

Specific Forms of Organization of Settlements in the Bistra Corridor, Romania

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ABSTRACT

The purpose of this study is to present various aspects regarding the organization of settlements in the geographical space of the Bistra Corridor. In case of rural settlements, the construction area is approached together with population and estate (usually included in the *extrarurban* in the case of urban settlements) as it is one of the main components both in the rural and urban areas; most of the population inhabiting these settlements, regardless of type or rank, live and perform their activity here. The construction area is therefore the *core* of every settlement including, together with residences, various institutions and/or services facilities with polarization role.

1. INTRODUCTION

Due to its location in the north-eastern side of Caraş-Severin County, Bistra Corridor is one of the most original geographical spaces on the Romanian territory, both from a geographic and a historical point of view.

Strictly from the geological and geomorphologic perspectives, Bistra Corridor is an area of discontinuity, marking the limit between the Southern and Western Carpathians; more precisely, it divides Retezat-Godeanu Mountains (Țarcu subdivision) and Poiana Ruscă Mountains. Nevertheless, it has to be stated that the present paper approaches the area of Bistra Corridor, from an administrative-geographical point of view, taking into account all of the 7 administrative-territorial units in the researched microregion, as follows: Oțelu Roșu city and the communes Băuțar, Marga, Rusca Montană, Zăvoi, Glimboca and Obreja, all of these with their incorporated localities. Thus, there will be analyzed inclusively the precincts of the settlements situated in the mountain area, adjacent to

the tectonic corridor of Bistra river, namely: Țarcu Mountains in the south and Poiana Ruscă in the north, the settlements in these two mountain areas being located on the tributaries of Bistra River (except for the village Preveciori, which is located on an interfluvium).



Fig. 1. The spatial location of the Bistra Corridor.

From a historical point of view, the Bistra Corridor covers an area traditionally belonging to two geo-historical provinces: Banat and Transylvania. Although currently it is administratively included in Caraş-Severin County, the commune of Băuţar completely belongs to the historical province of Transylvania, formerly being included in the Hunedoara County (the interwar configuration) until the administrative - territorial reorganization of Romania in 1950. The other administrative-territorial units (Oţelu Roşu, Marga, Rusca Montană, Zăvoi, Glimboca and Obreja) belong to Banat. The border between the two historical provinces is drawn in Vama Marga village.

It must also be noted that the analyzed geographical space is individualized as an ancestral region, inhabited since the prehistoric period (the settlements between Glimboca and Obreja, from Ciuta, Iaz, Var etc.) [1] and the Dacian-Roman period (the Roman camps of Agnavis, also called Agnaviae or Agmonia in the current locality of Zăvoi, Pons Augusti from Voislova, the Dacian fortress from Tapae, near Bucova) [1, 2], a part of the precincts of the current settlements of Bistra Corridor being constituted on the premises of the old ones or in their vicinity. During the Roman period, there was also a road along the Bistra Corridor that used to connect the city of Tibiscum (today, Jupa, north of the Caransebeş town) to the capital of the Roman Province of Dacia, Sarmizegetusa Ulpia Traiana and the other Roman settlements located in the current geographical space of Transylvania [2].

Even the local inhabitants of the microregion under study still keep ancient traditions and customs, they being often considered to be the direct descendants of the Dacians. A part of the population in the Bistra Corridor is known as *Gugulani*, a name originating from the Gugu peak (2291.1 m), the highest peak of the Godeanu Mountains and also of the territory of Caraş-Severin County.

Also, Gugu peak is located right in the researched geographical space, on the territory of Zăvoi commune. Among the settlements populated by *Gugulani* in the Bistra Corridor we mention the villages Băuţar, Bucova, Cornişoru and Preveciori of the Băuţar commune; Marga and Vama Marga belonging to the Marga commune; Zăvoi, Valea Bistrei, Măru and Măgura, all these being component villages of the Zăvoi commune; Cireşa and Mal belonging to the city of Oţelu Roşu; Glimboca (homonymous commune); Obreja, Iaz, Ciuta and Var, all belonging to the Obreja commune and Oţelu Roşu city [3].

2. THEORY AND METHODOLOGY

Several research methods were used in the elaboration of the present paper focusing on the historical method, the statistical method and the

cartographic method. Regarding the historical method, it was used for researching specialized bibliography, and combined with the cartographic method. Therefore, we used maps from various periods of time, on which we tried to observe various changes (on the surface, shape, structure, texture etc.) occurring at the level of the settlement precincts of Bistra Corridor. Some of the cartographic materials used are the maps of Banat and Transylvania, drawn during the three Habsburg military topographic surveys, Master Plan Drawings (Ro. *Planuri Directoare de Tragere*), the topographic maps of Romania drafted under at 1:25000, 1:50000 and 1:100000 scales and the cadastral maps of Caraş-Severin County, at a scale of 1:50000. Some of these maps were used not only for research purposes, but also as a support for drawing thematic maps, by using the GIS technology. Satellite images and aerial photography, provided by *Google Earth* software, *Bing Maps* website or the *Geoportal* service developed by the National Agency for Cadastre and Land Registration (A.N.C.P.I.), were also used. This type of representations of the Earth surface have the advantage of being more recent and the geographic reality can be analyzed much more easily, due to their clarity and accuracy.

Finally, the statistical method was used in this research, employing a series of specific indicators. Also, numerical data regarding the perimeter and surface (area) of the precincts, the population, the number of buildings are provided etc.

In conclusion, this study focuses on the quantitative and qualitative analysis of the settlement precincts. The outcomes of study will highlight the general overview of the area under study and particular issues on each individual settlement, when the case.

3. RESULTS AND DISCUSSION

3.1. Overview of the settlements in Bistra Corridor

The 23 settlements taken into account in our study are organized into 7 basic administrative-territorial units: one city (Oţelu Roşu) and 6 communes (Băuţar, Marga, Rusca Montană, Zăvoi, Glimboca and Obreja), which together cover an area of 1013.81 km² [4]. From the aforementioned information we conclude that settlement density of 2.26 localities/100 km² in the area is less than the national average of 5.06 localities/100 km² by twice.

With reference to the system of settlements, the highest rank in Bistra Corridor is held by the city of Oţelu Roşu, which is the only urban settlement in the geographical space under study. Oţelu Roşu city is ranked 5 in the national hierarchy of settlements, being therefore an urban centre with zonal influence, because it polarizes an area with a total population of 23,291

inhabitants (2011) [5] and it has got facilities belonging to several religious denominations, facilities for primary, general and high school education, town hospital, specialized medical facilities, pharmacies (including a veterinary pharmacy), culture house, universal and specialized shops, daily food market, branch of the Administration of Public Finances, branches of various banks (and implicitly ATMs), post office, police station, notary public office, gas stations etc.

