

GEOGRAPHICAL DESCRIPTION OF THE 2ND DISTRICT OF BUCHAREST

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Key words: tabular plain, loess, geomorphologic process, anthropic relief, biotic coating, artificial topographic soil.

Abstract. Located in the north-east of Bucharest, with a population of approx. 400,000 inhabitants, the current territory of the 2nd district was once part of Vlăsiei forests, crossed by the river Colentina. It is a tabular plain, with low declivity on NW-SE direction the only major bumps are determined leading to the terrace Colentina, tablelands and anthropic relief. The Colentina Plain covers 36% of the Bucharest Municipality and it is characterized by altitudes that vary between 88.9 m in the Free Press Square and 55m at Cătelu. Field overlap Otopeni Bucharest north (northern district Colentina, Băneasa, Pipera) is characterized by altitudes of 85-90 m, by fragmentation of 0.5 km/square km relief, through a high frequency tablelands and growth of local slopes (common values of 10 degrees). The 2nd district is on the second place in terms of total area of green spaces (4,187,000 square meters) with an index of area of green space per capita of 13.6 square meters per head, but uneven distributed in the sector. The vegetation of 2nd district is represented in particular by vegetation in parks (Circus' Park, Plumbuita, Morarilor, Tei), gardens and green spaces in housing blocks. Valleys are cut into loess are generally steep sides with intense phenomena of warping and biogenic mineral presents meadows, sometimes covered by lakes or swamps. The largest lakes of the valley, made by dams are located on Colentina river. Geomorphologic defining characteristics are the result of the action of erosion, transportation and deposition on the lower course of the Dâmbovița river. Altimetry and the average curve in the same time the capital is 80 m.

Located in the north-east of Bucharest (fig.1), with extensions in Ilfov county leading to the city of Ploiești, and Urziceni, with neighbor to the west the 1st district and the east and southeast 3rd district, 2nd district takes place on an area of 32 square km, with a population of approx. 400,000 inhabitants.

The current territory of the 2nd district was once part of Vlăsiei forests, crossed by the river Colentina.

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The history of the 2nd district is related to the old abode of Bucharest, with recent archaeological discoveries, which proves the existence of Paleolithic human settlements in areas like Fundeni, Pantelimon Tei.

The traces of the Roman conquest have revealed treasures of Roman coins (from the Roman Republic and Empire) in Pantelimon area.

The 2nd district was at the beginning of the XIX century, venue of grain merchants and craftsmen.

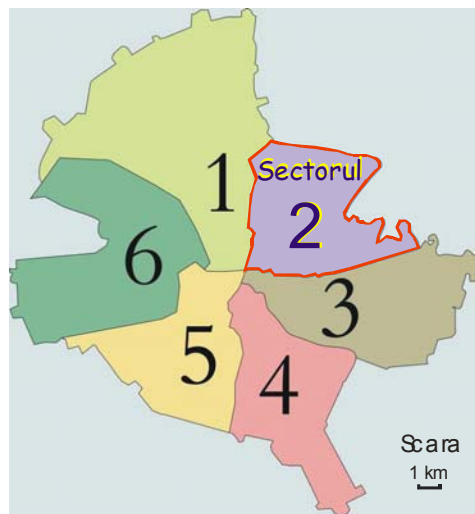


Fig. 1 - Administrative map of the Bucharest town

Streets with names that lead us to think of another guilds, remember that trades old Olari, Făinari, Mătăsari, Cărăuș.

Started as the other sectors of the capital, from zero kilometer area, the 2nd district is characterized by a flat plain relief (formerly covered by the large Vlăsiei forests and rich culture of vines), which crossed by the Colentina river, which together with Dâmbovița form the two main water arteries of Bucharest.

The studied area has as defined limits the following milestones:

- North - railway Bucharest - Constanta Fundeni Lake, Dobroiești Lake;
- East - administrative Bucharest limit, Pantelimon Lake;
- West - Barbu Văcărescu Street, Lacul Tei Street, Floreasca Way (east), Polonă Street, Cantacuzino Market, Icoanei Garden, Dionisie Lupu Street, Vasile Conta Street, Batiștei Street;
- South - Tudor Arghezi Street, Jean Loius Calderon Street, Rosetti Square, Dr.

Radu Cristian Street, Teodor Stefănescu Street, Negustori Street, Romulus Street, St. Stephen Square, M. Georgescu Str, Călărășilor Way (North), Hurmuzachi Square, Basarabia Boulevard (south), Vergului Street, Sachisian Street, Granitul SA, Pantelimon Lake.

The 2nd district of Bucharest Municipality includes the following neighborhoods: Tei, Colentina, Pantelimon, Tei Toboc, Andronache, Ion Creangă, Moșilor, Ștefan cel Mare, Vatra Luminoasă Mihai Bravu, Obor, Iancului, Baicului, Pipera, part of the neighborhood Floreasca, and neighborhood center (Gemenii Market, Icoanei Garden, Batiștei).

