentuated underdevelopment of the rural in this county, warning about the far more modest situations upstream these national roads.

In the Vrancea Mountains, the localities having these values of the index are seen as the most advanced within the settlement system, being frequently situated at various confluences which drain, at least the administrative necessities of some communities affected by isolation: Vintileasca and Andreiașu de Jos, both with small local economies based on wood processing, and polarized by other semi-urban centers, Nereju for the first and Dumitrești for the latter.

4. Settlements weakly served by polarizing centers of labor force.

Always peripheral to the important national roads, the settlements included in this statistic level indicate the transition towards deep rural, without always having its physical presence, but through recent involutions they may indicate the presence of a serious underdevelopment of relic character. Very rarely do they manage to satisfy certain basic needs, due to the presence of some agrarian associations, or through the reorganization of former state farms. This is the case of Călărași in Botoșani, locality with many agrarian associative units, with great agrarian productions, having its own agro-food market, but peripherally localized to the surrounding communes. Similar examples appear in Băneasa in Galați County, Bărsănești in Bacău County, Hurdugi in the Fălciu Hills, or even in Balcăuți in Suceava County.

Besides these positions with possible underrepresentations, the situations of a very deep rural character dominate, without any form of local enterprise: milling and bakery industries, vegetal oil industries, micro-farms or agrarian associations.

The road infrastructure is also deficient, rarely are there any forms of modernization, the isolation degree increasing in star shape from the commune centre towards the peripheral villages.

The lack of a population with a high-school or academic degree and the deficiencies registered in the private field impose the maintenance of a very high socio-economic state of risk, the enterprise lacking to a great extent even where the resources of natural environment are favourable for development. A peculiar situation appears in the mountainous area of Vrancea, where entire communes are placed outside the regional transactional space, such as in the case of the commune of Negrileşti. The most compact of such areas are in the counties of Iași and Botoșani, being frequently areas of inter-commune border, such as between the communes of Havârna, Concești and Mileanca, where the villages of Gârbeni, Movileni and Seliște are the least polarized within its own commune.

In other contexts, they may coincide with entire communes isolated from the polarization of labor force, not developing local structures for trans-local evolutions. This is the case of the communes with the most reduced number of employed people in the counties of Botoșani and Iași, Mihălășeni and Alexandru Ioan Cuza, respectively.

5. Settlements not served by polarizing centers of labor force.

The most ample concentrations of such settlements are in the area of the Tutova Hills, where, between the Siret Valley and the Bârlad Valley, also including the Nicorești Platform, there are entire communes with minimum values of the accessibility indices, explained not only by the lack of viable enterprises to increase the number of employed persons, but also by the total absence of some polarization links, out of which, the local and the zonal ones being the most conclusive in explaining the high incidence of villages without a single employee.

The causes of the underdevelopment of this area, large enough and well populated, consist in multiple explanations with origins in the determinism of certain rejections of the geographic environment: consequent valleys enclosed by narrow origins, high relief energy, lithology predisposed to slope processes, lack of water resources, very high general declivity, which creates difficulties in practicing mechanized agriculture, and which continues with the arguments of a weak organization of the socio-economic system: longitudinal domination of communication ways that impose drainages of the social systems according to the natural ones, with tendencies of concentration towards confluences, always situated peripherally to the studied area, the historic instability of these settlements with discontinued and preferential migrations from the valleys to the upper side of the slopes, subsequently redirected towards the basis level, an aspect which has complicated the settlement system, increasing the number of elements in the network, but decreasing the human resources. There are also demographic factors, such as the close relation between the size of the settlements and the proximity to the Siret and the Bârlad, the settlements decreasing in size as the distance to the confluence of the two rivers increases, a process which diminishes the accessibility towards the upper course of the tributaries, complicating the social risks of these isolated communities, etc.