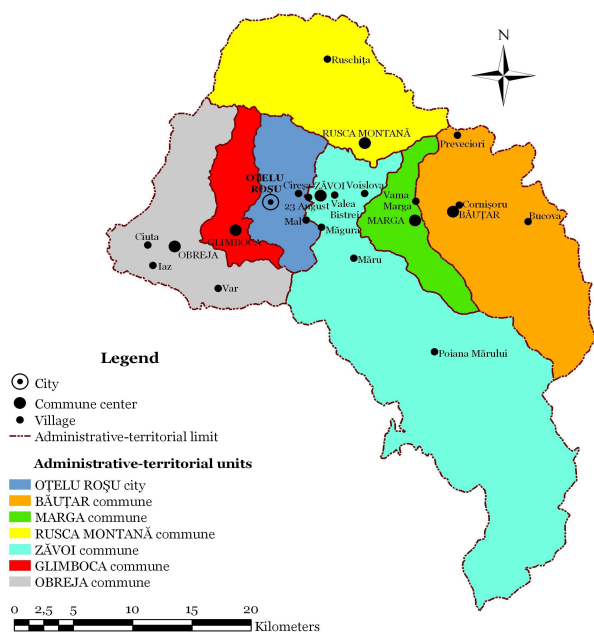


Fig. 2. The administrative-territorial organization of the Bistra Corridor.

Regarding the rural settlements, all six commune centres in the area are ranked 8, considered to have a communal influence, thus polarizing their own villages, which are ranked 9 (subcommunal centres). Cireșa and Mal localities, the two settlements belonging to the Oțelu Roșu city, are also ranked 9.

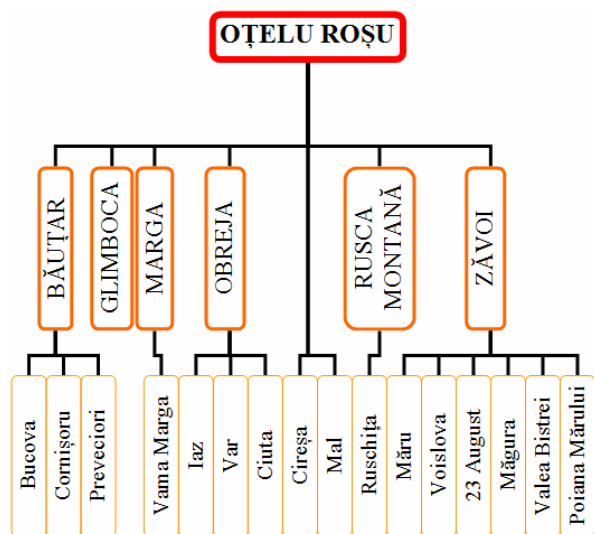


Fig. 3. The system of settlements in the Bistra Corridor.

3.2. The spatial location of the settlement precincts

Regarding the spatial distribution of the settlements in the Bistra Corridor, several classifications may be elaborated, considering factors such as: the dominant landform, altitude, hydrographical network and configuration of communication axes.

3.2.1. The spatial location of the settlement precincts according to the relief units

Due to their position in the tectonic corridor of Bistra River and in the surrounding mountain area (Țarcu Mountains in the south and Poiana Ruscă in the north) all the settlements belong to the geographical space of the Carpathian Mountains, thus settlements being specific to corridor (valley) or mountain areas.

According to the main relief units where the precincts are located, we emphasize on the existence of three major types of settlements, namely:

- settlements with precincts situated in lowland areas and lowland corridors;
- settlements with precincts situated at the contact between the lowland and mountain area;
- settlements with precincts located in the mountain area.

The large majority of the precincts are included in the first category, namely those located in the Bistra tectonic corridor (between Poiana Ruscă mountains in the north and Retezat-Godeanu, with the subdivisions Țarcu and Muntele Mic in the south) among which we mention, from east to west: the precincts of the villages Băuțar, Vama Marga, Voislova, Valea Bistrei, Zăvoi, 23 August and Măgura, to which the Oțelu Roșu city is added, with its component localities, Cireșa and Mal. The settlements Glimboacă, Obreja, Iaz, Ciuta and Var are located in the Caransebeș (Timiș) Depression.

Regarding the settlements laying at the contact between the lowland area and the adjacent mountain area, these are: Bucova and Marga, both at the contact between the Bistra Corridor and the Țarcu Mountains, Cornișoru (at the contact between the Bistra Corridor and the Poiana Ruscă Mountains) and Măru (at the contact between the Bistra Corridor and the mountains Țarcu and Muntele Mic).

Finally, among the settlements located in the mountain area, are the villages in the Poiana Ruscă Mountains, Rusca Montană, Rușchița, both situated in the narrow valley carved by the Rusca river and a few of its tributaries (the streams Lozna, Șoimu, Cracu Lung, Morii and others), Preveciori (peak/interfluvial village) and the rural settlement Poiana Mărului, which has its precinct at the contact between the Țarcu Mountains and the Muntele Mic Massif.



Fig. 4. The spatial location of the settlement precincts in the Bistra Corridor according to the main relief units.

3.2.2. The spatial location of the settlements according to the hydrographical network

Several settlement alignments (rows) develop along the Bistra Corridor.

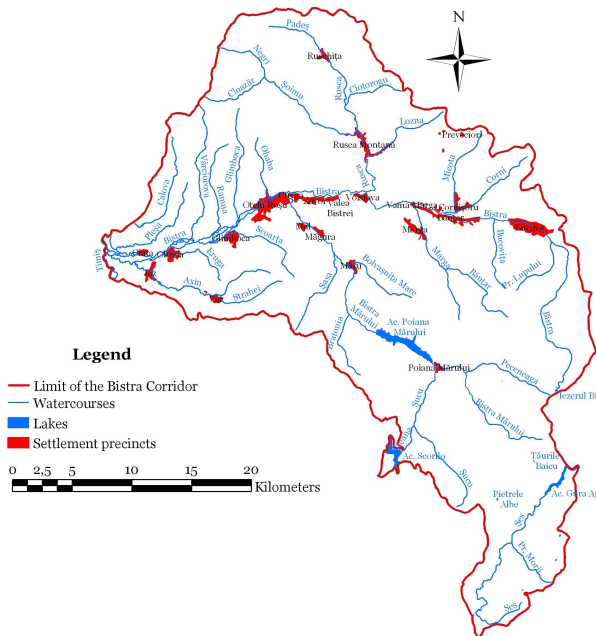


Fig. 5. The spatial location of the settlement precincts in the Bistra Corridor according to the hydrographical network.

