



# Life + Environment Policy and Governance

Life 10 ENV IT 000400 – NEW LIFE

[www.lifeplusecosistemi.eu](http://www.lifeplusecosistemi.eu)



NEW LIFE

**Environmental restoration of degraded and desertified soils  
by a new treatment technology for the recovery of the land**

*Coordinating beneficiary*

**m.c.m. Ecosistemi s.r.l.**



*Associated beneficiary*

**Comune di Piacenza**



**Provincia di Piacenza**



**Università Cattolica del Sacro Cuore Piacenza**



**UNIVERSITÀ  
CATTOLICA**  
del Sacro Cuore

The project aims to demonstrate  
the general validity of the  
intervention to combat land  
degradation and desertification,  
through an methods based on  
innovative treatment of  
disgregation and reconstitution  
of the soil



The project will be implemented over an area of 200.000 m<sup>2</sup> in the municipality of Piacenza.



# The land area covered by intervention appears to be in a strong state of degradation



This site was a landfill area filled with urban wastes (1972 – 1985) and covered with a layer of various kinds of soil

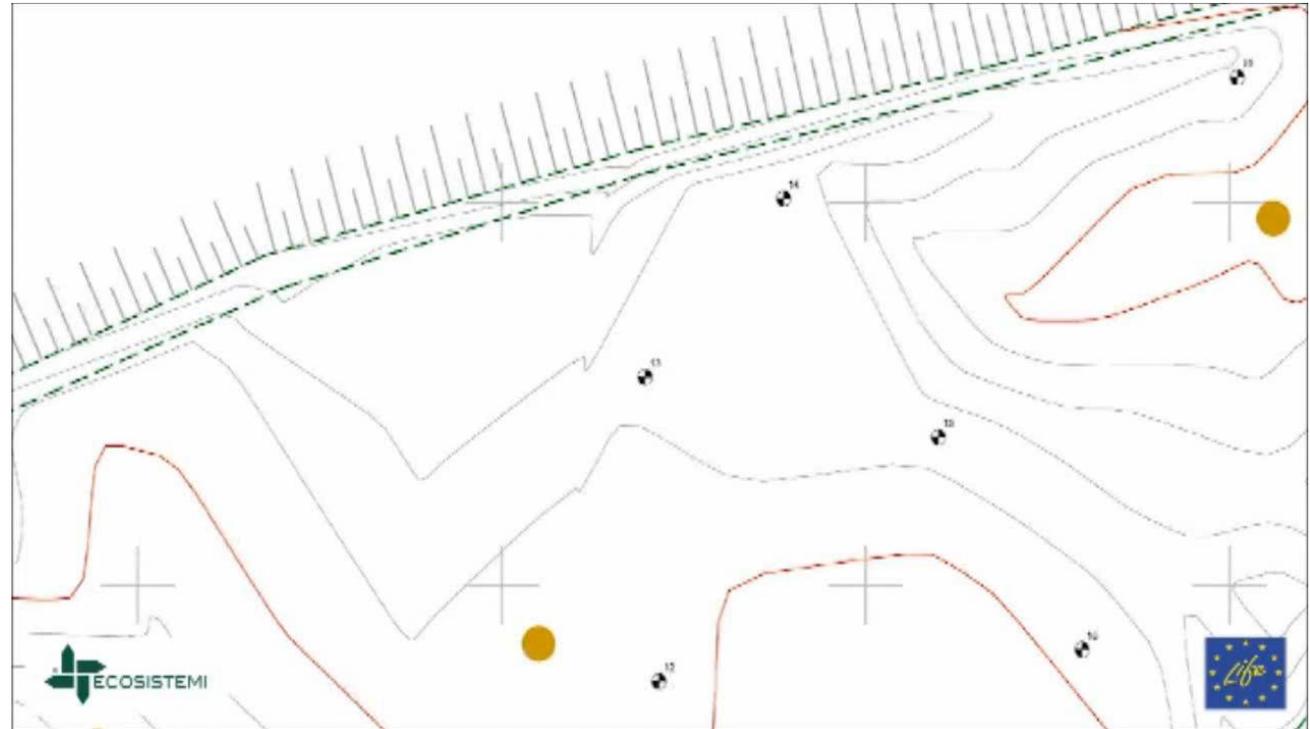


Today, the area looks like a grassland characterized by the dominance of ruderal species (*Agropyrum repens* – *Hordeum murinum*) growing on soil structure, poorly drained and loss water content



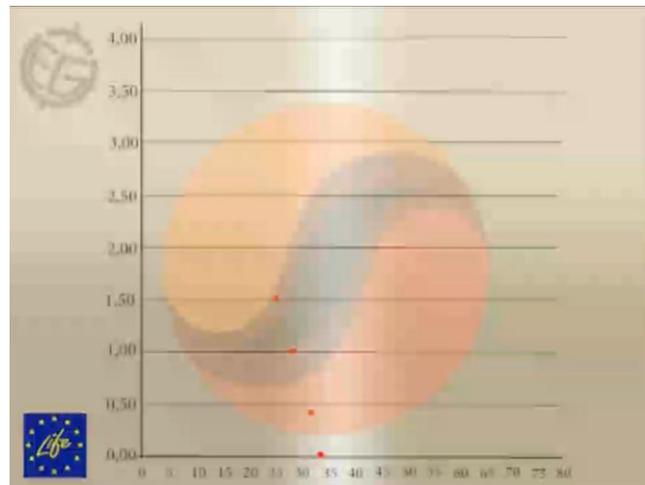
# The project is developing through the actions and resources listed below:

