



UNIVERSITÀ DI PAVIA

Corso di Dottorato in Scienze della Terra e dell'Ambiente

1. Project title

Numeric Gully Erosion Assessment in selected Agroecosystems using Scenario Analysis to define Sustainable Management Practices

2. Proposer

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4. Key words

(Max. 5 – at least 2)

Gully erosion, environmental modelling, soil-vegetation-atmosphere-interface, sustainable landuse, scenario analysis

5. Abstract

(Max.1.500 characters with spaces)

The proposed PhD project assess numerically gully erosion processes and dynamics. Therefore, as a first step a detailed investigation of driving factors will be carried out using stochastic modelling approaches. Subsequently, a physically based model is used in a GIS environment to assess the process dynamics and their effects on landscape evolution. Detailed soil and vegetation data will be included. Finally, the model will be used in a scenario analysis to evaluate future effects of gully erosion on agricultural areas due to



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climate or landuse changes. The scenario analysis will yield valuable information for a sustainable management of the agriculturally used study areas.