These are mainly dictated by the geomorphology and hydrographical configuration of the area. Therefore, at the level of the researched regional system, there are 6 alignments, classified as follows:

- a main one, along the Bistra tectonic corridor and implicitly the homonymous watercourse, where most of the settlements are located;
- other 5 secondary alignments along the valleys of the rivers Bistra Mărului (left side and also the largest tributary of the Bistra River), Rusca (right side tributary of the Bistra River), Axin (left side tributary of the Bistra River), Corni (right side tributary of the Bistra River) and Marga (left side tributary of the Bistra River).

As it was previously mentioned, most of the settlements in the Bistra Corridor are located along the Bistra River. Among these, we mention (from east to west, in the direction of the flow of the Bistra River): Bucova, Băuțar, Vama Marga, Voislova, Valea Bistrei, Zăvoi, Cireșa, Oțelu Roșu, Glimboca, Obreja and Ciuta, at the end. The village 23 August (Zăvoi commune), although it is not directly crossed by the Bistra River, but it is very close to it.

The second row of settlements is located along the valley of the Bistra Mărului River and includes the villages Poiana Mărului, Măru and Măgura, all three belonging to the commune of Zăvoi and Mal village, which is in the administration of Oțelu Roșu city.

The third alignment is on the valley of the Rusca River, where the precincts of the rural settlements Rusca Montană and Ruschița are located, both belonging to the Rusca Montană commune.

The fourth row of settlements is along the Axin River, which includes the precincts of the settlements Var and Iaz, the composing villages of Obreja commune.

The fifth alignment develops along the valleys of the streams of Corni and Micota, where the precinct of the Cornișoru village (Băuțar commune) is located.

The sixth and last alignment is that of the Marga River valley, where the precinct of the Marga village, from the commune with the same name, is partially developed (in the south-east part).

The only rural settlement in the area under analysis that is not located on any alignment is Preveciori village (Băuțar commune), being situated on the interfluvium between the streams of Micota (the hydrographical basin of the Bistra River) and Sterminos (the hydrographical basin of the Cerna River).

It must be stated that most of the settlements in the Bistra Corridor were constituted at watercourse confluences. In this respect we mention the following villages: Cornișoru (with a precinct located along the creeks Corni and Micota), Rusca Montană (at the confluence of the streams Șoimu and Lozna with the Rusca River), Ruschița (with a precinct developed along the Rusca River and the tributaries Cracu Lung and the Morii Creek), Voislova (near the confluence between Rusca and Bistra), Măru (located at the junction of Bolvașnița Mare and Bistra Mărului), Poiana Mărului

(located at the confluence of the Şucu Stream and the Bistra Mărului River), Var (at the confluence of Strahei and Axin) etc.

Also, the settlements of the Bistra Corridor can be classified according to their position towards a watercourse. Thus, most of the localities are situated along the Bistra watercourse on its left side, namely: Vama Marga, Voislova, Valea Bistrei, Zăvoi, 23 August, Cireşa, Glimboca and Obreja. The only settlement having a precinct located on the right side of the Bistra River is Ciuta. The villages Băuţar and Bucova, and the Oţelu Roşu city have their precincts located on both sides of the Bistra River.

In case of the settlements located on the Bistra Mărului alignment, the precincts of the villages Poiana Mărului, Măru and Măgura are developed on both sides of the Bistra Mărului River, whereas the precinct of the Mal locality is situated on the left side of the aforementioned watercourse.

Regarding the villages Rusca Montană and Ruschiţa on the Rusca alignment, their precincts have constituted on both sides of the Rusca River. The same situation applies to the Cornişoru village, which has its precinct on both sides of the watercourses Corni (also called *Strâmba*) and Micota.

In the case of the settlements along the course of the Axin River, the precinct of the Var village is located on its left side, and Iaz is on both sides, being divided by the aforementioned watercourse.

Finally, the precinct of the rural settlement Marga is developed on the left side of the homonymous watercourse.

Also, it is necessary to mention that the spatial orientation of the precincts is also dictated by the orography and/or the hydrographical network. Thus, the settlements located along the Bistra alignment or on the National Road 68 usually have a general orientation of the precincts on an east-west direction, while those on the county roads 683, 684 and 684A are oriented from north to south etc.

3.2.3. The spatial location of the settlement precincts according to the communication axes

Concerning the spatial distribution in line with a transport route, most of the settlements in the Bistra Corridor have precincts located along the National Road (DN) 68, which has been broadly arranged along the old route of the Roman road that connected the capital of Sarmizegetusa Ulpia Traiana and the city of Tibiscum, crossing the aforementioned corridor on an east-west direction. Therefore, the settlements having precincts along DN 68 are: Bucova, Băuţar, Vama Marga, Voislova, Valea Bistrei, Zăvoi, Cireşa, Oţelu Roşu, Glimboca, Obreja and Iaz. The rest of the settlements are located along county roads, departing from DN 68: Marga - DJ 684A; Rusca Montană and

Ruschiţa - DJ 684; 23 August, Măru and Poiana Mărului - DJ 683; Ciuta - DJ 680A or communal roads: Cornişoru and Preveciori - DC 1; Mal and Măgura - DC 3 and Var - DC 4. Also, the precincts of certain settlements are developed at crossroads, such as the village Voislova, located at the intersection of DN 68 and DJ 684, Obreja, at the intersection of DN 68 and DJ 680A and so on.

Overall, there are also some settlements crossed by the railway 917 (Caransebeş-Bouţari), formerly 211 (Subcetate-Caransebeş); these are: Băuţar (Bouţari), Voislova, Zăvoi, Oţelu Roşu, Glimboca, Obreja and Iaz. Although they do not have train stations or stops on the railway section 917, the settlements Vama Marga, Valea Bistrei, 23 August and Cireşa are also along this route. Until 1978, when train traffic was closed between Băuţar (Bouţari) and Sarmizegetusa, the railway being permanently shut down, the Bucova village also developed along this path.

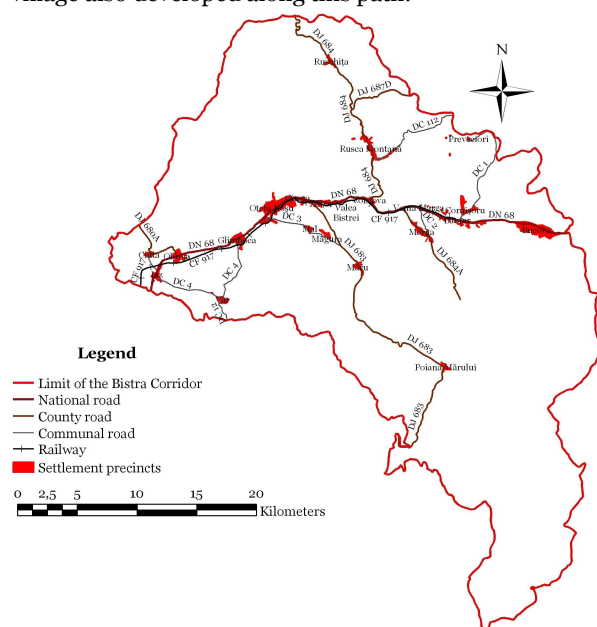


Fig. 6. The spatial location of the settlement precincts in the Bistra Corridor according to the communication axes.

