Influence of Natural Factors on the Position of Settlements and their Morphological Characteristics in the Example of the Municipality of Irig

Miljković, Ljupče, Davidović, Rade¹ Pavlović, Mila²

Abstract
Settlements on the territory of the municipality of Irig were mostly formed under the influence of physical geographic elements. Except physical geographic elements, other elements, socio-geographic for example, which are used for the settlement formation are of secondary importance and they are not excluded. Springs with a lot of water along each brook valley were very important for their formation. Every settlement in the municipality either very small, the type of Prnjavor (Velika Remeta) or the larger one such as the seat of the municipality (Irig) is connected to the springs of an area of Fruška gora. This was of crucial importance for choosing a place for the original construction of the settlements on the territory of the municipality of Irig. The settlements of the municipality of Irig are: Irig, Vrdnik, Mala Remeta, Jazak, Rivica, Velika Remeta, Grgeteg, Krušedol – Prnjavor, Krušedol – Selo, Neredin, Šatrinci and Dobrodol. The position of settlements and their morphology considerably depend on natural conditions, and in the example of the municipality of Irig, they especially depend on the relief and hydro-geographic conditions.

Key words: Irig municipality, Natural factors, Settlements, Vojvodina and Serbia

1 Ljupče Miljković, Rade Davidović
Faculty of Natural Science, Department for Geography, Tourism and Hotel Management, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia
2 Mila Pavlović
University of Belgrade, Faculty of Geography, Studentski trg 3/3, 11000 Belgrade, Serbia

Introduction
The municipality of Irig is situated in the central part of Srem (Vojvodina). The territory of the municipality covers two relief units: loess plateau of Fruška gora and south slope of Fruška gora. In relation to other municipalities of Vojvodina, the territory of the municipality of Irig is characterized, for the conditions of Vojvodina, by large vertical indentation of relief. The southern part of the municipality in the Borkovacki potok valley (the district of Rivica) is situated on 110 m (a.s.l.) altitude. The altitude of 104 m (a.s.l.) is in the lower part of the district of Jazak. The northern border of the municipal territory is at the very crest of Fruška gora. In the area of Iriški venac the northern border is on 444 m (a.s.l.) altitude. While in the region of Isin čot it goes to 522 m (a.s.l.) altitude. The vertical difference in altitude is 418 m relative height, on the compact territory of the municipality of Irig.

The mutual position of settlements on the territory of the municipality is very suitable. The settlement of Irig, an administrative center of the municipality, is situated in the central part of the territory. There are four settlements in the western part: Vrdnik, Mala Remeta, Jazak and Rivica, while there are seven settlements in the eastern part of the territory: Velika Remeta, Grgeteg, Krušedol – Selo, Neredin, Šatrinci and Dobrodol.

The position of settlements and their morphology considerably depend on natural physical-geographic conditions and in the example of the municipality of Irig, they especially depend on the relief and hydro-geographic ones. The social conditions for forming the settlements are equally important as natural, but they are changeable more easily than the natural conditions. The social conditions are not the subject of this paper. If both kinds of the conditions were larger and more suitable during the formation of the village and its position, then the settlement grew faster, became stronger and developed.

General characteristics of the settlements of Irig
According to physical-geographic characteristics the area of Fruška gora and Fruška gora itself (wherein the territory of the municipal-
The same author B. Bukurov states: “How...Today, according to shape and extension of Jazak) and Vrdnički Prnjavor (today an integral part of the settlement of Vojvodina, the settlements of Irig mostly spreads) is suitable region for settlement. That is why this territory had been settled a long time ago. Abundance of antigorit nearby Jazak and Vrdnik had enabled their oldest inhabitants to make weapons and tools for themselves and for the inhabitants of much wider surrounding. Many things made of antigorit of Fruska gora were also found in neighboring Slavonija and parts of Vojvodina (Bukurov, 1954).

