HYDRO-IMPROVEMENT MEASUREMENTS AND ARRANGEMENTS THAT CHANGED THE NATURAL ECOSYSTEM OF BANAT PLAIN

MĂSURI ŞI AMENAJĂRI HIDROAMELIORATIVE CARE AU SCHIMBAT ECOSISTEMUL NATURAL AL CÂMPIEI BANATULUI

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Abstract: *The present abstract presents the measures through which Banat Plain became a living territory with a healthy life environment. By regulating and banking the water course, and also through works for preventing the humidity excess, the old swamps became fertile plains in our days.*

Rezumat: *În lucrarea de faţă se prezintă măsurile prin care Câmpia Banatului a devenit un teritoriu locuibil cu un mediu de viaţă sănătos. Prin regularizarea şi îndiguirea cursurilor de apă, precum şi prin lucrări de combatere a excesului de umiditate, mlaştinile de odinioară au devenit câmpurile fertile de azi.*

Key words**:** *regularisation, banking, humidity excess*
Cuvinte cheie: *regularizare, îndiguiri, exces de umiditate*

INTRODUCTION

The territory of the Banat Plain before the arrangement through improvement works, at the beginning of the 18th century was first mentioned from the 5th letter of the Griselini's history: "The waters of Bega, Timis, Birda, Barzava rivers together with a lot of brooks and effluents of springs, have been let in the lap of the gods. Not embarked, these waters flooded all low terrains, forming new swamps, bigger than the old ones, lakes had appeared, there mud pots that were not accessible neither to human beings or animals" (3).

From his writings it results that large surfaces were flooded by swamps in slack waters, full of rotten corpses, where vermin lived and were developed. Among the birds species dominated the ravens and the magpies, the owls, the owlets and also the eagles who found food in these waters. The agriculture was developing with difficulty, although the fertility of soils from the high surfaces protected of flood was considered the best in Europe. The inhabitants seeded and produced only as needed for the family due to the unsafe character of production .

In these conditions, measures and arrangements were necessary to make possible the agriculture and habitation of the territory.

MATERIAL AND METHOD

Obviously, redressing the agriculture and population must be related to the water management works.

The documents analyzed emphasize that the measures taken starting from 1717 gave results, and the concerns in the field were intensified by the attendance of foreign specialists to new projects (Dutch engineer Fremont) (1,2, 4).