- A. Chemical – physical characterization of soil site and identification of homogeneous areas;



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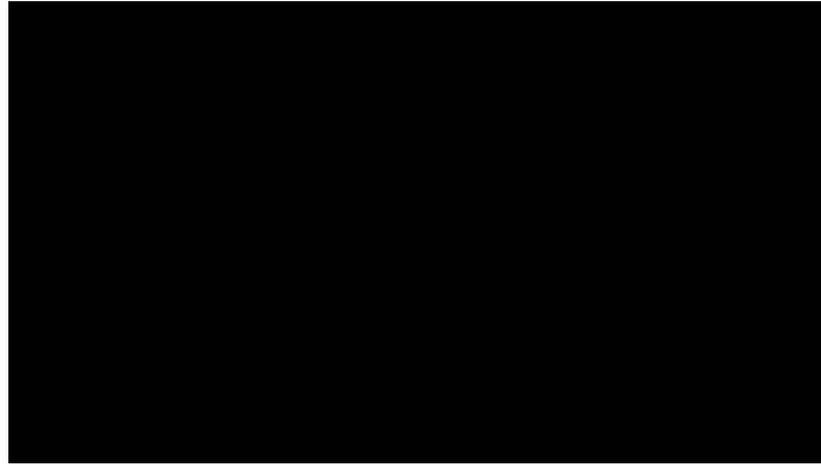
- B. Investigation of the matrices to be disgregate and reconstituted with degraded soil



- C. Application of technology by experimental plots using the different soils site together with different types of matrices



- C.1 Chemical – physical and microbiological characterization of the different types of reconstituted soils and the degraded soils of area for three years.



- C.2 Botanical study of the colonization in the reconstituted soil



- D. Restoration of the degraded area by removing the surface layer of the soil and repositioning of the reconstituted soil, planting of species native to recover biodiversity



# Technology

- This technology is based on a treatment (patented by Ecosistemi s.r.l.) of chemical – mechanical processing of degraded soil with an initial process of disgregation of the same one followed by their reconstitution incorporating soil matrices, a subsequent policondensation with humic acids and final restoration (recostitution).

The recostitution methods improves degraded soils through a controlled incorporation of organic matter by processes that originate neoaggregates of soil





# The reconstituted soil has:

- a. Improvement of the structure and increased structural stability;
- b. Increase and stabilization of organic matter
- c. Reduction of soil compactation
- d. Increased water retention capacity
- e. Increase of the fertility
- f. Enhancement of biodiversity





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Nowadays the current project has already put in evidence several relayy interesting techical and scientific angles, such as:



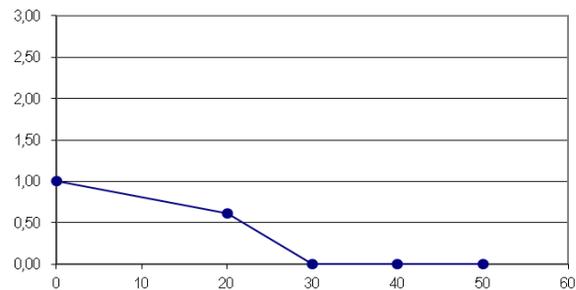
# Tangible results concerning rich and fruitful soil production by recovering dams and natural and artificial potting sedimentations muds



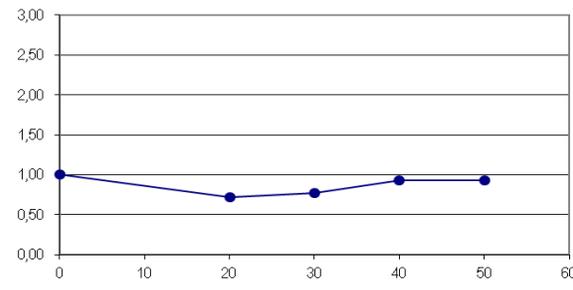
# Reduction of a soil salinitess phytotoxic effects



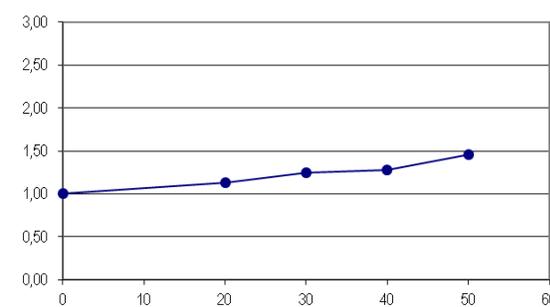
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# Realization of an alternative biochar recovery system with consequent agricultural benefit



Reconstitution technology improvement by an aimed utilization of correctives