3.3. The boundaries of the settlement precincts

Without generally overemphasizing this subject, the settlement precincts of the Bistra Corridor are physically-geographically (naturally) bordered, either by a landform, usually slopes in this case, by a watercourse or by an agricultural or forest area. In some situations, the borders of the precincts are harder to draw or to identify, especially in the case of the settlements with discontinuous precincts or those with scattered structure; a clear example in this case are the precincts of the villages Preveciori and Poiana Mărului. In other cases, the border of the precinct usually follows closely the line of the households located in the peripheral area of the settlements.

Also, it is necessary to specify that in the case of some settlements with precincts stuck together they are naturally divided by watercourses. In this situation, a few examples are: the precincts of the villages Băuțar (homonymous commune) and Vama Marga (the commune of Marga), which are bounded by the Marga River or the attached precincts of the settlements Oțelu Roșu and Cireșa, bordered by the Bistra Mărului River.

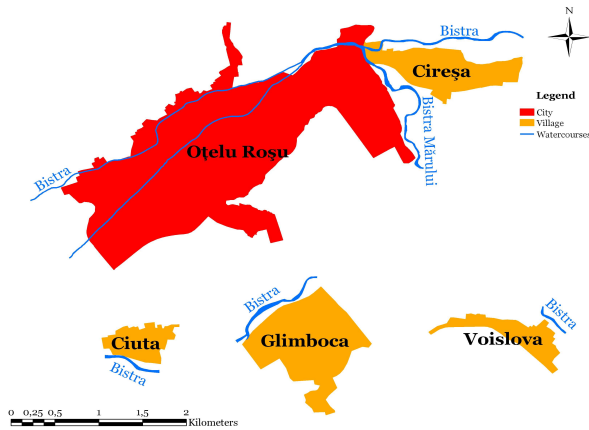


Fig. 7. Hydrographically bordered settlement precincts.

Some of the settlements located along the Bistra River have it as a northern border: Voislova, Valea Bistrei, Zăvoi, Cireșa, Glimboca and Obreja. In exchange, Ciuta has the Bistra River as a southern limit. There are also cases where the border of a settlement is given by a transport route; this case is applicable to the Bucova locality, which has a northern boundary marked by the secondary railway Subcetate-Caransebeș, currently disassembled on the section Hațeg-Bouțari. The northern limit of the settlements Vama Marga and 23 August is the railway 917 (Caransebeș-Bouțari). The southern border of the villages Voislova and Valea Bistrei is marked by the same rail transport route.

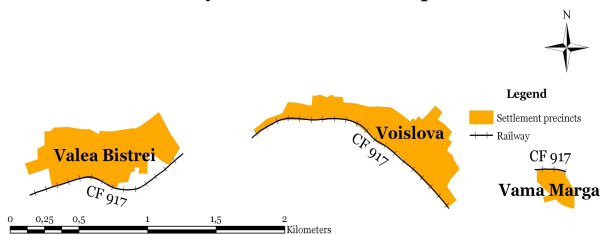


Fig. 8. Settlement precincts bounded by a railway.

Some settlements are delimited by hayfields, grasslands and/or forests; among them are the villages of Rusca Montană, Ruschița, Preveciori or Poiana Mărului.

3.4. Metric aspects of the settlement precincts

In this subchapter we analyse the perimeter and surface of the settlement precincts.

3.4.1. The perimeter of the settlement precincts

In the case of a settlement, the perimeter represents the sum of the lengths of the settlement precinct's limit.

In the Bistra Corridor, the values of the settlement precincts' perimeters are between the minimum of 0.97 km in length, for Vama Marga, and the maximum of 24.56 km, for Băuțar. Most of the settlements have precincts with a total length of the limits between 4 and 4.99 km, as the following 6 rural localities in ascending order: Voislova – 4.13 km, Ruschița – 4.24 km, Măgura – 4.30 km, Zăvoi – 4.43 km, Cireșa – 4.89 km and Var – 4.96 km. Numerically speaking, they are followed by the settlements with perimeters between 2 and 2.99 km, namely: 23 August – 2.47 km, Mal – 2.57 km, Preveciori – 2.75 km and Ciuta – 2.80 km. The third place is held, with an equal score, by settlements with precincts having a perimeter between 6 and 6.99 km, respectively 7 and 7.99 km; these are: Măru – 6.23 km, Obreja – 6.55 km, Iaz – 7.05 km and Cornișoru – 7.25 km. Valea Bistrei has a perimeter of 3.11 km, Glimboca – 5.31 km, Poiana Mărului – 8.49 km, and Marga – 9.26 km. The perimeter of the Oțelu Roșu city is 17.13 km long. [6]

Figures reveal the fact that the largest perimeters are usually held, besides from Oțelu Roșu, by the villages with dispersed structures, such as: Băuțar (24.56 km), Rusca Montană (16.84 km) or Bucova (11.29 km) [6] that also cover areas of over 150 ha, especially due to the orography, which does not allow a grouping of the households within the precinct.

3.4.2. The surface of the settlement precincts

Regarding the dimension or surface of precincts of the settlements in the area, they can be included in all of the four categories: small, medium, large and very large precincts.

The settlements with small precincts (under 50 ha) are the most numerous, 10 of them in the analyzed microregion. In ascending order, these are: Vama Marga (4.42 ha), 23 August (10.04 ha), Preveciori (10.86 ha), Mal (24.14 ha), Ciuta (26.13 ha), Voislova (29.92 ha), Valea Bistrei (29.99 ha), Măgura (35 ha), Ruschița (36.35 ha) and Var (47.91 ha) [6], all these being classified as belonging villages. According to the Population and Housing Census of 2002 most of these settlements have a small number of population (between 10 inhabitants in Preveciori and 623 inhabitants in Voislova,) [7], and the number of buildings does not exceed 200, except for the Var village that registers 202 buildings (a case also applicable for the year 2002) [8].

