



ECOPLANTMED Pilot Site Restoration in Lebanon

Project work package WP 6 • WP coordinator: USJ

PILOT SITE CHARACTERISTICS

- **Location:** Kfardebian
- **Size:** 7 ha (8 plots)
- **Annual rainfall:** 1720 mm/year
- **The mean annual temperature:** 19.2 °C
- **Soil:** Areno-Eutric Leptosols

DEGRADATION FACTORS

the long-term intensive exploitation (wood cuttings and overgrazing) of woodlands in Lebanon that continues until today

Location of ECOPLANTMED pilot site

Plots distribution



GOAL

Restoration of the original ecosystem typical of this site that is on the limit between the cedar forest and the juniper high altitude steppic forest. Also, we aim to optimize economically and technically the restoration methodologies in order to scale them up to other similar ecosystems at the Mediterranean level.

THE RESTORATION ACTION

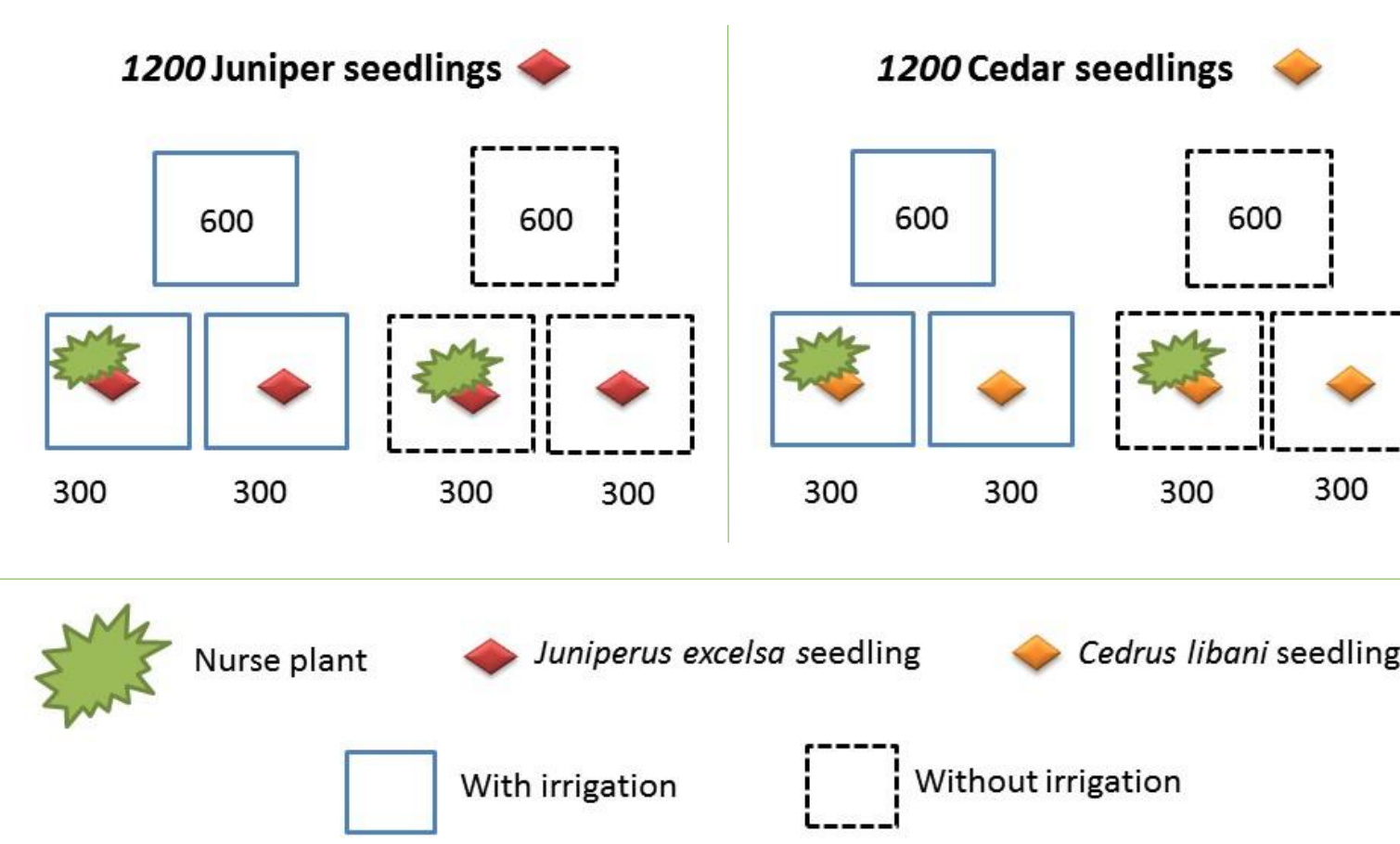
1 PREPARATORY WORK

- Installation of a fence by the local NGO, Jouzour Loubnan, to protect the site from grazing;
- Installation of an irrigation system to provide water during the plantation experiments

2 PLANTING

The experiment with seedling was carried out into 6 plots of one ha each. *Cedrus libani* (1200 seedlings) and *Juniperus excelsa* (1200 seedlings) were planted following an experimental design testing: the exposition, the irrigation and the effect of nurse plants. The experiment with seeds was carried out in two plots. Seeds from five species were sown in the plots, following an experimental design testing the effect of existing nurse plants on seed germination.