The position and arrangement of settlements of the municipality of Irig are caused by the same factors as the position of other settlements of Fruska gora. According to writings of an academican B. Bukurov “The position of settlements of Fruska gora is caused by several factors. The most important are: relief, hydrography, climate, economy, traffic, etc”. The same author states further “...relief and hydrography were of crucial importance on getting the closer location of the settlement...” The settlements of the municipality of Irig have especially been distinguished by these two crucial factors, relief and hydrography, which will be presented for every settlement separately in the section that follows. All the settlements of Fruska gora B. Bukurov divided into three groupings in his studies. The largest number of the settlements of Irig is classified into mountain settlements. They are located in such a way that inhabitants can use as much economic land as possible. Today, according to shape and extension of these settlements, it has not been so noticeable as it used to be important in the past. The same author B. Bukurov states: “However it was not like that in the time of forming of these settlements, because in most of the cases they are built either at the end of the forest regions or in the very forests. The original task of almost all inhabitants was to clear the forests and bring new cultivated land to farming” (Bukurov, 1954).

Mountain and submountain settlements from the territory of the municipality of Irig are: Jazak, Vrdnik, Rivica, Irig, Neradin, Krušedol – Selo, Krušedol – Prnjavor, Velika Remeta, Grgeteg and Mala Remeta. Some of these settlements also belong to a type of Prnjavor settlements. These are: Malo Remeta, Velika Remeta, Grgeteg, Krušedol – Prnjavor, Jazački Prnjavor (today an integral part of the settlement of Jazak) and Vrdnički Prnjavor (today an integral part of the settlement of Vrdnik).

Čurčić (1970) and Davidović (1989) wrote more about the origin of the settlements of Prnjavor, their characteristics and numerous problems. Thus, thirteen settlements belong to a group of the settlements of Prnjavor for the whole area of Fruska gora. However, all of them do not represent separate register circles, but they are considered as an integral part of the larger settlements like Jazački and Vrdnički Prnjavor that have already been mentioned.

Out of thirteen settlements of Prnjavor about a half (six) belongs to the municipality of Irig: Malo Remeta, Velika Remeta, Grgeteg, Krušedol – Prnjavor, Jazački Prnjavor and Vrdnički Prnjavor, wherefrom the first four settlements have the status of inhabited place (Davidović, 1989).

As topographic position concerned, Bukurov (1954, 1970) divided all the settlements of Vojvodina, the settlements of Irig also, on edge and internal. In his universal and detailed study Settlements of Srem, Čurčić (2000) classified two settlements (Rivica and Irig) out of twelve of this municipality as edge settlements. They are located on the contact of mountain and loess plateau. All other settlements of the municipality of Irig the same author (Čurčić, 2000) classifies into internal settlements. With this classification there is a difference among settlements built on Fruska gora (mountain), on loess plateau and on diluvium terrace. According to the same author, the first ones built on the mountain area: Jazak, Vrdnik, Neradin, Krušedol – Selo, Krušedol – Prnjavor, Velika Remeta, Grgeteg and Mala Remeta. All these villages have their locations at utmost south hillsides of Fruska gora. They are mostly located in the brook valleys, on the valley plane or at its mild sides. An exception is the village of Krušedol – Selo which was built right above the Šelovrenac valley, in the higher part of loess plateau, that is, more exactly, on the contact of loess plateau and the hillsides of Fruska gora. Dobrodol and Šatinci are internal settlements, but they are located on loess plateau. These two villages are located on plateau, but along the brook valley.

**Geographical position and morphological characteristics of the settlements of the municipality of Irig**

Irig is the largest settlement of the municipality and one of the largest settlements on the south slopes of Fruska gora. It lies on very important traffic artery that leaves Novi Sad and across Irški venac and south hillsides of Fruska gora it comes down to Ruma. A local road that connects a number of villages on the slope of Fruska gora is being branched off this road. Therefore Irig has very suitable geographic position, but as railroad communications concerned it cannot be said so. The railroad traffic arteries bypass Irig, so in the view of transportation Irig is the primary road network. Nevertheless, it must be mentioned that a very important railroad track on Belgrade – Zagreb line goes south from Irig, which is of great importance for the whole development of the municipality. It is 11 km away from Irig, and the inhabitants and economy use it for passenger and goods transportation over railroad station of Ruma.

Concerning the geographic position of Irig the following was stated in the literature: “On determining the position of Irig two or three brooklets have been important, the villages of which meet into a wider one. These brooklets gave enough quantity of water, so the settlement could be developed freely” (Bukurov, 1954).