There are 9 settlements with medium size precincts (50-150 ha): Cornișoru (54.76 ha), Măru (55.28 ha), Cireșa (64.34 ha), Iaz (64.91 ha), Zăvoi

(68.94 ha), Poiana Mărului (89.06 ha), Obreja (89.24 ha), Marga (102.62 ha) and Glimboca (106.58 ha) [6].

There are only two settlements with large precincts (151-250 ha), both being commune centres: Rusca Montană (154,15 ha) and Băuțar (200,38 ha) [6]. These two localities have an extended precinct area, because of their dispersed structure, along narrow corridors (valleys).

Finally, a single rural locality is classified as one with a very large precinct (over 250 ha), namely Bucova, a belonging village of the Băuțar commune, with a precinct surface of 258.98 ha [6]; just as in the case of Băuțar and Rusca Montană villages, this is due to the fact that it is located on the upper course of the Bistra River, in a narrow area, at the contact with the Țarcu Mountains, thus having a diffuse structure. Although it is only a belonging village, the population of the Bucova settlement is numerous (1029 inhabitants in 2002) [7]. Regarding the number of buildings, it registers 308 (year 2002) [8].

As expected, of all the settlements along the Bistra Corridor, regardless of whether they are urban or rural, the largest precinct (*intraurban*) size is that of Oțelu Roșu (468.18 ha) [6], this being the only city in the geographical space under study.

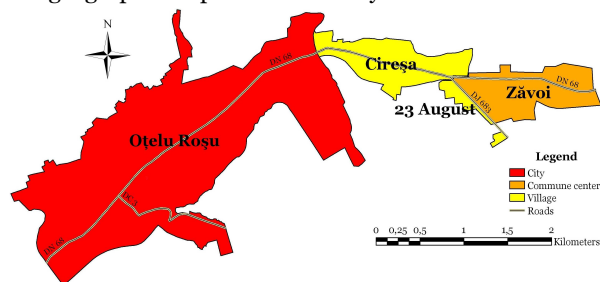


Fig. 9. Settlements with agglutinated precincts.

It must be added that both the surface and the perimeter of the precincts are subject to change over time. Therefore, some of the villages have expanded by uniting their precincts and forming a single settlement. An example for this is the Băuțar village, which was constituted through the union of the villages Upper Băuțaru (Ro. *de Sus*) with Lower Băuțaru (Ro. *de Jos*). Also, the former village Ohaba Bistra was merged with Oțelu Roșu. Because the precinct of the Oțelu Roșu city is joined with the precinct of Cireșa, the latter is sometimes considered neighbourhood and not a component locality. The precinct of the Zăvoi village is also united with that of the settlement 23 August. Practically, the localities Zăvoi, 23 August, Cireșa and Oțelu Roșu are stuck together. Valea Bistrei village also shows an agglutination trend, with Zăvoi village. The same case applies to the settlements of Băuțar and Vama Marga.

In other situations, some settlements have disappeared completely. This is the case of the former mining settlements on the territory of the Rusca

Montană commune: Lozna-Pleș, Baia de Piatră and Padeș-Rusca.

3.5. The spatial character of the settlement precincts

Concerning the spatial character of the precincts, in the Bistra Corridor, there are settlements with both continuous and truncated precincts.

Generally, the settlements with truncated precincts include the villages in the mountain area or at the contact between the valley or depression with the surrounding slopes; thus, the main cause of the discontinuity is of an orographic nature (for instance, the narrowing of the valleys where the precinct of the settlement is developed, a situation also applicable to the Rusca Montană village). In other cases however, the fragmenting of the precinct's surface was generated by the presence of agricultural lands (arable lands, orchards, hayfields or grasslands) between the precinct nuclei.

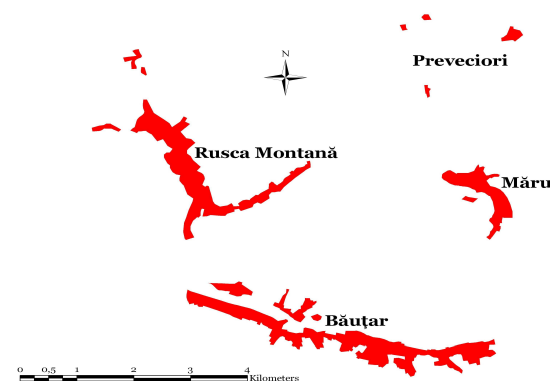


Fig. 10. Settlements with truncated precincts.

A few examples of villages with truncated precincts in the analyzed geographical space are: Preveciori, Băuțar, Rusca Montană, Măru and Var. Among the settlements in the Bistra Corridor with continuous precincts, we list: the city of Oțelu Roșu and the villages Bucova, Cornișoru, Vama Marga, Ruschița, Voislova, Valea Bistrei, Zăvoi, Mal, Glimboca, Obreja, Iaz etc.

3.6. The shape of the settlement precincts

The settlements considered in the present study generally have precincts with geometric (regular) shapes. Along with the extending of the precinct's surface, its shape might undergo changes. Because of their location in valley sectors, most of the settlements in the Bistra Corridor have linear (elongated, rectangular) shaped precincts, developed mainly along watercourses or roads. Among the most typical villages with linear precincts, we mention: Marga (*Strassendorf* type village, developed along the County Road 684A) and Valea Bistrei (see Figure 16). Some villages, whose

precincts developed not only along the main watercourse but also along its tributaries have a linear-tentacular shape; some examples are: Băuțar, Cornișoru (with a V shaped precinct, due to its development along the streams Corni and Micota), Rusca Montană (with precinct along the Rusca River and its tributaries: Lozna, Șoimu, Pârâul Ciocanului, Pârâul Cătămaru, Pârâul Scund etc.), Ruschița (developed along the Rusca River and tributary streams Cracu Lung and Morii, with a precinct in the shape of a reversed T) (see Figure 16).

Also, the settlements having the precinct along the main road and streets (by-streets) detaching or perpendicular from/on this, have very interesting and various shapes, such as: Voislova (with a precinct shape similar to a triangle or trapeze), Cireșa (cross shaped), Mal (like a triangle), Măru (linear-tentacular precinct), Zăvoi (tentacular shape), Iaz (approximately triangular precinct) etc. The settlement Poiana Mărului has a triangle shaped precinct due to its location at the confluence of the watercourses Șucu and Bistra Mărului. The villages Bucova, Vama Marga and Ciuta have a quasi-oval shape. The settlements Glimboca and Obreja are polygon shaped. Thus, Glimboca has a shape similar to a tetragon (square or rectangle), and Obreja has the shape of a five-pointed star. The shape of the Oțelu Roșu city is tentacular.

