



W03.01 -5

EFFECTS OF THE RESTORATION ACTIONS TO COMBAT DESERTIFICATION ON SOILS. THE PRACTICE PROJECT STUDY SITE IN PULA (SARDINIA, ITALY)

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Land Degradation and Desertification affect much of the world's drylands, resulting in a significant loss of biological and economic productivity. Responding to desertification by improving the efficiency of land and resource management represents a crucial step towards social welfare in drylands. However, the evaluation of the actions to combat desertification remains limited. The PRACTICE EC-FP7 project develops and tests integrated evaluation protocols to assess the effectiveness of restoration practices in a network of study sites distributed among the most LD affected regions of the world. In the Pula reforestation area (Sardinia, Italy) integrated evaluation protocols are being applied, based on the unifying conceptual framework provided by the analysis of the desertification impacts on ecosystem good and services and on human well-being, across different spatial scales. The LFA Landscape Function Analysis (LFA) was taken as the reference method to study the effects of the restoration actions on the soils, by comparing different restoration/management actions: i) non-managed area (control area), ii) self-restoration, iii) thinned reforestation, and iv) non-thinned reforestation (to evaluate the effects of the plantation in absence of subsequent silvicultural interventions). The LFA include a range of soil surface assessment indicators to be estimated along linear transects, to derive an Infiltration/Runoff Index, and a Nutrient Cycling Index. In addition, soils were studied and sampled by horizon, and analysed for SOC, pH, N, and other emerging properties. A morphological description of the litter was made, along with a study of the soil microarthropod community.