



**DESERTLINKS**

**COMBATING DESERTIFICATION IN MEDITERRANEAN EUROPE  
LINKING SCIENCE WITH STAKEHOLDERS**

**CONTRACT EVK2-CT-2001-00109**

**DELIVERABLE 1.1b (iii)**

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## THE DEVELOPMENT OF DIS4ME

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The DESERTLINKS Project began in 2001 with an aim to develop a desertification indicator system. It was planned to be a contribution to the work of the UNCCD and in particular for the Annex IV sub-region countries of Portugal, Spain, Italy and Greece. A vital element was the link with stakeholders at a local level, to discover their perception of desertification and their needs for indicators. Each country had begun work on their National Action Programmes and so collaboration with the National Committees and local stakeholders in four Target Areas was the first step to establish the specifications for a useful indicator system. The Target Areas are: the Alentejo region of Portugal, the Guadalentín basin of Spain, the Agri basin in Italy and the Greek island of Lesvos. Back in 2001 we did not realise that what we planned as a Desertification Indicator Manual on paper would become accessible as an interactive website.

Examination of reports and documents from the National Action Programmes highlighted many of the desertification issues for which indicators were required. These documents have also provided indicators and indexes already in common use. A Candidate Indicator List was begun, gathering indicators from the National Action Programmes, from various national and international organisations that had existing indicator lists, from past and contemporary research projects, and from workshop consultations with groups of local stakeholders. The series of workshops discussed driving force, pressure, impact and response indicators and finally evaluated the completed system. Gradually the indicator list was reviewed by the DESERTLINKS partners, seeking new indicators to fill in gaps, and losing some indicators that could not be either described or measured or used in a practical way.

The basis for assessing sensitivity to desertification in DESERTLINKS was previous research on Environmentally Sensitive Areas in the MEDALUS Projects<sup>12</sup>. The basic ideas were developed to calculate the Environmental Sensitivity Index (ESI) for a local area. Methods to calculate desertification risk for particular land uses: pine forest, cereals, olives, pasture, vines, and oaks have also been applied. For each of these land uses the relationships between a small number of key indicators have been examined. Another tool calculates desertification risk due to salinization. Finally the ESI methodology has been extended to explore various scenarios outside the main Target Areas, e.g. in Crete.

Agricultural practices are a very important factor in desertification, particularly since the choice of practice can either increase soil erosion or help to prevent it. The economic and environmental consequences of chosen agricultural practices have been analysed in the Agri basin in southern Italy and extended into an agricultural practice quality assessment tool (ManPras). The results have been used to demonstrate to stakeholders in all the Target Areas

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<sup>1</sup> Kosmas C, Kirkby M and Geeson N, 1999. The MEDALUS project. Mediterranean Desertification and Land Use. Manual on key indicators of desertification and mapping environmentally sensitive areas to desertification. European Commission, Brussels.

<sup>2</sup> MEDALUS III project website <http://www.medalus.demon.co.uk>

the practical economic and environmental benefits of the best practices for reducing desertification risk

Indicators have been included for spatial scales between local and European. The RDI/PESERA<sup>3</sup> model, also based on methodology from the MEDALUS III Project, provides an estimate of mean long term rates of soil erosion for the whole of Mediterranean Europe at a 1 km resolution. The results include maps of erosion and salinity risk at European and regional scales. Advanced Very-High Resolution Radar (AVHRR) land-cover data for Mediterranean Europe, and vegetation cover data for the Target Areas, have also been mapped.

The final stage in the development of DIS4ME has been evaluation. This has been achieved in the Target Areas using examples and questionnaires. The example of the Guadalentín basin, Spain, demonstrates complementary methodology for sensitivity to long term changes, as used by the Spanish National Action Programme. The Greek Focal Point has also used DIS4ME in a new pilot area, in western Crete<sup>4</sup>. Analysis of scenarios for land use concluded that the best land management practice to protect against soil erosion while supporting farm income was to preserve the present olive groves with minimal cultivation. The DIS4ME desertification indicator system is ready to use for a wide range of purposes and will make a valuable contribution to combating desertification in Europe.

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<sup>3</sup> Pan-European Soil Erosion Risk Assessment project website <http://pesera.jrc.it>

<sup>4</sup> In conjunction with the EU research project OLIVERO (The Future of Olive Plantation Systems on Sloping and Mountainous Land; Scenarios for Production and Natural Resource Conservation. Quality of Life and Management of Living Resources, Key Actions No: 5.1 and 5.5, Project No: QLK5-CT-2002-01841)