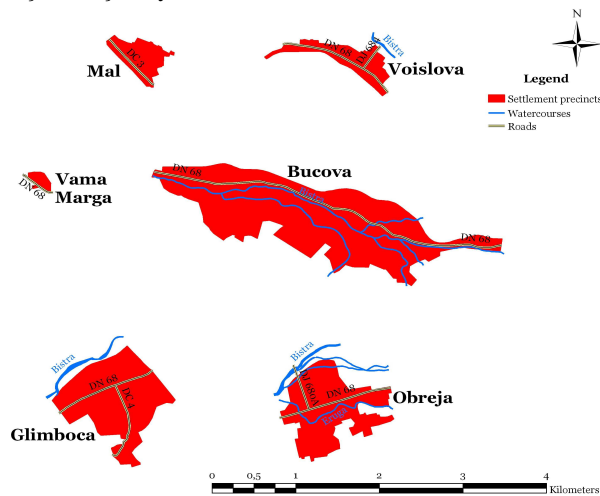


Fig. 11. Settlement precincts with regular shapes.

3.7. The structure of the settlement precincts

At the level of the Bistra Corridor, from the point of view of the precinct's structure, we identify settlements in all of the 3 large categories: settlements with gathered precincts (nucleated), diffuse (dispersed) and scattered (dispersed) structure.

Most of the settlements in the researched space have nucleated structures. As examples, these are: the villages Marga, Măru, Voislova, Valea Bistrei, Zăvoi, Mal, Măgura, Glimboca, Obreja, Iaz, Ciuta, Var etc., which commonly have their houses or households stuck together (compact structure), a frequent situation

in the villages from Banat. Oțelu Roșu city identifies also with a gathered structure. Usually, the houses of these settlements have an *integrated (incorporated)* gate and the access from the street to the yard (called *voreț* in Banat) is practically made through or under the house. The yards and gardens are therefore behind the houses.

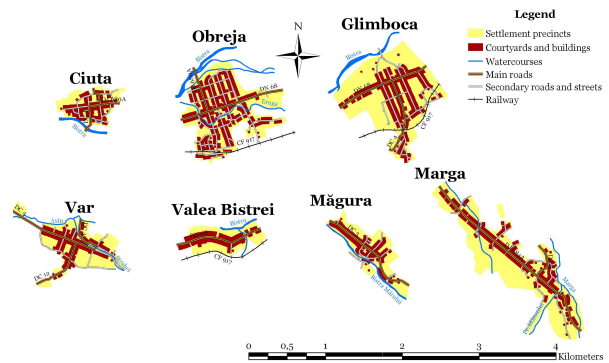


Fig. 12. Settlement precincts with nucleated structure.

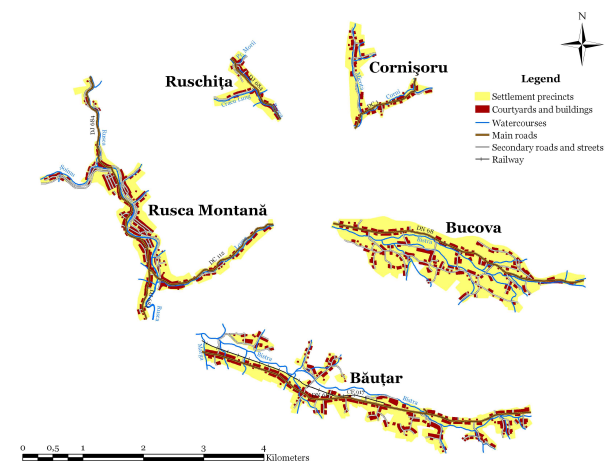


Fig. 13. Settlement precincts with dispersed structure.

The settlements with a dispersed (spread) structure can be found along the upper course of the Bistra River, on the valleys of the creeks Corni and Micota and on Rusca Valley; these are: Bucova, Băuțar, Cornișoru, Rusca Montană and Ruschița, some of these having a tendency to gather (Rusca Montană, Ruschița) or scatter in certain perimeters (Băuțar, Bucova, Cornișoru). For example, the precinct of the Rusca Montană village has a relatively nucleated structure in the centre, whereas towards the outskirts specifically in the northern area (in the perimeter called *Cioara*) and along some valleys where it develops (Lozna Valley and Șoimului Valley) the structure is dispersed and even scattered.

Among the settlements with a scattered (dispersed) structure, we include the Preveciori village (located in the Poiana Ruscă Mountains) and Poiana Mărului village (in the Țarcu Mountains), where houses and households are at relatively large distances one

from the others. Regarding the buildings, in Preveciori prevalent are the shelters, whilst in Poiana Mărului the villas, holiday homes and guest houses prevail because this settlement has mainly a tourist function.

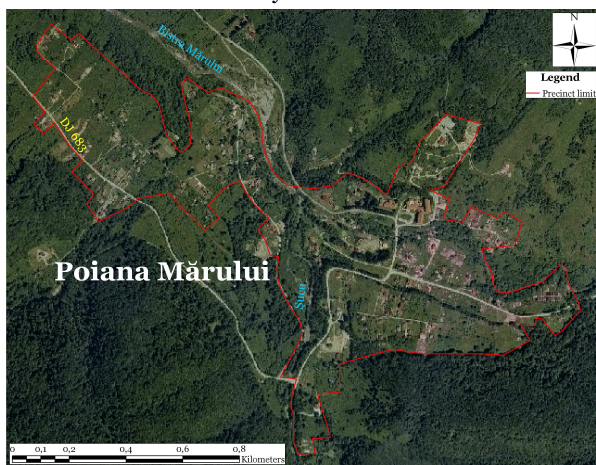


Fig. 14. Settlement precinct with scattered structure [9, with modifications].

By calculating the indicator of the concentration of buildings inside the precinct, the structure of the settlements may be partially determined. This indicator can be calculated by using

$$\text{the formula } I = \frac{N_c}{S_i}, \text{ where } N_c \text{ is the total number of}$$

the buildings located in the precinct, and S_i the surface of the precinct or the *intraurban*, expressed in hectares. After obtaining the results, 3 categories of settlements can be distinguished: a. with low concentration of buildings inside the precinct (under 10 buildings/ha), b. with an average concentration of buildings (10-15 buildings/ha) and c. settlements with high concentration of buildings inside the precinct (over 15 buildings/ha) [10].

From the calculations performed for the Bistra Corridor, it is revealed that 22 settlements out of the total of 23 register less than 10 buildings/ha, meaning a low concentration of buildings inside the precinct. The settlements included in this category are usually characterized through the presence in the precinct of large yards and gardens or lands of various destinations (especially agricultural lands, but sometimes also forests); the following villages serve as examples: Bucova (1.18 buildings/ha, the lowest value in the Bistra Corridor), Preveciori (1.38 buildings/ha), Cornişoru (1.71 buildings/ha), Poiana Mărului (1.75 buildings/ha), Ruschița (2.25 buildings/ha), Băuțar (2.41 buildings/ha), Zăvoi (2.52 buildings/ha) etc. A slightly higher concentration of the buildings inside the precinct is registered in case of: Glimboca (5.90 buildings/ha), Ciuta (6 buildings/ha), Măru (6.11 buildings/ha), Voislova (6.35 buildings/ha) and Obreja (6.88 buildings/ha).