The experimental design of seedling plantation in each 1 ha plot



Cedrus libani with irrigation, without plant nurse



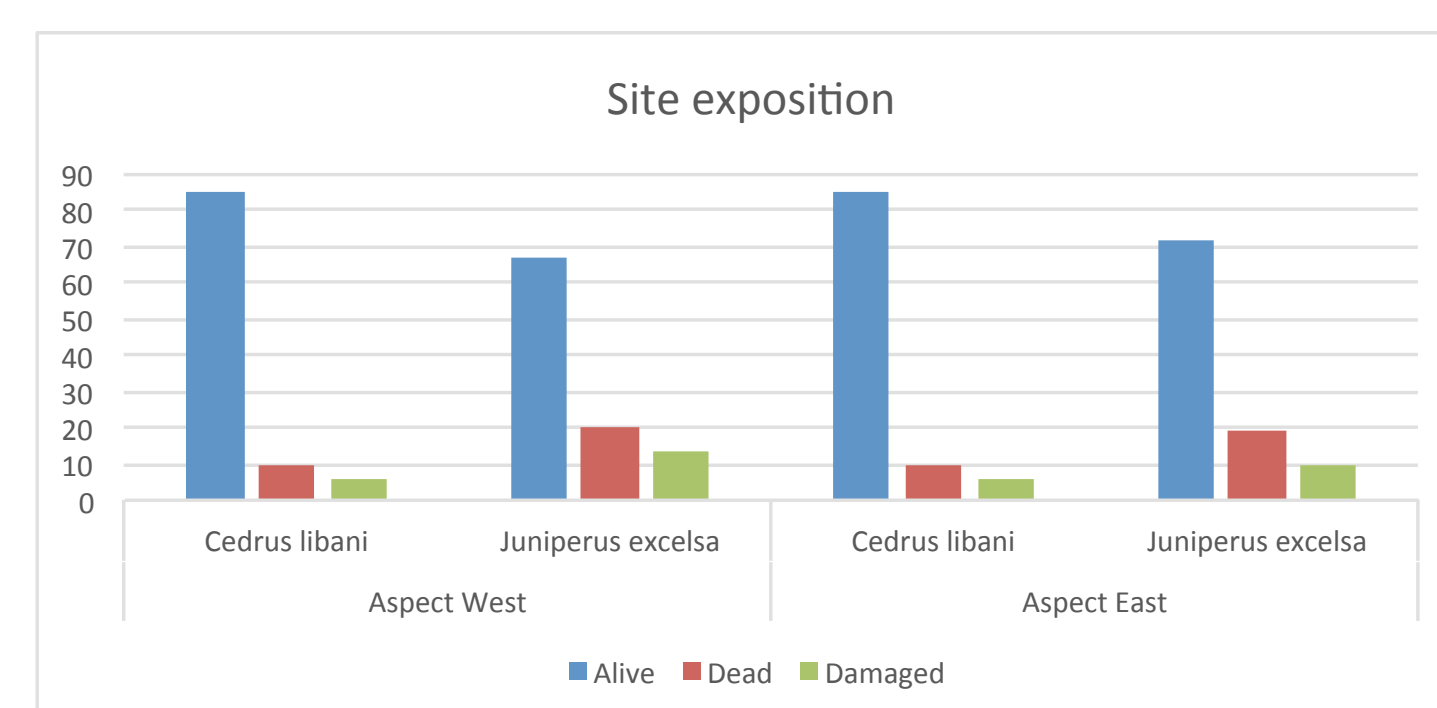
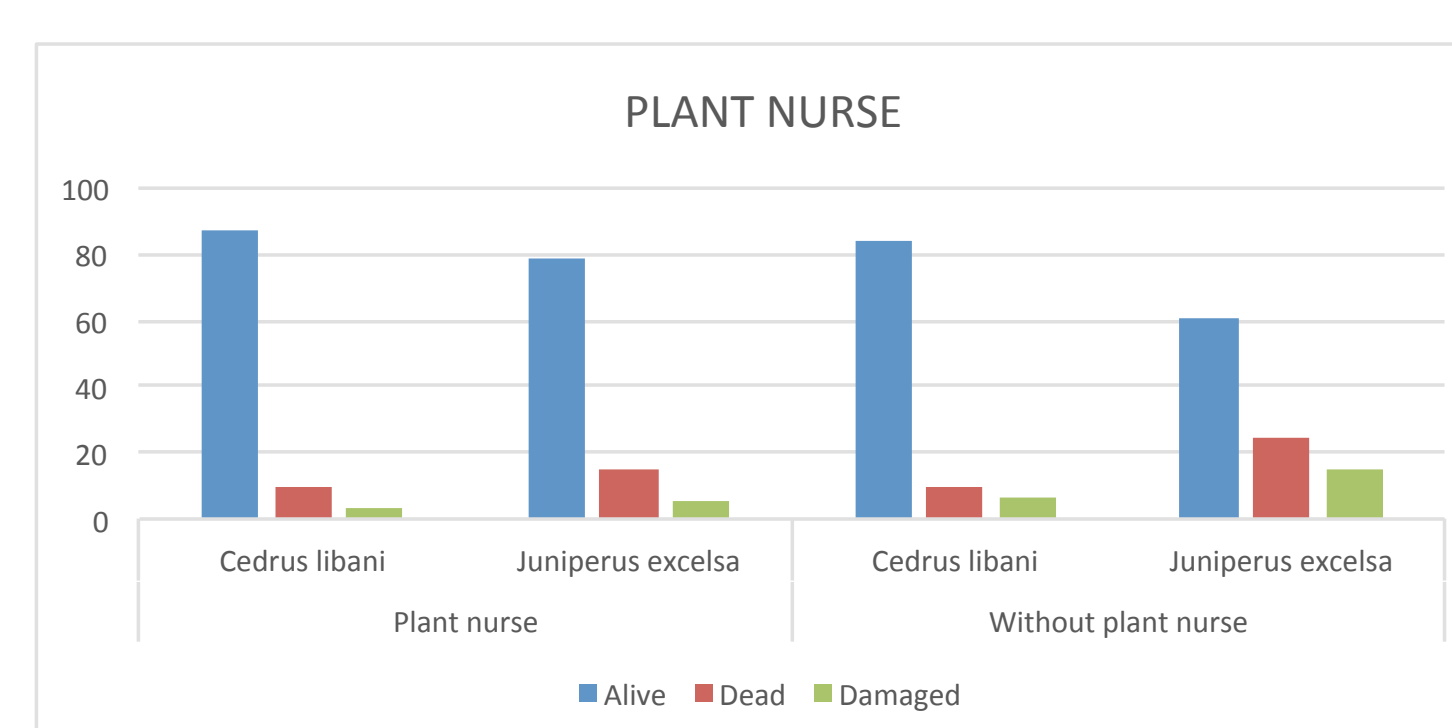
