

Use of Technological Tools in the Development of Simplified Methodology for Assessing the Results of Biodiversity Conservation through the Implementation of Agri-environmental Policies. The “Result - Base Payment Schemes” Model in Troodos – Cyprus - Abstract

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Summary

The implementation of environmentally friendly policies contributes, through the rational use of the natural environment, in maintaining the biodiversity of a territory. The EU's current Agri-environmental policies are based on the implementation of management-based schemes on a European scale, which do not take into account national and local specificity. The implementation of a model that will be based on achieving measurable result goals is based on the precondition that in order to finance integrated productive activities, it will be necessary to certify the achievement of biodiversity indicators, which consequently certify the quality of the environment. One such model is the "Result Base Agri-environment Payment Schemes" - RBAPS. A model that, while requiring more effort to design and develop, produces better tracking data. The RBAPS model is based on a grading system that depicts the biodiversity per parcel and provides greater freedom for farmers to decide how to manage their land and therefore take more responsibility for their results.

The announcement aims to present simplified methodology that was developed using: a) high-tech tools (satellite data, specialized software, for the production of thematic maps), b) data on biodiversity species (protected species -Standard Data Forms SDF) c) local traditional knowledge and management practices and d) categories of production systems, to create result indicators and how monitoring locally the RBAPS model application. A key element of the methodology is the mapping of High Nature Value (HNV) farmland and farming systems. This procedure follows the classification of land cover and farming systems using temporal multispectral high spatial resolution satellite data (Copernicus Sentinel 2). For the preprocessing and the post processing of satellite and other geospatial data, open source sophisticated software, like SNAP (Sentinel Application Platform) and QGIS were used. The classification system follows the European Corine Land Cover

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(CLC) nomenclature. Sophisticated classification algorithms were implemented (random forest classifier) in order to create high precision thematic maps. The above mentioned data were correlated with spatial distribution in-situ Natura data in order to create thematic maps concerning the different types of species and habitats in the High Nature Value farmland. The analysis of these geospatial data contributes to the delimitation of the High Nature Value farmland within which elements of biodiversity habitats and species exist.

The following methodology for implementing the RBPS model focused on High Nature Value farmland and farming systems that are located in or between areas of the NATURA 2000 Network and operate as pressure mitigation zones or as communication corridors of NATURA 2000 network areas. In addition, it ends up in the formulation of an adjusted indicator guide, monitoring mechanism and control of the result indicators. The proposed methodology highlights the skills of the producer, the possibilities of interconnecting the local farming system with the sustainability of the place and transforming the biodiversity, in a territorial resource.

Finally, the implementation of the RBPS model by incorporating elements of the local cultural heritage can also function as a tool for territorial development, offering connection to the place and added value to the resources of a territory and supporting its farming systems.

Keywords: RBPS model; High Nature Value farmland and farming systems; sustainability.

JEL Codes: Q26, M35; L12.