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STSM title: Sustainable Land Management and Decision Support

STSM Host scientist: Dr Gudrun Schwilch, University of Bern, Centre for Development and Environment (CDE), Switzerland

Five Keywords: Sustainable land management (SLM), Decision support, Natural resources, Soil conservation, Ecosystem Services

Topic summary: The purpose was learning about SLM practices to preserve natural resources, accounting for technical, ecological, economic and socio-cultural aspects and about the World Overview of Conservation Approaches and Technologies (WOCAT) project for soil and water conservation. This STSM also aimed to produce ideas how to produce a Decision Support System (DSS) promoting sustainability and combating land-degradation already existing in a semi-arid region in Portugal, facing the climate change and land-use changes.

Methods summary: This STSM comprised an investigation of WOCAT project, the mission, the methodologies used, databases and other documentation at the CDE. It also included the participation on PhD thematic module of International Graduate School (IGS) North-South on Natural Resources, Sustainable Land Management and Ecosystem Services.

Results and implications for restoration: Through this STSM, it was figured out ideas to create a decision support system for Alqueva watershed. Using the Revised Universal Soil Loss Equation (RUSLE) in combination with Geographic Information Systems (GIS) and geostatistics, soil erosion would be predicted in different scenarios, and subsequently it would be integrated with decision support tool to select and decide for adequate SLM practices for a specific area (see Figure 1). Additionally, it was obtained more knowledge about SLM practices, and methods of monitoring and assessment of them, to preserve soil resource.

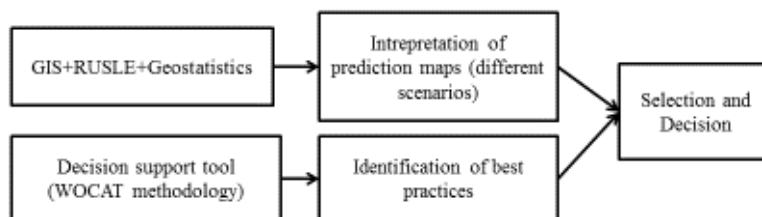


Figure 1 – Methodology for decision support

Relevant web links: <https://www.wocat.net/>



Figure 2 – Examination of soil aspect under different land management practices.