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BRIDGING THEORY
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NATURAL RESOURCE POTENTIAL OF THE BORSUKY RURAL TERRITORIAL HROMADA, KREMENETS DISTRICT, TERNOPIL REGION, UKRAINE

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Borsuky rural territorial hromada, located in the south-eastern part of the Kremenets district of the Ternopil region, is distinguished by its significant natural resource potential, which is an important prerequisite for its sustainable development. The unique combination of geological structure, climatic conditions, hydrographic network, soil cover, as well as rich flora and fauna creates favorable conditions for various types of economic activities and the preservation of valuable ecosystems.

The territory of Borsuky rural territorial hromada is a part of the Volyn-Podilskyi plateau. The geological base is represented by multi-layered deposits of different eras, starting from Precambrian crystalline rocks (clay shales, sandstones, phosphorites) to Lower and Middle Sarmatian limestones and clay-marl rocks, topped with loess-like loams of the Quaternary period. Loess-like loams are often the parent rock for the formation of local soils.

The relief of the Borsuky rural territorial hromada is a medium-wave plain, dissected by river valleys and numerous gullies.

The features of the relief, in particular the presence of steep slopes, especially in the southern part, determine the intensity of erosion processes, which must be taken into account when conducting agriculture and construction. Deep gullies also affect the level of groundwater, the occurrence of which varies from considerable depth in watersheds to close to the surface in river valleys, contributing to the processes of gleying and waterlogging of soils [1; 4].

Borsuky rural territorial hromada is located within the microclimatic region "Cold Podillia" of the Western Forest-Steppe zone. The climate here is temperate-continental, characterized by mild conditions, sufficient humidity and a long favorable vegetation period of 201-203 days.

The warm period lasts about 250 days, and the period of active vegetation with the sum of active temperatures of 2400-2500 °C (sometimes up to 2900 °C) creates excellent conditions for growing major agricultural crops, such as wheat, corn, sugar beets, potatoes and various vegetables.

Summer lasts 96-98 days, with the warmest months being June, July and August, where the average temperature ranges from +15.9 to +21.6 °C, and the maximum values can reach +36.8 °C. Autumn begins in early September, and the cold period lasts from late November to mid-March, with average winter temperatures of -2.5 to -5.4 °C.

It is important to take into account the possibility of spring and autumn frosts, as well as unstable weather conditions in winter (light snowfall, sharp temperature drops), which can affect agricultural crops. To minimize negative consequences, appropriate agrotechnical measures must be implemented [1; 5].

The hydrographic network of the Borsuky rural territorial hromada is represented by the rivers Synyavka and Horyn, as well as numerous streams, ravines and ponds.

The Synyavka River, about 10 km long, is a left tributary of the Zhyrak and has a moderately winding channel. It originates near the village of Synivtsi and is used for irrigation and recreation.

The Horyn River is a significant water artery of the Borsuky rural territorial hromada. Its sources are located nearby, near the village of Volytsia, Kremenets district, Ternopil region. The Horyn is of great importance for the water supply, recreation and ecology of the region.

Of particular value is a large pond in the northwest of the village of Borsuky, with an area of over 450 hectares. In the past, it was the basis of a powerful fishery and remains an important ecosystem and recreational object to this day [1-3].

The soil cover of the Borsuky rural territorial hromada is characterized by significant diversity. Typical black soils prevail, in particular deep low-humus carbonate varieties, which are distinguished by high natural fertility and are the basis for the development of agriculture. Meadow and marsh soils are also represented, common in river floodplains and relief depressions.

Different degrees of erosion of black soil (weakly, moderately and strongly washed out) are caused by erosion processes and require the use of appropriate agrotechnical measures to preserve fertility. Washed soils, as well as alluvial-diluvial deposits, are widespread in river valleys [1; 5].

The territory of the Borsuky rural territorial hromada is characterized by a rich flora and fauna, thanks to the combination of forest, aquatic and field ecosystems.

The vegetation is represented by oak-hornbeam and pine forests with a characteristic species composition (oak, hornbeam, pine, hazel, viburnum, lily of the valley, snowdrop, lingonberry, heather, etc.). Alder, willow, reed grow along the rivers, and water lilies and pitchers grow on the surface of ponds. Field ecosystems are characterized by both cultivated plants and forbs (chamomile, poppy, mouseweed, cornflower).

The fauna is also diverse and includes typical representatives of forest, wetland and field fauna: mammals (elk, roe deer, wild boar, hedgehog, marten, hare), birds (woodpecker, tit, owl, mallard, heron, kingfisher), aquatic animals (pike, crucian carp, bream, crayfish, lake frog) and insects (bees, bumblebees, butterflies, rhinoceros beetle) [1; 6].

The nature reserve fund of the Borsuky rural territorial hromada is represented by 1 reserve of local importance and 5 natural monuments of local importance.

"Kipykha" is a botanical reserve of local importance (136.26 hectares). A wetland massif that is a growth environment for typical swamp vegetation for the Western Forest-Steppe and a habitat for many species of wetland avifauna, a regulator of the water regime.

"Peredmirske Dzherelo" – a hydrological natural monument of local importance. A source of drinking water that plays an important water-regulating, health-improving and aesthetic function. The source is used by local residents for economic needs.

"Beech forest in the tract "Braterschyna" – a botanical natural monument of local importance. Highly productive beech-ash plantation of 1a quality, 70 years old, valuable in economic, scientific and aesthetic aspects. The completeness of the plantation is 0.7, the average diameter of the trees is 26 cm, the average height of the trees is 24 m. In the plantation there are single beeches aged 98-100 years.

"Larch-maple plantation in the tract "Braterschyna" – a botanical natural monument of local importance. Highly productive larch-maple-ash-hornbeam plantation of 1st quality, 80 years old, valuable in economic, scientific and aesthetic aspects. Plantation completeness – 0.7. Average tree diameter – 36 cm, average tree height – 28 m, wood stock per 1 hectare – 360 m³.

"Chaychynetska beech forest" is a botanical monument of local importance. A highly productive beech plantation of 2nd quality, 130 years old, valuable in scientific, educational and economic aspects. The completeness of the plantation is 0.5, the average diameter is 48 cm, the average height is 28 m, the wood reserve per 1 hectare is 270 m³.

"Steppe area "Mohyla" is a botanical monument of local importance. A place of growth and restoration of common viper, club-shaped plaun, sand tsmin – plant species (in the natural area) included in the List of rare and endangered species in the territory of Ternopil region [6; 7].

Thus, the natural resource potential of the Borsuky rural territorial hromada is significant and diverse. Favorable climatic conditions and fertile soils create a solid foundation for the development of agriculture. The availability of water resources ensures the needs of the population and the economy. The rich flora and fauna, as well as nature reserves, are important for preserving biological diversity and developing ecological tourism. Rational use and careful treatment of natural resources are the key to sustainable development of the community and improving the quality of life of its residents. For this, it is necessary to introduce environmentally friendly technologies, monitor the state of natural resources, and carry out environmental protection measures.

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