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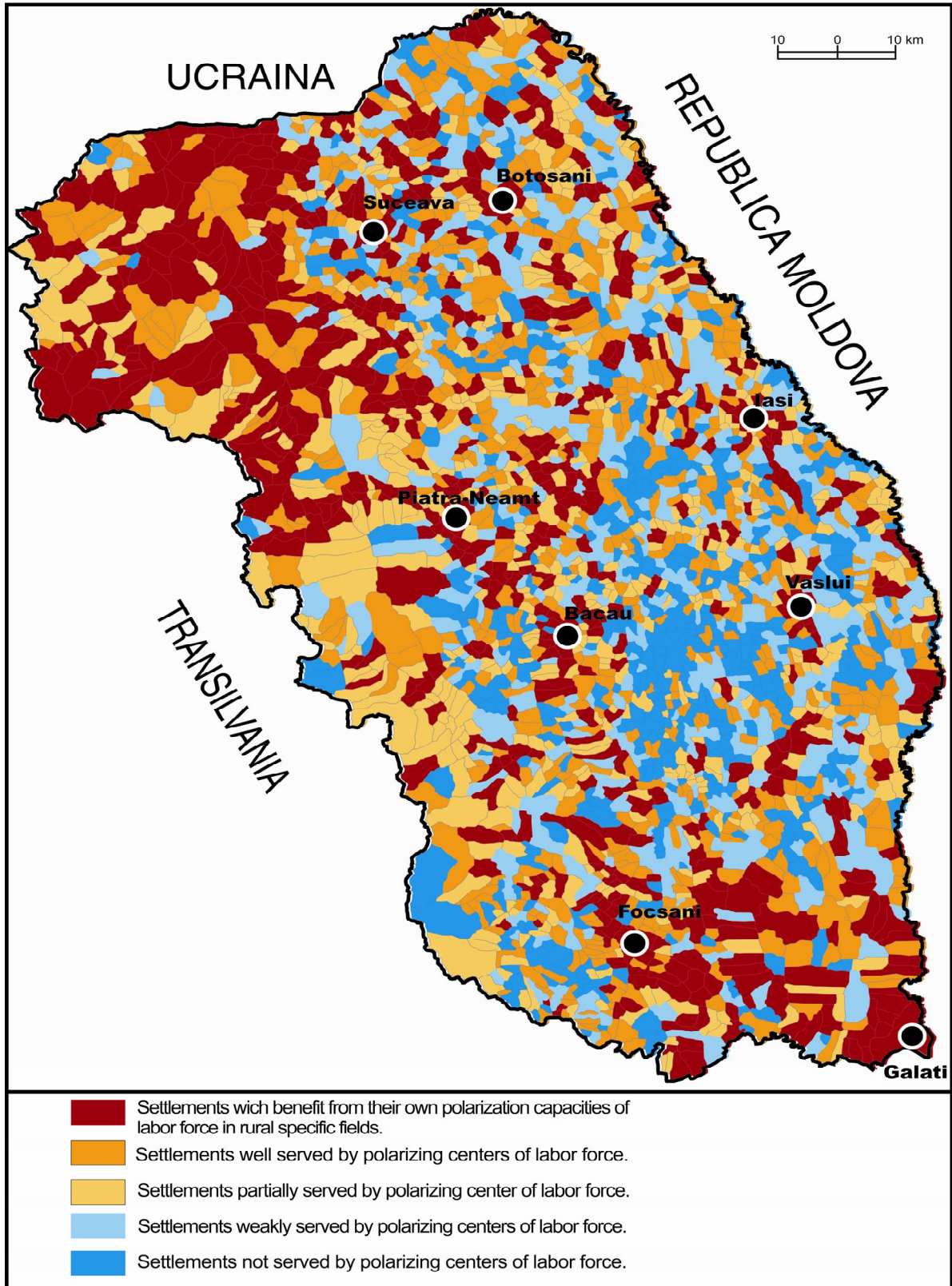


Figure 1. Typology of Moldavian rural settlements according to the population accessibility in relation to the polarizing centres of labour force in the fields specific to rural environment.

In the case of the Nicorești Platform, the aspects are slightly more nuanced, the range of arguments being different. Better endowed with enterprise structures, the villages of this area present administrative dysfunctions, the isolated position within the county they belong to being one of the main arguments for this slightly-polarized territorial construction.

Superposed on the administrative register of three counties, Galați, Vrancea and Bacău, this area has only one polarizing center, Podu Turcului, peripherally localized, the other localities being found in different stages of integration into the zonal and microregional economic relations: only Homocea and, in a more modest manner, Brăhășești have some polarizing functions. The syncopate character of the development of the road communication systems, with numerous interruptions due to the administrative-territorial complications, produce disparities in the orientation of human and economic fluxes, situation complicated also by the westward presence of the natural obstacle imposed by the Siret River, in whose absence, the Adjud would have been far more effective.

North and east of this very compact area, there are other two areas with a very weak polarization of labor force, the Moldavian Central Plateau and the Fălciu Hills, areas partially continuous to the above-mentioned one, the interruptions being produced by the presence of some routes of regional importance, meant to fluidize certain territorial relations, E581 and DN15B.

The slightly-accessible microregion of the Moldavian Central Plateau has a concentration of the very low values of the accessibility indices towards the south-western sector, where the communes of Oțeleni, Mădârjac, Tansa, Dagâța and Sagna excel in the lowest values, the explanations being offered both by the slight diversity of the professional profile in these communities, and by the geographic criteria, the above-mentioned communes bearing the deficiencies imposed by two discontinuities: the first one, natural, determined by the limit between the Moldavian Central Plateau and the Tutova Hills, the second one, administratively individualized by the limit between the counties of Vaslui and Iași, subscribing together the organizing difficulties of a territorial placement of the “bag bottom” type.

The same situation appears at the limit between the counties of Galați and Vaslui, where, along with the administrative hiatus, there is also a natural one, drawn by the Jiravat Valley, as limit between the Fălciu Hills and the Covurlui Plateau, mentioning that north of this limit, the area of slight polarization extends up to the Crasna Valley, where, beyond the area of the influence of Huși, the procedure is reactivated by a new dysfunctional fault, the limits between the counties of Vaslui and Iași and those between the Moldavian Central Plateau and the Fălciu Hills, respectively.

In the Vrancea Mountains, the aspects that lead to the very low values of the polarizing forces have a slightly different character, so that, although they produce in the same coordinates of isolation, this is the result of a “dead angle” positioning, the logical connecting relations with the urbanized centers being obstructed by the orographic complications implied by the mountainous and sub-mountainous system of Vrancea, with double rows of depressions, enclosed by hills consolidated on hard structures, difficult to organize in efficient communication systems. The very isolated character of these rural communities impose slow, stagnant relationships, complicated by the reticence towards innovation and by the traditionalism of the rural communities, explained by the low level of the educational indices.

Similar, but at a smaller scale, are the cases of some settlements delimited by closed borders, such as in the case of the communes of Suharău and Hilișeu-Horia in Botoșani County, or of the villages in the north-west extremity of Suceava County.

In the rest of the territory, the precariousness of the accessibility to the polarization functions of rural labor force has relatively uniform repartitions, contradicting some of the acknowledged models of underdevelopment studies, which naively merge such territorial behaviours in large administrative units such as counties.

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