

**Le Marcite: coltura e cultura nella storia locale e internazionale.
Una risorsa per il futuro con il progetto ECHOES Marcita lab.**

Paola Branduini

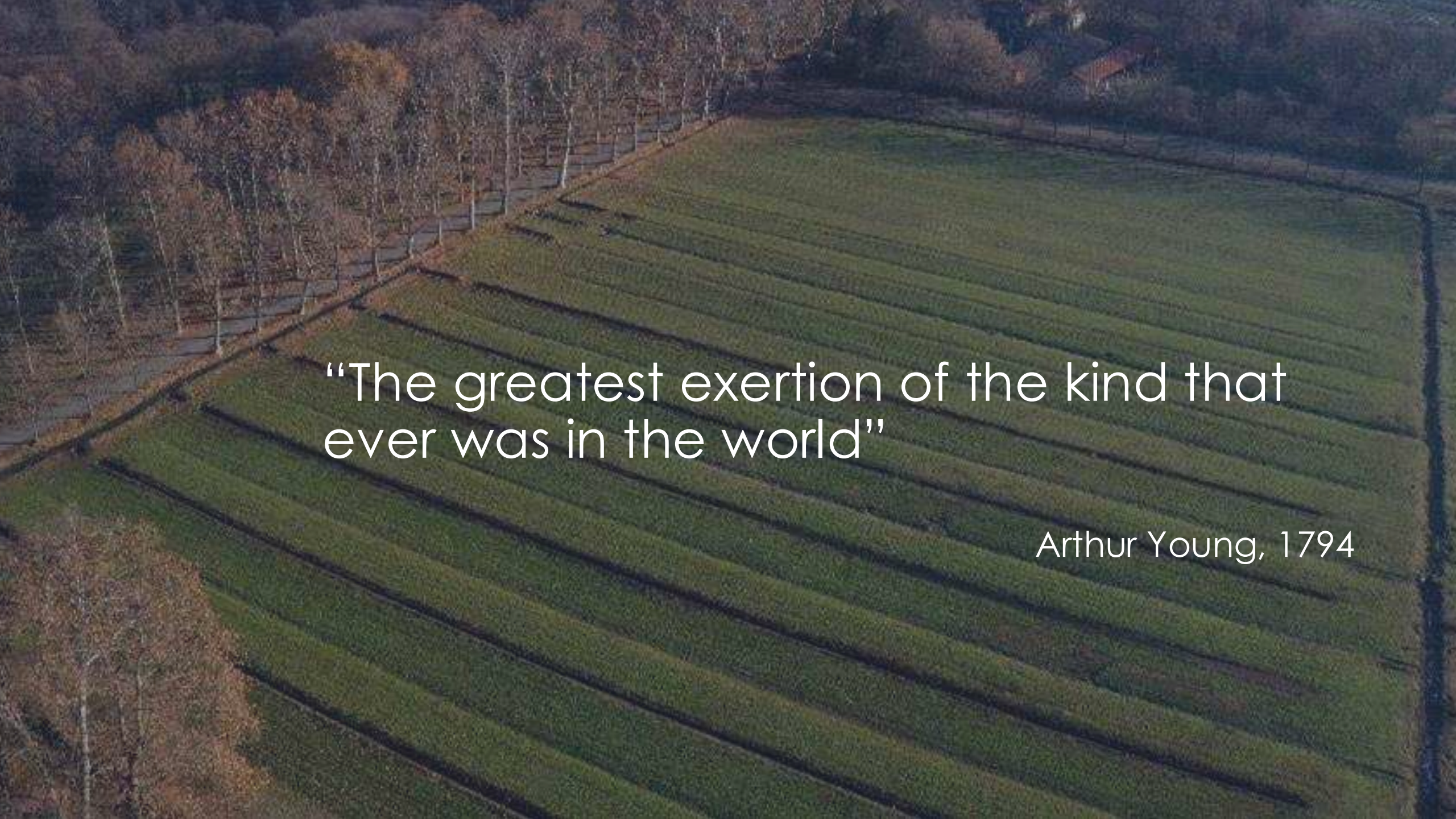


POLITECNICO
MILANO 1863

DIPARTIMENTO DI ARCHITETTURA
INGEGNERIA DELLE COSTRUZIONI
E AMBIENTE COSTRUITO

Sommario

1. La marcita
2. Marcite nel passato
3. Marcite all'estero
4. Marcite oggi a Milano
5. Il progetto Echoes Marcita lab



“The greatest exertion of the kind that
ever was in the world”

Arthur Young, 1794

L'ammirazione del nostro sistema irriguo all'estero...

