**Remote sensing imagery for mapping and monitoring High Nature Value Farmland areas (HNVF)**

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**Abstract.** The definition of High Nature Value Farmland Areas (HNVF) was provided by Andersen in 2003: “HNVF comprises those areas in Europe where agriculture is the major (usually the dominant) land use and where that agriculture supports or is associated with either a high species and habitats diversity, or the presence of species of European conservation concern or both”.

In agriculture, generally, a higher level of biodiversity is found in those areas where agricultural production systems make use of fewer inputs of fertilizers, pesticides and machinery, or in semi-natural areas with extensive agriculture or, again, in agricultural areas which have preserved particular structural elements such as hedges, grassy strips, rows of trees, patches of spontaneous vegetation (Morelli et al., 2014, De Lucia S., 2013). Crop diversity alone, if not associated with low input intensity management, is not an indication of agricultural areas with high naturalistic value (European Evaluation Network for Rural Development, 2008). The objective is to develop a GIS prototype service for the identification and characterization of HNVF adaptable to different scales (local, regional, national). The proposed methodology is based on the statistical and farm systems approach. The developed procedure uses MODIS satellite images to improve the number and the accuracy of the land cover classes of the Corine Land Cover map and to calculate indicators aimed at monitoring soil and vegetation properties. A good agreement was found between our HNVF map and the results of literature works, although the analysis approaches were different. The study area was located in the Basilicata region, in southern Italy. The map of HNVF areas were elaborated at municipal level (spatial resolution) in 2012. The developed algorithm provides the possibility to vary the spatial resolution of the HNVF map from the national to farm level. The main advantage of the proposed methodology is that the inputs are free data, accessible from the public authority data-base.