The urban settlement Oțelu Roșu has 3.68 buildings/ha [8, 6]. The only settlement registering an average concentration of buildings inside the precinct is 23 August, with 10.85 buildings/ha [8, 6].

Certainly, along with the expanding of the precinct or *intraurban* (Ro. *intravilan*) and with the increase in the number of buildings, the data resulting from the calculation of this indicator may be partially obsolete.

3.8. The texture of the settlement precincts

The settlements with gathered structure usually have an ordered texture, with the streets or by-streets perpendicular on a central axis (main road).

The settlements included in this category are the following: Voislova, Cireșa, Mal, Măgura, Glimboca (with parallel streets, perpendicular on DN 68), Obreja (the same as Glimboca), Iaz, Ciuta, Var etc. Some of the aforementioned settlements have partially or complete rectangular texture, with streets crossing each other at 90° and a grid or chess board layout.

The most typical villages with such textures are Obreja (especially in the northern half), Ciuta, Iaz (in the southern area), Glimboca (partially in the central side), Cireșa and Voislova.

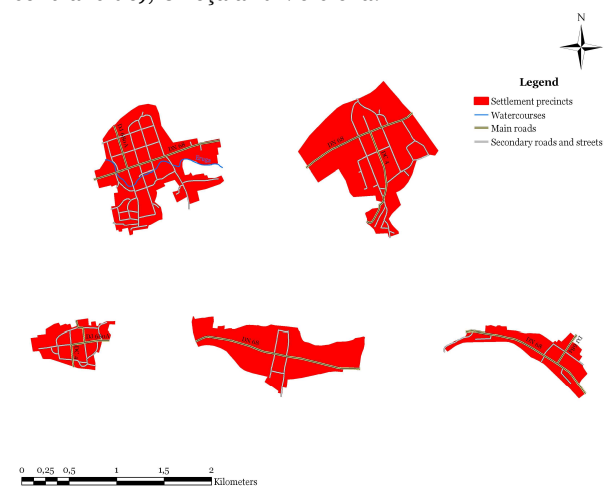


Fig. 15. Settlement precincts with ordered (partial rectangular) texture.

As for the settlements with an unordered texture, we mention a few examples in this area: Bucova, Băuțar and especially Poiana Mărului (see Figure 14). In the case of rural settlements with linear-tentacular shape (Rusca Montană, Ruschița, Cornişoru) the texture is established by the geomorphology and/or hydrographical configuration, the streets (by-streets) being developed on valleys, along the watercourses which cross them (linear and linear-tentacular texture). The linear texture is also specific for the settlements with precincts constituted along a way road, such as Marga, Vama Marga and Valea Bistrei (single-line structure).

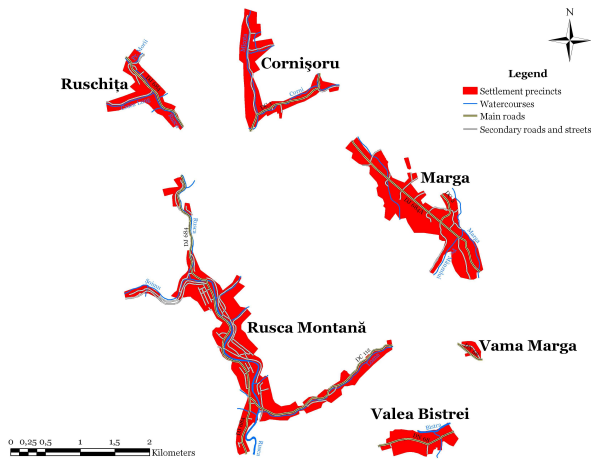


Fig. 16. Settlement precincts with linear and linear-tentacular structure.

The precinct of the urban settlement Oțelu Roșu has an ordered street network, partially rectangular in the eastern side (towards Cireșa) and an unordered one for the rest, therefore a complex or mixed texture.

Being located on interfluves and having a scattered structure, the only settlement without texture is the Preveciori village.

3.9. The physiognomy of the settlement precincts

Generally, the commune centres in the Bistra Corridor have an expressive physiognomy, which is mainly explained through the presence of high rank public facilities in the precinct, such as: mayoralty, police station, churches, secondary school, dispensary, community centre (culture house) etc., which are often grouped within the central side of the settlements. The communes located at the contact with the piedmont or mountain areas or in their vicinity, also have panoramic or lookout points; a few examples in the researched space are: Rusca Montană, Marga or Băuțar. Because they are located along main roads, national or county roads (Băuțar on DN 68, Marga on DJ 684A, Rusca Montană on DJ 684), the communication potential of these settlements is a high one. For instance, Băuțar has a train halt, as a final station of the railway 917, Caransebeș-Bouțari. The locality Marga also has a railway halt, but this one is outside the precinct, at a rather high distance from the village. Marga, just like Oțelu Roșu and the commune centres Zăvoi, Glimboca and Obreja, has marsh gas distribution network.

The city of Oțelu Roșu has also an expressive physiognomy, due to both the high number of the institutions with polarization function (distributed mainly in the centre of the locality) and the construction pattern and architectural diversity of the buildings.



Fig. 17. Settlement precinct with expressive physiognomy (Rusca Montană in 2006).

The belonging settlements usually have a monotonous physiognomy (minimal endowments, uniform buildings). However, the village Poiana Mărului is an exception, because it has a main tourist function (health resort), which translates into an expressive physiognomy.

In this locality, the new buildings constructed after 1990 (101 buildings, compared to 55 buildings erected before this date, according to the Population and Housing Census of March 18, 2002) are prevalent, mostly being chalets, vacation homes, villas and accommodation units [8]. The expressive physiognomy of Poiana Mărului also comes from its advantageous natural surroundings: slopes covered with forest, mountain streams, artificial lake, lookout points.

