

## LOCATION:

The field locations in Southern Iberia are situated in the lower Guadiana basin, downriver of the Alqueva (Portugal) and Chanca (Spain) dam.

## ENVIROMENTAL PROFILE, DEMOGRAPHIC & SOCIO-ECONOMIC:

The field area has a typical Mediterranean climate, characterised by an irregular and unreliable rainfall regime concentrated during the autumn-winter period and by heavy summer drought. An interesting aspect of the field area is that it falls within one eco-region but is divided over two countries, allowing for comparison between different governmental policies and land use practices performed. The River Guadiana forms the natural border between Portugal and Spain in this area. The soils in general are shallow and formed on schists, shales and greywacks and have a low organic matter content. During the last decades the Guadiana river basin has been suffering a low demographic dynamic, translated by a generalised reduction of the population. The development of tourism activities in the coastal zone is helping to contradict the tendency in population loss.

## PRINCIPAL LEDD PROBLEM:

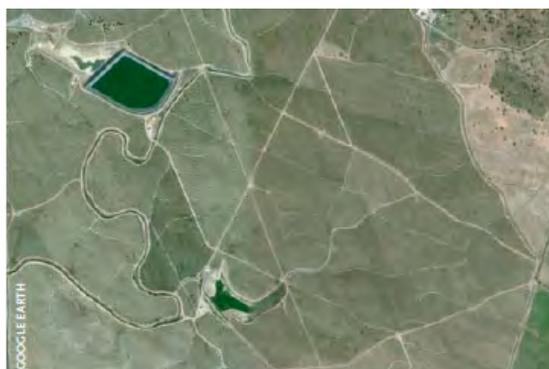
The choice of field sites on the Spanish side of the Guadiana is made on the opportunity to compare between the longest ongoing citrus plantations in the area, where soil conservation measures have been taken, (picture 1) versus the newest plantations where no erosion control measures have been taken (picture 2). In 2003 the Junta de Andalucia started an incentive to increase the economic status of this region, since the abandonment of the mines. A project was started: the 'Regadio de Andévalo' (irrigation from Andévalo), in which it was originally (2003) envisaged to convert and irrigate 10.000ha of marginal agricultural land into citrus plantations. In 2006 Garcia-Carrion started to build a juice-producing factory in this area



Picture 1. The oldest citrus plantation in the Huelva where several soil conservation measures are taken.



Picture 2. Recent citrus plantations in the Huelva province with no soil conservation measures



Picture 3 Newly converted citrus plantations in the Andévalo region, Huelva, Spain

with a prospected own agricultural area of 4.250 ha surrounding the factory. In 2007 the Junta de Andalucía supported a plan to transform and irrigate another 2000 ha of marginal lands into citrus plantation.

**RESPONSES TO LEDD:**

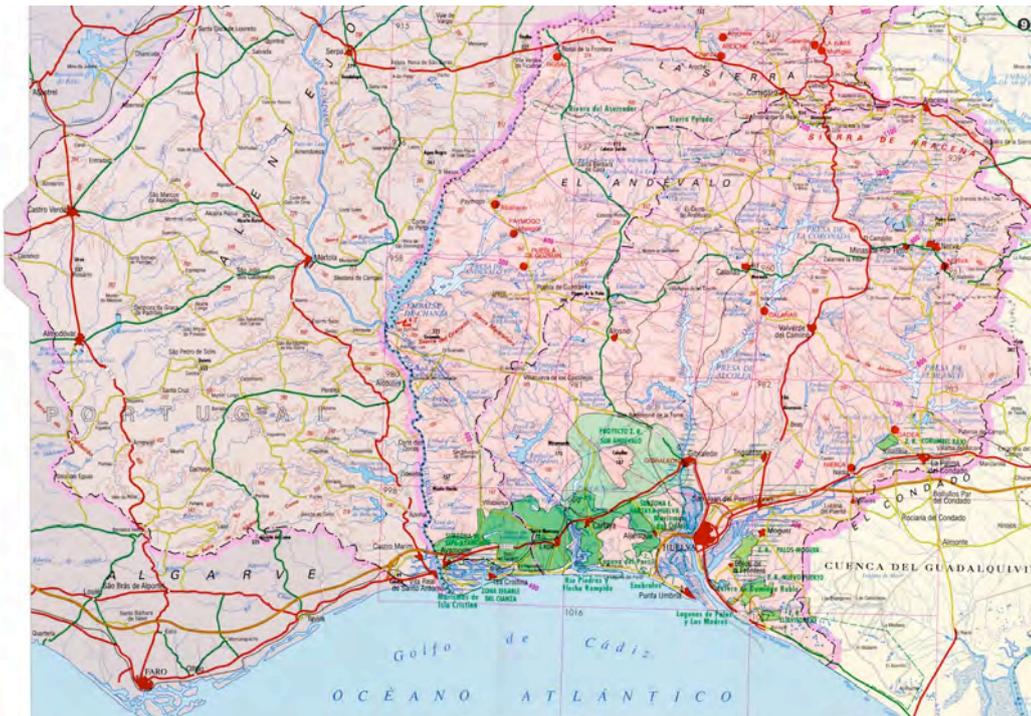
The landscape in the Andévalo region prior to the land conversions could be divided into two main divisions:

1. (agro)-silvopastoral with low tree density ( 1-40 trees/ha). The trees in this division consist predominantly of holm oak, with matorral undergrowth.
2. Eucalyptus stands and Pine forests.

The agro silvo pastoral Dehesa system (picture 4) could be described as the traditional land use management of this area. This land use system is currently 'loosing ground' in the area. It is however well adapted to the Mediterranean climate and soils. The trees can survive by themselves and do not need irrigation. The livestock (mainly pigs) 'prune' and eat the fruits of the trees, which comprise mostly of holm oaks. The hams of these pigs are well known in the world as 'Pata Negra' and are a delicacy.



Picture 4. The Dehesa ecosystem in the Huelva region. Photo by M.Curfs, April 2010



Picture 5. Map of the Huelva-Alentejo area.

### Alentejo field site description.

Vassilis Koutsoukos 15/7/10 9:56

Comment: Εκτός του προγράμματος

The landscape, at the Portuguese field study site is dominated by a undulating topography (100-200m a.s.l). Soils, are mainly shallow litosols developed over schists. The vegetation comprises mostly of matorral with disperse trees (*Quercus suber* and *rotundifolia*) which is called Montado in portuguese but which is called Dehesa in Spanish. It is a agro silvo pastoral land use type. The main land use changes affecting the landscape in this area are A) The Wheat Campaign, from 1930 until 1974 implemented by the Estado Novo regime and B) The 'Reforma Agraria' from 1974 until late 80-ties, in which changes in culture and farm dimensions were introduced, and C) after 1986 incentives that derived from the Common Agricultural Policies from the European Union.

Often during these different social and physical land use incentives/policies, the Alentejo region has been used for types of agriculture that exceeded the capacity of the ecosystem. Land degradation and desertification processes are common. In a study performed by Roxo and Calvo it is stated that the land use changes in this area are very dynamic in other words responses to the LEDD problems vary from land abandonment to the reclamation of abandoned land into areas for crops or livestock.



Picture 5. Landscape in the Alentejo. Photo M.Curfs, July 2009