

# UNDESERT

## AT A GLANCE

**Title:** Understanding and combating desertification to mitigate its impact on ecosystem services

**Acronym:** UNDESERT

**Instrument:** Collaborative Project FP7

**Total Cost:** 4,922,397 €

**EC Contribution:** 3,499,378 €

**Duration:** 60 months

**Start Date:** 01/06/2010

**Consortium:** 9 partners from 7 countries

**Project Coordinator:** Aarhus University (Denmark)

**Project Web Site:** [www.undesert.neri.dk](http://www.undesert.neri.dk)

**Key Words:** biodiversity, CO<sub>2</sub> sequestration, decision support, desertification prevention, local knowledge, restoration, participatory approach



## THE CHALLENGE

The West African region is central for understanding desertification and degradation processes, which are already severe and widespread as a consequence of climate change and human impact. An improved understanding of the effects of desertification and degradation processes on a local to regional scale is important in order to combat desertification and degradation directly and in order to contribute to the implementation of relevant international strategies, initiatives and commitments of the EU and African countries.

## PROJECT OBJECTIVES

UNDESERT aims at combating desertification and land degradation in order to mitigate their impacts on ecosystem services and, consequently, on human livelihoods. By integrating regional information with sound field data on biodiversity and soil as well as socioeconomic and climate data, we aim to create improved understanding of the effects of desertification and degradation processes in West Africa on a local and regional scale. On this basis, decision support models and tools will be developed and introduced to natural resource managers. UNDESERT also includes two very practical aspects, 1) restoration through tree planting, which will be certified for CO<sub>2</sub> marketing as the first restoration site in West Africa and 2) ecosystem management based on scientific data and best practices developed in close collaboration between scientists and local communities. UNDESERT activities will be implemented by employing 17 young PhD students, who will receive training to enhance future capacities to manage risks and uncertainties in the frame of future demographic and climatic changes. The scientific results will be used to combat desertification and degradation directly and will be transferred to international programs in order to contribute to the implementation of relevant international strategies.

## METHODOLOGY

Even the most advanced and modern remote sensing and analytical techniques cannot provide solutions to the realities of desertification and degradation problems unless the realities on the ground are understood. A key stone in UNDESERT, is to relate the newest techniques of modelling with hard core data on soil and biodiversity as well as socioeconomic and climate data in order to understand how desertification and degradation processes affect ecosystem services. Practical measures to combat desertification and land degradation will be based on research results.

The geographic focus is Africa, the continent which is most severely menaced by desertification, and, more specifically, West Africa with a very regular ecological zonation from north to south, which makes desertification and degradation processes easier to investigate by means of satellite data. The focus will be on the Sahelian and Sudanian zones where desertification affects many people's lives.

Practical measures to combat desertification and degradation include development of computer-based models aimed at decision support and establishment of tree plantations and nature management plans in close collaboration with local communities.

## EXPECTED RESULTS

Expected results include a better scientific understanding of degradation and desertification processes, online databases with available biodiversity and socioeconomic data and decision support systems that can be used as a tool by natural resource managers.

Practical measures will include management plans and establishment of tree planting projects, where CO<sub>2</sub> sequestration will be monitored and certified for carbon trade as the first project in West Africa.

## PROJECT PARTNERS

Aarhus University, Denmark

University Abdou Moumouni , Niger

Université Cheikh Anta Diop de Dakar, Senegal

Johann Wolfgang Goethe-University Frankfurt am Main, Germany

Senckenberg Gesellschaft für Naturforschung, Germany

University of Ouagadougou, Burkina Faso

University of Bobo Dioulasso, Burkina Faso

University of Abomey-Calavi, Benin

BioClimate Research & Development, United Kingdom

