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## ABSTRACT BOOK



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**AN INTEGRATED AGROFORESTAL SUITABILITY MODEL USING A GIS-BASED  
MULTICRITERIA ANALYSIS METHOD: A CASE STUDY OF PORTUGAL**

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It is generally agreed that the choice of the most suitable uses based in soil and climatic factors, complemented with socio-economic criteria, promotes sustainable use of rural land. There are, however, different methodologies for defining the soil suitability to agroforestry systems or natural and seminatural ecosystems, including agricultural uses, forest plantations, agro-forestry areas and priority areas for nature conservation. Many of these methods rely on decision support systems based on multicriteria spatial analysis. In this study we intended to determine the different levels of suitability for agro-forestry use in a subregion located in the center of Portugal, near the border with Spain. To the effect we used a set of soil and topographic variables. The legal constraints and land cover were also included. The suitability evaluation was performed using the Analytic Hierarchy Process (AHP). A spatial analysis was also performed in order to confront the land use matrix with the soil potentiality. This analysis allows to identify areas where the use and management it is in accordance with their suitability, as well as areas where the use must be subject to a conversion or at least to a change of management mode.

**Keywords:** land use suitability, analytic hierarchy process, gis, forestry, agriculture

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