The district of Irig has a shape of an irregular rectangle set in the north – northwest – south – southeast direction. It occupies the area of 55.1 km² or 24.4 % of the municipal territory, by which it is on the first position among twelve settlements on this area. The town itself has a suitable position comparing with the territory of the district because it is located in the central part of the district.

The territory which belongs to Irig lies on two geomorphological wholes. The higher relief article is a part of the mountain crest of Fruska gora and the lower part of loess plateau. These wholes were dissected by numerous brooks which had the primary role in forming the contemporary morpho - structural relief elements of this territory. The Jelenje potok valley has the central importance for the town of Irig.

Today’s morphology of this settlement is to a great extent a reflection of its past. The oldest part of Irig is immediately next to the brook. There are two parallel streets in this part, oriented the same as the brook, and separated by its bed. The rest part of Irig is on the higher land or on the watershed between one and the other brook valley. The main street of the whole settlement is oriented in the same way as Venac – Ruma main road is, by north – south direction. All other streets were formed according to this one. The pannonian influences can be felt in the construction of Irig because in most of the cases the streets are crossed at right angles. However, the influences of the mountain can also be felt, which are characterized with large compactness of the streets and houses, especially in the central part of the town (Bukurov, 1954).

In the past some streets of Irig had got special names which have been used even today. The streets are seldom called by their real, official names. Old street names are: Greška mala, Mrtvi sokak, Mađarski kriz, Drum, Pićaca, Bela zemlja, Zlatna greda, Revido, Orašje, Srpski kertiz, Tabane, Susedski sokak and Vašarište. The streets mostly have the traffic function, especially Drum and Pićaca through which the road Novi Sad – Irig – Ruma goes. The center of Irig is situated in the middle part of the main street and it is called Pićaca.

Vrdnik is situated on the place where the spring branches of Veliki potok meet each other. It is located on the south slopes of Fruska gora. Its position is determined by the contact of the forest and the loess plateau of Fruska gora. It extends on 181 – 260 m altitude, and it is located in the western
half of the municipality of Irig. It lies in the central part of Srem, but it differs from other settlements of Srem. Its micro position is especially interesting. The settlements developed on the sides of the Dubočaša, Morintov and Veliki potok brook valleys. This settlement has steep streets and houses on the watersheds. The settlement of Vrdnik is situated in the central part of its district. As transportation concerned it is well connected with Irig over Rivica in the east and by the road Novi Sad – Irig – Ruma, with Belgrade – Zagreb highway, and with Bršenov and Crveni čot over Jazak and Mala Remeta in the west. It is connected with the northern piedmont of Fruška gora over Crveni čot. From the very settlement, directly towards the north, Vrdnik is connected with Partizanski put by asphalt road. Concerning its position Vrdnik is also characterized by suitable exposition. The settlement has sunny, south side exposition.

The total area of the district of Vrdnik is 33.7 km². The district extends in the north – south direction in the length of 10 km, with average width of 3.5 km. According to its area it is one of larger districts of the municipality of Irig.

Concerning its relief the settlement of Vrdnik is situated in the central part of the southern slopes of Fruška gora. Geomorphologically the district extends over two relief wholes, north mountainous and south, plain. The hillsides of Fruška gora represent the mountain part. The highest peaks of Fruška gora are at the rear of this district: Crveni čot 538 m (a.s.l.) and northeastern Kraljevska stolica peak 484 m (a.s.l.). The settlement in the basin of Vrdnik, which represents the tectonic – erosion extension, and the loess plateau of Fruška gora is on the south of it. The basin has an amphitheatre shape divided by the brook valleys. Thus the relief of this area has a rolling shape.

In the morphological view it can be said for Vrdnik that this is mixed settlement, as by its physiognomy so by its function. Zones of summer cottages of people from Novi Sad and Belgrade are in the vicinity of Vrdnik, in Venj, Kula and Majdan. Vrdnik is the settlement of around forty streets. About ten of the longest ones have been asphalted. Jazak is located in the western part of the municipality of Irig. The village is situated on the south slopes of Fruška gora. It is located in the Rovča potok valley. The settlement has a suitable position because it is located in the part where the hillsides of Fruška gora get into the loess plateau of Fruška gora. The altitude of the village ranges from 140 to 260 m (a.s.l.). The difference between the highest and the lowest point of the district is 432 m (a.s.l.), which is reflected on the climatic, hydro – geographic, relief, pedological as well as antro-
The area of the district is 24.8 km², and it is one of larger districts of the municipality of Irig. The district mostly extends on the loess plateau of Fruška gora. Within the relief of the district are the brook valleys of the Šelovrenac and Monastery brooks.