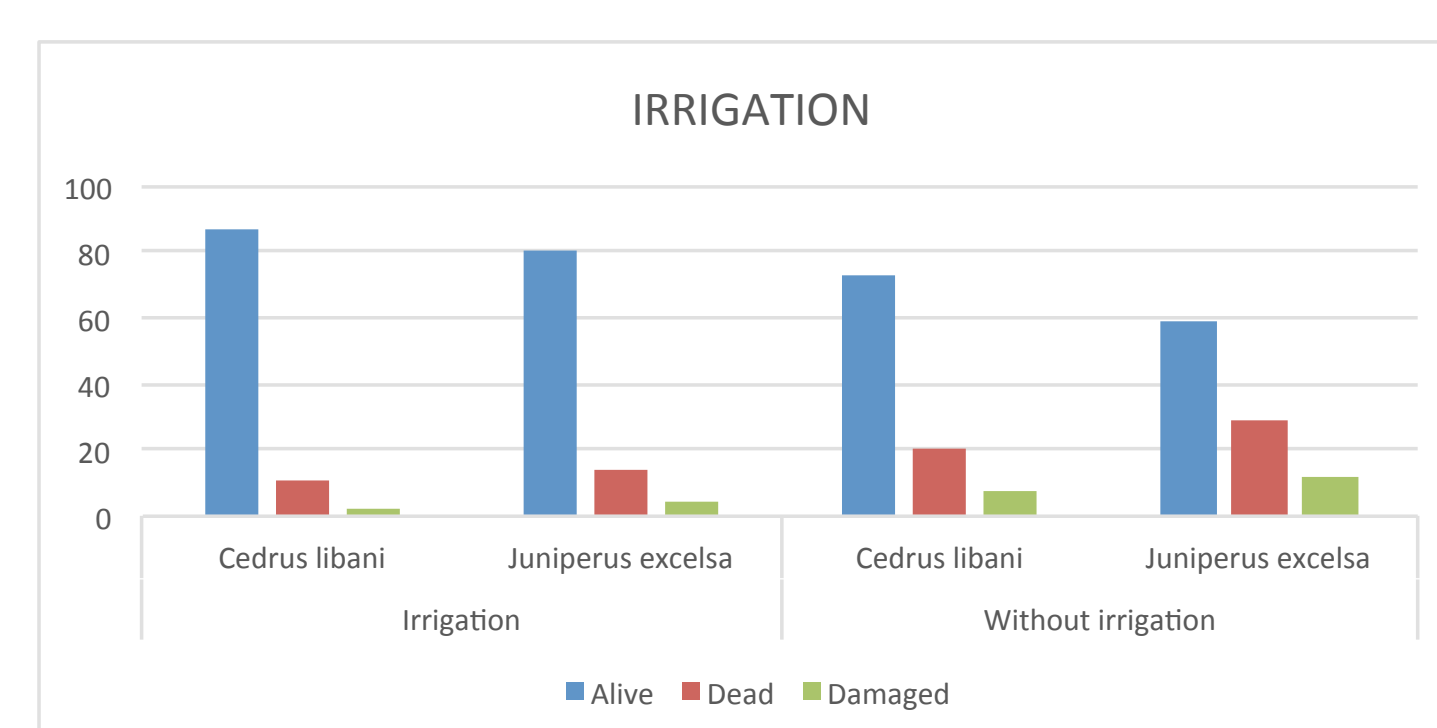
Juniperus excelsa without irrigation, without plant nurse



