



## **Geosciences knowledge to improve the livelihood of the Arcos Region in the Namibe Desert , South of Angola**

A.N.S. Muacahila (2,3), A.J.D. Ferreira (1), and C.O.A. Coelho (2)

(2) CESAM, Departamento de Ambiente e Ordenamento da Universidade de Aveiro, Aveiro, Portugal, (3) Escola Superior Politécnica do Namibe, Universidade Mandume Ya Ndemufayo, Namibe, Angola, (1) CERNAS, Escola Superior Agrária de Coimbra, Coimbra, Portugal (aferreira@esac.pt)

The Arcos Region, in the South of Angola is located at the oldest desert in the world, the Namibe Desert. The living is conditioned by the arid climate, and is only possible due to the vicinity of the South Atlantic Ocean and to the rivers that flow from the central Angola plateau lands. Although present, water resources are limited and confines man activities and the resilience of fragile desert ecosystems.

A study is being implemented in this region to improve the livelihood of the local populations while increasing the protection for the fragile ecosystems, trying to reduce the environmental impacts and improve the judicious management of natural resources.

Geosciences knowledge plays an important role in this process, since the desert dynamics and the hydrologic processes are determinant to the sustainability of populations and ecosystems.

To optimize resources management, a multiple approach research design is being implemented, combining remote sensing, to assess the spatial distribution of vegetation, geomorphological features that can play an important role in the management process, either as assets or threats, and the distribution of water resources and population features.

In addition, field monitoring equipment is being installed to assess soil properties and monitor the water fluxes within the region.

It is expected that the outcomes of this research project will allow a more judicious use of water and the identification of where key interventions need to be made to stop the degradation processes, therefore allowing a more secure living for the population in the “Arcos” oasis.