The village has triangular base. In recent times the village extends along the road for Irig by family houses construction (with a help of International Community) for refugees and exiles from Croatia and Bosnia and Herzegovina. In this way the village loses its original triangular shape because the houses are built as along the road for Irig so along the road for Grgeteg and Krušedol – Selo.

Mala Remeta is situated on the utmost western part of the municipality of Irig, on the loess plateau which was cut by Mali potok. This brook is one of the tributaries of Stojanovac gat. The village is on 250 – 260 m (a.s.l.) altitude. It belongs to a group of higher settlements of the area of Fruška gora and the municipality of Irig. By its position this village differs from other settlements of Prnjavor. The monastery near which this village was built is in the Mali potok valley, and the village itself is a little higher, on loess plateau. The village extends in the north – south direction. The same direction the district of Mala Remeta also has. The district is 8 km long, while the average width is hardly about 1 000 m, so the area is only 8.87 km².

The district extends in the area of two relief elements: Fruška gora, mountain part, and loess plateau of Fruška gora. Mala Remeta is the settlement of Prnjavor. Its formation was connected to the neighboring monastery having the same name. It is also a road settlement. There is only one street in it along which houses were built.

Dobrodol is a village southeast from Irig. The district of the village occupies the utmost southeastern part of the municipality of Irig. The altitude ranges from 110 m (near the very brook of Medjaš which intersects this district) to 138 m in the northern part of the district, that is, in the area of Čaut. Dobrodol was built along right valley sides of Dobrodolski potok.

As relief concerned, the district extends on loess plateau. An observer is given an impression of an ideal plain. This plain was dissected by the valleys of two brooks: Medjaš and Dobrodol.

Considering that the basic economy branch is agriculture, the village looks like that. Dobrodol is typical agricultural settlement, compact one with straight streets laid out. All houses are family and ground floor. The village does not have a typical center, but it consists of three streets. The main street has the north – south direction, and it is intersected by two transversal streets. Grgeteg is situated in the north – eastern part of the municipality of Irig. By its position it belongs to higher settlements of the municipality of Irig. It is located in the Kalin potok valley. The village was built in the place where the valley of the Kalin brook extended, south from the monastery of Grgeteg. The settlement has an average altitude of 260 m (a.s.l.). Comparing with the district this settlement occupies approximately the central position. The district extends in the southeast – northwest direction in the length of 6.5 km, and width of 600 to 1 500 meters.

As far as relief concerned larger part of the district is mountainous. The area of 310 – 340 meters altitude was cut into older terrain of the antiline of Fruška gora. It comes to a sudden bend in the relief below the monastery itself. Loess, slopes with pebble layers, mixture of lake and aeolian sediments appear on the sides of the brook valleys.

Today’s appearance and morphology of the village are such that it consists of two rows of houses laid out irregularly on both sides of Kalina potok.

Velika Remeta is situated on the southern slopes of Fruška gora. The settlement is located in the spring crest of the Selovrenac brook, in the extended part of the Monastery brook (the upper part of the Selovrenac brook), and just on the place where three spring branches meet themselves and make the spring crest of Selovrenac. On that place the centre of the village is on 240 m altitude. Summer cottages which also represent an integral part of the settlement are located northeast from the center.

The district of the village is pear – shaped, where the northern, wider part reaches the very crest of Fruška gora. The district spreads on the relief wholes: mountain sides, the brook valley sides, while the narrower south part is in area of loess plateau.

The village of Velika Remeta belongs to a type of mountain settlements. By the typology and shape this settlement is extended. It is a settlement of Prnjavor. There are around sixty houses for the permanent and periodical residence. A number of summer cottages were built on the slopes of Manastirski potok, which gives an impression of dispersed type of the settlement.

**References**