3 SITE MAINTENANCE

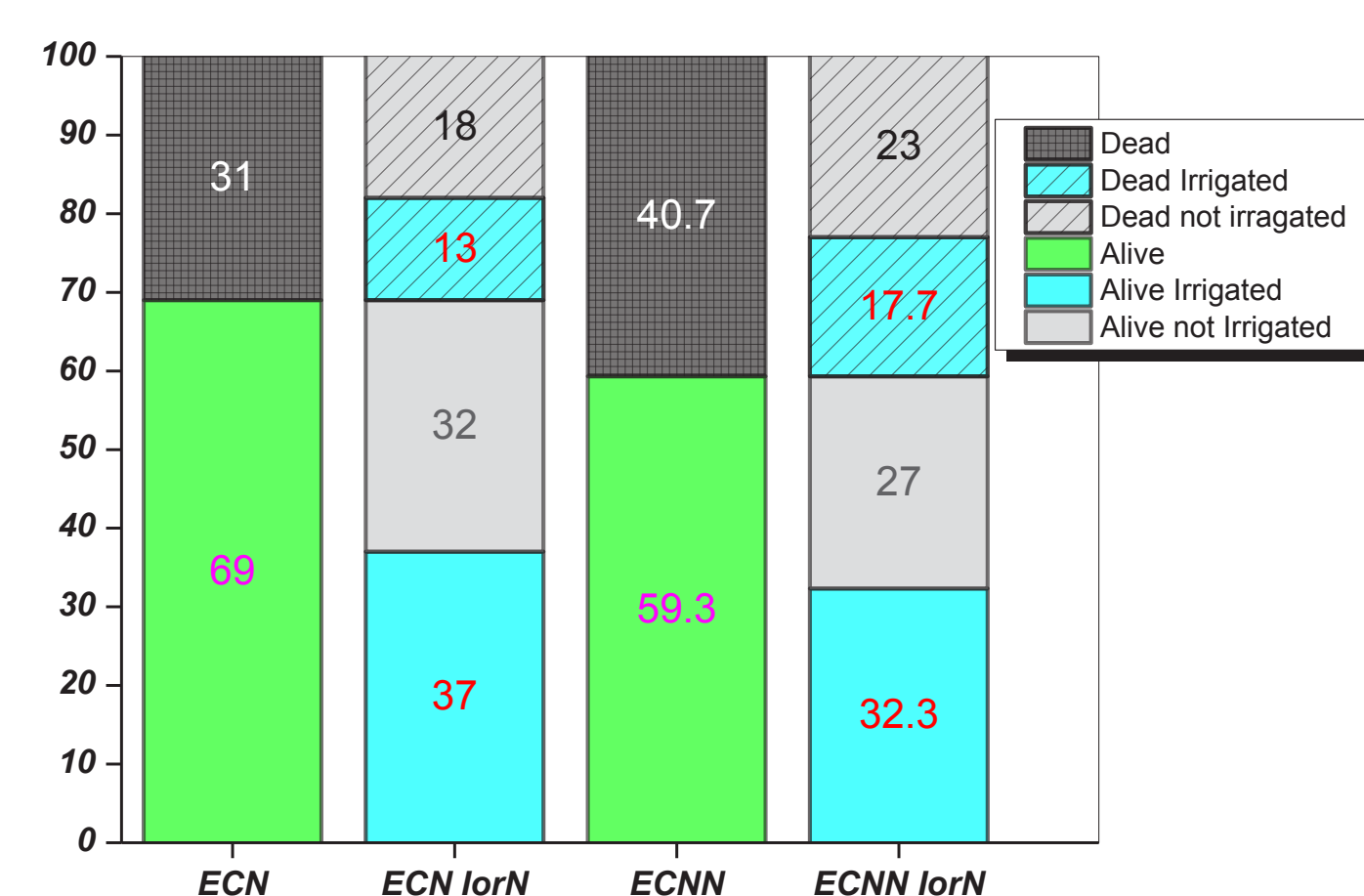
Monitoring will be performed once per month for at least two years after the end of the project by the NGO "Jouzour Loubnan"