1. Relief

The corresponding area of Bucharest overlaps the central Vlasiei Plain called the Plain of Bucharest.

It is a tabular plain, with low declivity on NW-SE direction, the only major bumps are determined by the leading of the terrace Colentina, tablelands and anthropic relief.

Bucharest Plain includes three sectors with distinct characteristics: Otopeni Plain (located in north of Colentina's Valley), Colentina Plain (located between Colentina's Valley and Dâmbovița's Valley) and Cotroceni-Berceni Plain (located in south of Dâmbovița's Valley).

Otopeni Field overlaps the north of Bucharest (northern district Colentina, Băneasa, Pipera) is characterized by altitudes of 85-90 m, by fragmentation of 0.5 km/square km relief, through a high frequency tablelands and growth of local slopes (common values of 10 degrees).

The Colentina Plain covers 36% of the Bucharest Municipality and it is characterized by altitudes that vary between 88.9 m in the Free Press Square and 55 m at Cățelu. The more important bumps (8-12 m) occur in the former areas of extraction of materials construction (Titan, Pantelimon), but also towards the Colentina and Dâmbovița's Valleys.

Significant in the geomorphology of the Bucharest Town is the Colentina's Valley, which has constituted into an important modulating factor of the landscape space.

The Colentina's Valley has a mender coefficient specifically to the plain zones (1.5), the width of the valley having 600- 1,500 m.

The anthrop facilities from along Colentina's Valley have changed the typical aspect of the plain rivers (high frequency of swamp, isle and top of bank ridge) and have significantly modified the evolution of the valley.

The relief of the plain on which lies the city of Bucharest is easy waved formed by large areas (Dâmbovița - Colentina, Colentina - Pasărea), smooth, with key fields (Băneasa, Filaret). Slope that descends to the line direction NNW - ESS.

Altimetry and the average curve in the same time for the capital is 80 m. Valleys are cut into loess are generally steep sides with intense phenomena of warping and biogenic mineral presents meadows, sometimes covered by lakes or swamps.

Colentina's Valley is narrow and has a highest sinuosity coefficient in Străulești, Băneasa, Herăstrău attain a width of 1,000 – 1,500 m. slight tilt to the longitudinal profile favors the creation, throughout its chain of lakes (Străulești, Băneasa, Herăstrău, Floreasca, Tei, etc.) conferring a particularly important scenic areas of the city.

Current geomorphologic processes and land degradation are favored by certain factors as: the layer of loess, a depth and density of fragmentation, low slope fields (0 – 2 degrees) and riverbeds, especially climate oscillations rainfall, the use of land and not finally anthropogenic intervention. Such geomorphologic processes can be grouped by the three specific forms:

- on the fields dominant is subsidence combined with pipping then raindrop impact and washing the surface, less deflation.
- the sides are developing relatively slowly, and some gravity ravining processes
- in the meadows and the whites are alluvial, the erosion of the shore and biogenic processes.

In all these anthrop processes are added more by the present roads and bridges, dams, side dams, irrigation canals etc.

The initial and then developing industrial platforms, the residential areas and ways of communication as all the adjacent natural accident.

On Colentina's Valley, the existing ponds were expanded, upgraded and converted into recreational lakes, substantially changing the natural conditions.

At Fundeni, after the sanitation of the wet and swamp terrains, the waterside had been raised with a layer of padding 0.5-2 m thick, achieving veritable anthrop accumulation platforms.

To these were added to works planning parks and lakes (about) who have contributed works by leveling, digging or filling former career change initial relief appearance.

Former clay quarry, sand, gravel (about 30, mentioned at the beginning of century XX century in the north and east of Bucharest), modified the flatness relief, some of which are rearranged (The Sporting Dinamo Complex, Circus' Park, Floreasca Park).

The anthrop micro relief is represented by small knolls resulted from the uncontrolled storage of household waste and construction debris.

The relief is in the support for all anthropogenic activities, it is one of important factors that are reflected in the type and extent of activities and anthrop arrangements

2. Hydrographic network

Water surface. The 2nd district of Bucharest is crossed by the Colentina's Valley, left tributary of Dâmbovița downstream Cernica. Colentina stems from Tîrgoviște Hills (area Sotânga - Doicești) it is a tributary of Dâmbovița and through a route of 98 km, of which 37.4 km the Bucharest area. Colentina slow course of the plain area of Vlăsiei led numerous meanders, with mesh plashy with boggy ground, full of clay (hence the name "over the slime" - Colentina), in which the entry form Bucharest a chain of natural lakes such as Mogoșoaia, Băneasa, Herăstrău, Floreasca, Tei, Plumbuita, Fundeni, Pantelimon. These lakes arranged later are enclosed by forests and parks, are a true oasis of greenery and a source of oxygen for the maintenance of equilibrium climate and regeneration air polluted city.

The lakes encountered on the areas and surroundings of the capital have different origin. Most ponds are arranged along the valleys, and in Bucharest are still some meadow. lakes.