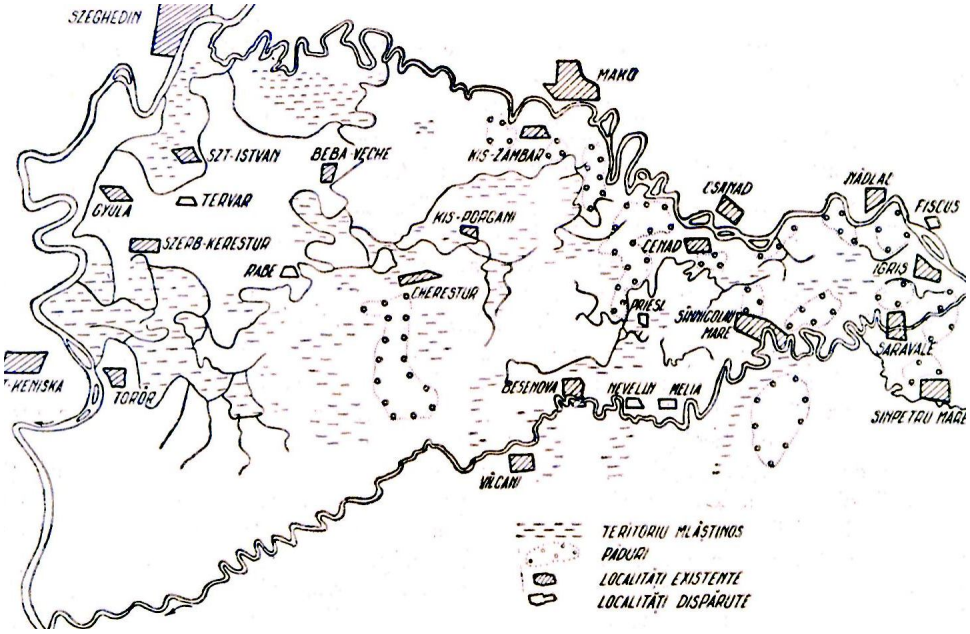

Figure 1. Mureş-Aranca territory at the end of the XVIII century

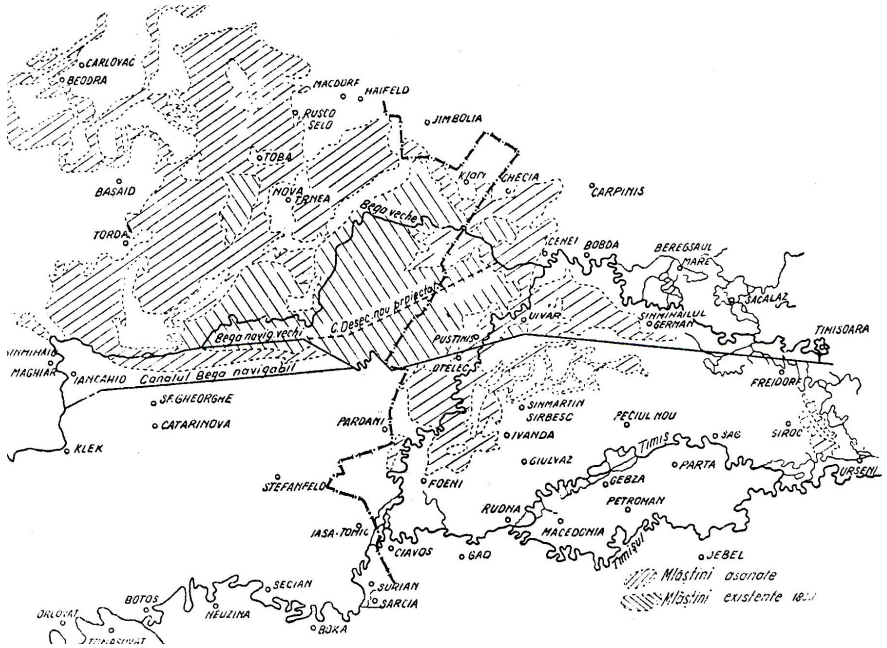

Figure 2. Swamp terrains from the east of Timisoara – year 1830

RESULTS AND DISCUSSION

The first works for the improvement of the swamp terrains were carried out during 1717-1760 immediately after the Ottomans have been defeated. It started the drain of swamps around Timisoara, but the most important remained the regularization of Bega river.

The regularization works of Bega, Timis and Barzava rivers were completed with drain works, digging channels (Denta – Kanac) and corrections of routes.

The works carried out in the 18th century constituted important achievements in draining the swamps, by offering surfaces for agriculture, improving the sanitary situation and the circulation conditions.

All productions of the cropped terrains were unsure due to floods. Thus, in the 19th century, the concerns were especially for defending the terrains against the floods by banking the water courses. The floods from 1859 and 1887 demonstrated that the dams were insufficiently sized. As result, the studies showed the fact that for protecting against floods it is necessary to carry out the water incursion protection and the drainage systems must be completed with works for the evacuation of the internal waters.

In the 19th century, the agricultural surface of Banat Plain increased with 150,000 ha of terrain.

Starting from finding out that the banking and the collecting channels did not achieve conditions adequate for the agricultural crops, the drainage systems and other new works were carried out and completed, currently 44 drainage systems are available.

The presence of these works made possible the economic development of Banat plain, but it is also important that their exploitation and maintenance may be unitary achieved because otherwise the swamps and the unhealthy environment would return.

The spring of 2005 remembered that this area can not ignore the importance of these works.

Figure 3. Floods in spring of 2005

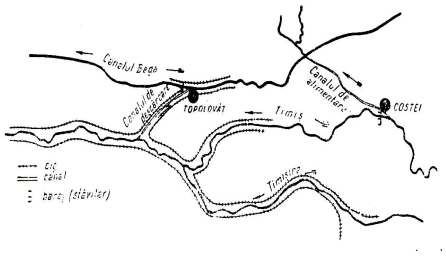

Figure 4. Double connection Timis – Bega

CONCLUSIONS

1. The regularization of Bega bed achieved in the 18th century opened the road for the transformation of swamps in the fertile Banat Plain. On order to assure a constant flow rate on the Bega channel, it has been achieved the double connection Timis – Bega.
2. It followed the regularization of Timis, Barzava, Moravita, the brooks Pogonis, Ier, Niarad and of valleys Timisana, Lanca Birda, Aranca, etc.
3. The defense of terrains against the water incursions was achieved with dams and flow rates regularization works.
4. The drainage of swamps started by constructing channels to the near emissaries (Denta - Kanac) and by correcting the Timis route and its affluent.
5. The improvement of terrains with humidity excess was achieved by the execution and commission of drainage systems once with the start of agriculture development.

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