RESULTS FOR THE FIRST SEASON

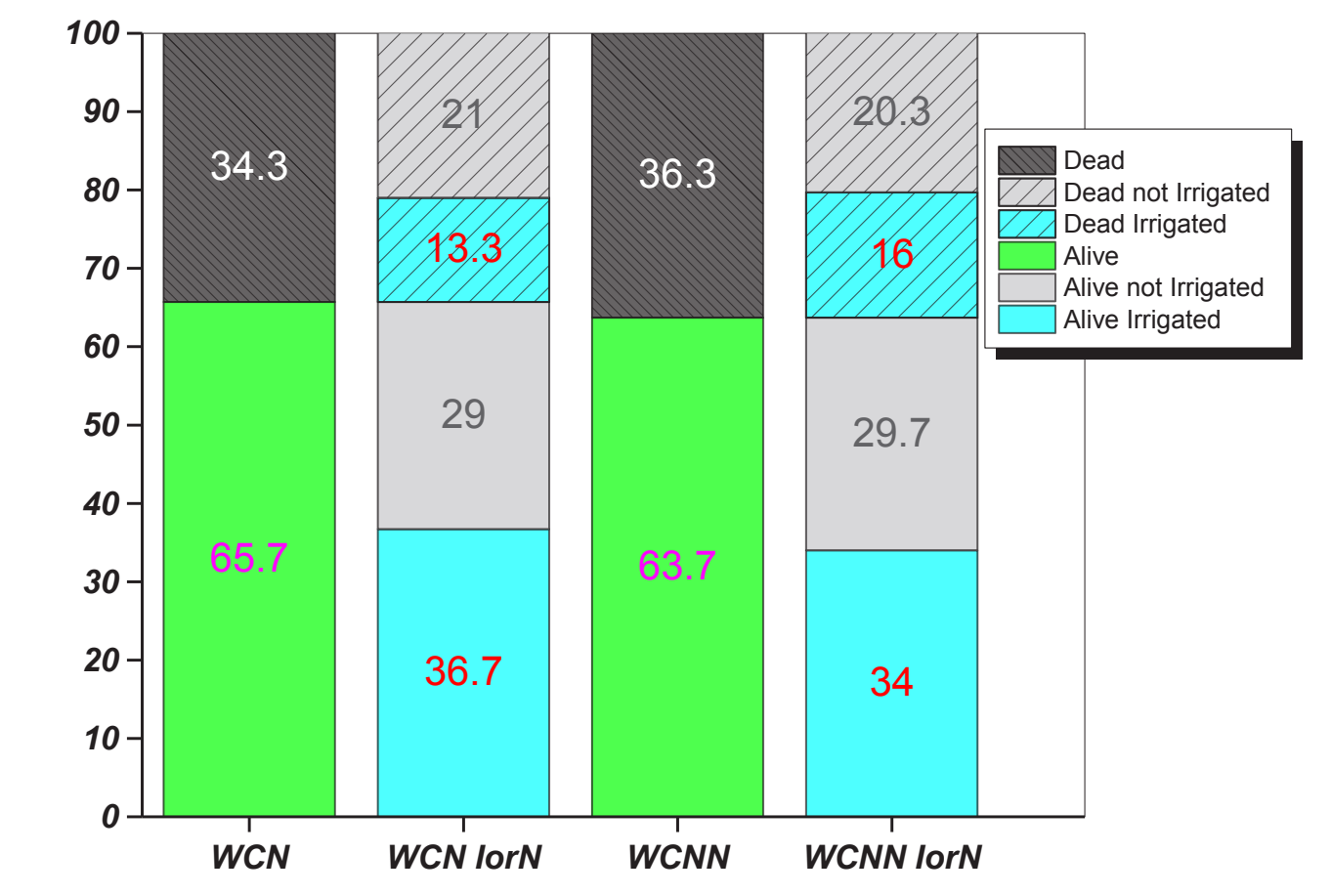


The analysis of each ecological parameter on the planted seedling revealed that: the nurse plant and irrigation might have an effect on the survival rate of the Grecian Juniper and Lebanese Cedar.

East Cedrus Nurse Irrigated or not versus East Cedrus No Nurse Irrigated or not



West Cedrus Nurse Irrigated or not versus West Cedrus No Nurse Irrigated or not



The 3 combined parameters showed that the nurse plant effect was highlighted in the East exposition- where the physical conditions are tougher (sun, wind, etc.)

Further readings will be done in the coming 2 years in order to come up with a significant conclusion. Remark: until now we don't have any result for seed sowing tests.

The project ECOPLANTMED total budget is 1.050 million Euro and it is financed, for an amount of 0.945 million Euro (90%), by the European Union through the ENPI CBC Mediterranean Sea Basin Programme 2013-2007.

The European Union is made up of 28 Member States who have decided to gradually link together their know-how, resources and destinies. Together, during a period of enlargement of 50 years, they have built a zone of stability, democracy and sustainable development whilst maintaining cultural diversity, tolerance and individual freedoms. The European Union is committed to sharing its achievements and its values with countries and peoples beyond its borders. The 2007-2013 ENPI CBC Mediterranean Sea Basin Programme is a multilateral Cross-Border Cooperation initiative funded by the European Neighbourhood and Partnership Instrument (ENPI). The Programme objective is to promote the sustainable and harmonious cooperation process at the Mediterranean Basin level by dealing with the common challenges and enhancing its endogenous potential. It finances cooperation projects as a contribution to the economic, social, environmental and cultural development of the Mediterranean region. The following 14 countries participate in the Programme: Cyprus, Egypt, France, Greece, Israel, Italy, Jordan, Lebanon, Malta, Palestine, Portugal, Spain, Syria (participation currently suspended), Tunisia. The Joint Managing Authority (JMA) is the Autonomous Region of Sardinia (Italy). Official Programme languages are Arabic, English and French (www.enpicbmed.eu)

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