The largest lakes of the valley, made by dams are located on Colentina river. Among them, in the 2nd district there are the following:

- Tei Lake – 700,000 square meters
- Plumbuita Lake – 550,000 square meters
- Fundeni Lake – 880,000 square meters
- Pantelimon I Lake – 860,000 square meters

On Colentina river 15 lakes were arranged from upstream to downstream in the system of "chain" between Buftea and Cernica, , of which 5 lakes (Buftea, Buciumeni, Mogoșoaia Chitila and Cernica) are in the current Ilfov county, and remaining 10 lakes (Străulești, Grivița (530,000 square meters), Băneasa (400,000 square meters), Herăstrău (770,000 square meters) Floreasca (800,000 square meters), Tei (820,000 square meters), Plumbuita (400,000 square meters), Fundeni (4,020,000 square meters), Pantelimon I and Pantelimon II) are in the administrative area of Bucharest, their purpose being to provide water for multiple-use industrial water, irrigation, fisheries, recreation.

Geomorphologic characteristics define that the region are the result of the action of erosion, transportation and deposition on the lower course of the Dâmbovița river.

Lakes are used especially for fishing and recreation and as drinking water and industrial Pantelimon II respectively lake with a 1 cm/s and Cernica lake with a volume of 1 cm/s.

3. Biotic coating

Spatial distribution of vegetation. Bucharest "is in large woodland area, which, lowering of the mountains and hills, separating the two steppes: Bărăgan

and Burnazul. It was claimed by some researchers that Bucharest would be placed on the forest edge or line between forest and steppe. After many centuries of clearing the forests, we encounter the massive importance in the north-east (Stefăneștii de Jos and Afumați) and east of Bucharest. An account of these forests on the outskirts of the city constructed wood, I mean places guarded with harshness, that could not cut wood. Vineyards made a real crown and enters the city in many places inside him, they have formed a specific note to our ancient capital and contributed heavily to its economic life and even her style of life " (*Constantin C. Giurescu*).

These types of vegetation have suffered significant changes by changing land destinations with artificial topographic soil. (*Ioja, 2008*).

The vegetation of 2nd district is represented in particular by vegetation in parks (Circus' Park, Plumbuita, Morarilor, Tei), gardens and green spaces in housing blocks.

The vegetation of 2nd district suffered significant changes due to anthropogenic pressure, the most representative example of this is the gradual restriction of forests that occupied in the past all Bucharest perimeter, which is preserved today only isolated portions.

The condition of these green spaces indicate a patchy distribution, an advanced state of degradation and, often, lack of maintenance.

The 2nd district is on the second place in terms of total area of green spaces (4,187,000 square meters) with an index of area of green space per capita of 13.6 square meters per head, but uneven distributed in the sector. Trying regulations urban PUZ respectively by applying an increase in total area of green spaces to 4,194,000 square meters.

The original vegetation has been replaced almost entirely, instead of it being taken by spaces for building and waste land. Green spaces that have adapted to urban environment are: ash, yew, magnolia, pine, spruce.

The forest of heaven (*Quercus cerris*) and Garni (*Quercus frainetto*) represent the acclimate vegetation, the specific area for the capital. There can be found: elm, ash, field maple, apple and wild hair, drink, linden, hornbeam and acacia.

In Bucharest a number of 97 protected trees are inventoried .

Protected trees are isolated specimens that differ from the great mass of other trees of the same species with their beauty through the ages by great size, the rarity or the fact that they were witnesses of historical events.

The trees protected by law from Bucharest are:

- Turkish hazelnuts of George Coșbuc Boulevard;
- Turkish hazelnuts of Cișmigiu Garden;
- White mulberry of the Batistei Street (2nd district);

- Mammoth tree of Carol Park;
- Pagota's tree of the Botanical Garden;

White mulberry is a plant originating from China and was brought into the Mediterranean area by the Greeks, for raising silk worms.

In "History of Bucharest", Constantin C. Giurescu from 1956 mentions "White mulberry" near the Batiștei church, which covers the crown of most of the street width. "The layer of shrubs is fixed and well represented by: hawthorn, blackthorn, elder, dog wood, expensive, and in layer herbaceous entering the elements of steppe and forest area: meadow grass (Poa) fescue grass (Festuca) shadow rabbit, garlic, etc.

No zony vegetation whose presence is determined by rates of water, take appreciable areas, along the chain of lakes on the Colentina River (Ioja, 2008). No zony vegetation consists of park of poplar and willow, black poplar plantations, oak, ash, elm. In all they added Hydrophilic vegetation and aquatic vegetation around lakes and swamps (swamps and lakes on Colentina). The Hydrophilic vegetation is developed around the lakes that are characterized by the following species: sedge (Carex acutiformis), cattail (Typha angustifolia), cane (Phragmites communis).

The lakes and swamps are invaded by aquatic vegetation composed by yellow water lily (Nuphar luteum), pond weed (Potamogeton fluitans), frog bit (Hydrocharis morsus wound), which cause a rapid plugging through bioaccumulation. (Ioja, 2008).

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