Regarding the settlements with indistinct (blurred) physiognomy, the most typical example in the analyzed microregion is the isolated settlement Preveciori (only 10 inhabitants in 2002) [7], an interfluve village, with scattered structure, very weak communication potential and no institution with polarization function. Also, 14 buildings out of the total of 15 (93.33 %) are made of wood (shelters), built between 1910 and 1980 (data valid for the year 2002) [8]. Although it has several public interest endowments (Orthodox and Roman Catholic churches, kindergarten, grocery store, bar), panoramic points and an impressive number of blocks of flats, the village Ruschița (453 inhabitants in 2002) [7] has an indistinct, even repulsive physiognomy. This situation is caused by the large number of buildings, abandoned after the permanent shutting down of the nearby mining exploitation sites (iron, lead, zinc); the buildings are currently in an advanced stage of degradation and, besides from being aesthetically polluting, they represent a real hazard for the surrounding population.

3.10. The functions and public facilities of the settlements

The basic function of the settlement precincts is the residential (shelter) one, completed by other functions as: storage, service, production and communication [11]. Usually, the settlements in the Bistra Corridor have mixed (complex) functions. Therefore, at the level of the settlement precincts in the analyzed geographical space, besides from the residential buildings, there are various endowments.

The facilities associated with the storage function are the sheds (penthouses), basements (cellars), various storages etc., all these being specific mainly for the rural settlements. Usually, each household has at least one endowment of this type.

The service function refers to the various institutions or units with polarization function, located in the precinct of a settlement. The larger the number and diversification of service related endowments, the higher the rank of the settlement in the national hierarchy and vice-versa. Being the only urban centre in the Bistra Corridor, it is obvious that most service related endowments are located in Oțelu Roșu city: police station, forestry district, churches of several religious denominations, high school, culture house, hospital, general and specialized medical offices, pharmacies, supermarkets, specialized shops, post office, notary public office, restaurants, hotels, gas stations etc.

The commune centres in the researched space have mayoralty, police station, churches of several religious denominations, secondary school, community centre (culture house), infirmary, general and sometimes specialized stores, post agency, postal counter or post office etc. In the case of the communes that are crossed by the railway 917 (Caransebeș - Bouțari), these have train station or halt (Obreja, Glimboca, Zăvoi and Băuțar). The commune centres Rusca Montană and Băuțar have also forest district office, that of Băuțar being a private one.

Due to its formation through the agglutination of two settlements (Băuțaru Superior and Băuțaru Inferior), the current village Băuțar has for instance two Orthodox churches and two culture houses. The belonging localities usually have minimal endowments, such as an Orthodox church and sometimes churches of several other religious denominations (Greek Catholic church in Bucova, Roman Catholic church in Ruschița, various Neo-Protestant churches and houses of worship etc.), kindergarten and/or primary school, grocery store, sometimes a bar, post agency, train halt for some of the villages located on the railway etc. Some villages, although they are not commune centres, because of the large number of people (over 1000 inhabitants in 2002), these have secondary schools: Bucova (the

commune of Băuțar) and Măru (the commune of Zăvoi). However, there are also rural settlements that do not have any of the aforementioned endowments, namely the village Preveciori (Băuțar commune), which in 2002 had only 10 inhabitants [7]. Also, in some villages, several institutions were dissolved; in Ruschița, for example, the activity of both the primary school (in 2010) and the postal agency (in 2011) was suppressed. Being a tourist locality (climatic resort) in Poiana Mărului we can find 16 accommodation facilities [12].

It should be noted that generally, these endowments are located (grouped) in the central part of the settlements or along the main roads, for an easy access to them.

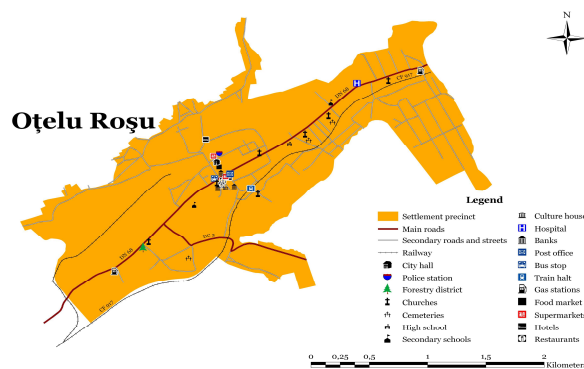


Fig. 18. The spatial location of public endowments in the city of Oțelu Roșu.

The production (manufacture) function of the settlement precincts in the Bistra Corridor is related to the primary sector (especially fruit growing and livestock) in case of most of the rural settlements and to the secondary one for the exploitation of soil and/or underground resources, in the case of the polarization centre Oțelu Roșu and some villages located nearby, such as: Rusca Montană, Ruschița and Voislova, specialized in marble processing; Zăvoi, 23 August, Măgura, Băuțar and Bucova, specialized in the processing of wood etc. Thus, at the level of these localities and not only, there are various manufacturing facilities, such as wood and marble sawmills or other industry specific installations and buildings (halls, workshops etc.). In some rural settlements there are also units of the food industry, mainly bakeries. The production function also includes various artisan (craft) workshops and distilleries, usually available in all the settlements in the Bistra Corridor, mainly in the rural ones.

Finally, the communication function refers to the connection between the various points of the precinct and also to its contact with the outside. The communication within the precinct and between the settlements is achieved through transport and telecommunication facilities, such as postal agencies, postal counters and post offices or, more recently,

landline and mobile telephony networks and internet. However, it should be noted that not all settlements in the Bistra Corridor have such modern endowments.

4. CONCLUSION

The facts presented before reveal that three large types of settlements develop along the Bistra Corridor, as follows:

a). *Axially clustered settlements*, specific for the Bistra Corridor and the Caransebeş Depression, usually located along the Bistra River and the main road and railway communication routes (DN 68 and secondary railway 917). A few examples of such settlements are: Voislova, Valea Bistrei, Zăvoi, Cireşa, Glimboca, Obreja, Iaz, the city of Oțelu Roșu etc. Generally, these localities are characterized by the fact that the households and implicitly the houses are often stuck together. Although they are not located on the Bistra River, at the National Road 68 or on the railway 917, but in their proximity, the villages Marga, Mal, Măgura, Măru, Ciuta and Var also have nucleated precincts.

b). *Dispersed settlements* of a median corridor type, mainly located in the adjacent mountain area, such as Rusca Montană and Ruschița, situated within the Poiana Ruscă Mountains. In these two settlements, residential buildings are located at a certain distance between them; there are isolated cases where the houses are joined. The villages Băuțar and Bucova also have a diffuse structure, even though they have precincts developed along the Bistra River and the National Road 68.

c). *Dispersed settlements* of a peripheral corridor type. These settlements are present at the periphery of the Bistra Corridor, more specifically, in the contiguous (remote) mountain area; they have a scattered structure, with loose-knit tendencies in some cases. The most edifying examples are the villages Preveciori (in the Poiana Ruscă Mountains) and Poiana Mărului (the Țarcu Mountains). Cornișoru also has a diffuse-scattered structure.

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