“As the irrigation of the Milanese is perhaps the greatest exertion of the kind that ever was in the world, and certainly the first that was undertaken in Europe, after the decline of the Roman empire; it merits every attention that a farming traveller can give; for it will be found, by very briefly recurring to records, which have been searched, that great exertions (perhaps as great as ever known) were made in this country, at a period when all the north of Europe was in a state of barbarism...”

Arthur Young, 1794, Travels During the Years **1787, 1788, & 1789**, Undertaken More Particularly with a View of Ascertaining the Cultivation, Wealth, Resources, and National Prosperity of the Kingdom of France, Vol. II, Bury St. Edmund, London

In no country of Europe has irrigation, as an aid of agriculture, been carried forward on so extensive scale, nor with better results, than in Italy. The whole of the plains of Lombardy and of Piedmont, as well as other portions of the present Sardinian realm, have been intersected and covered with canals of larger or smaller size, distributing feeders, and tho different constructions necessary to render them effective.

Executive documents of the House of Representatives, Second session of the 36 Congress, **1861**, Washington

Il fiore all'occhiello dell'irrigazione lombarda: le marcite

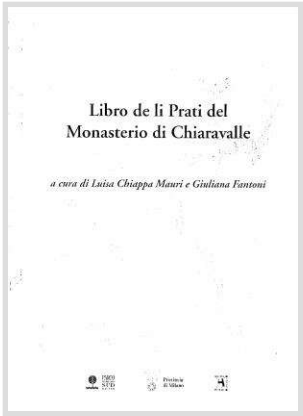
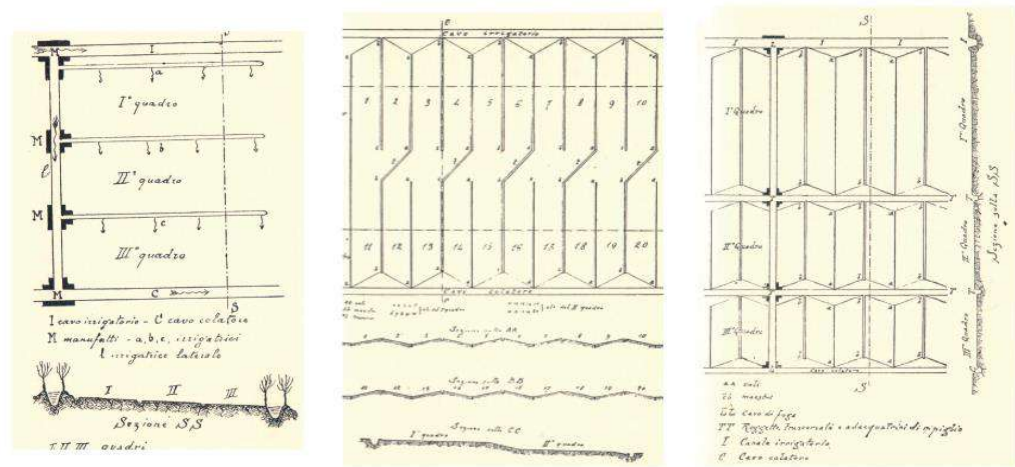
*“The lands which are subjected to an artificial irrigation, are, in the first instance, reduced to a level calculated to allow the passage of the water over its surface, without remaining to stagnate and render the ground marshy...The meadow called **Prato di Marcita**, because it is mowed in the month of March, is more productive, and remains green all the year, and the cattle fed upon the grass during winter, give a third more milk than upon other land. The **Prato di Marcita is made by giving a greater level to the meadow, and letting the water run continually over it from October to March, care being taken to choose the warmest springs forth sources.**”*

Lady Morgan, **1821**, Italy, Henry Colburn, London

*“It is farther requisite that the water should spread itself in a thin **uniform sheet over the surface of the land**. This is effected by disposing the soil in **gently inclined planes**, the dimensions of which vary exceedingly, according to the practice of different localities, and also **according to the peculiarities of the soil**. Where the land is very light and absorptive, the planes, locally termed **ali**, have a breadth sometimes as low as from 25 to 30 feet; while in heavy retentive soil, this dimension is increased eight and even ten times these numbers.”*

R. Baird Smith, **1855**, Italian Irrigation, Report on the agricultural canals of Piedmont and Lombardy, addressed to the honourable the court of directors of the east india company, Vol.II practical and legislative, William Blackwood and Sons, Edinburgh and London

La marcita, un diamante verde in pieno inverno



1578



1822

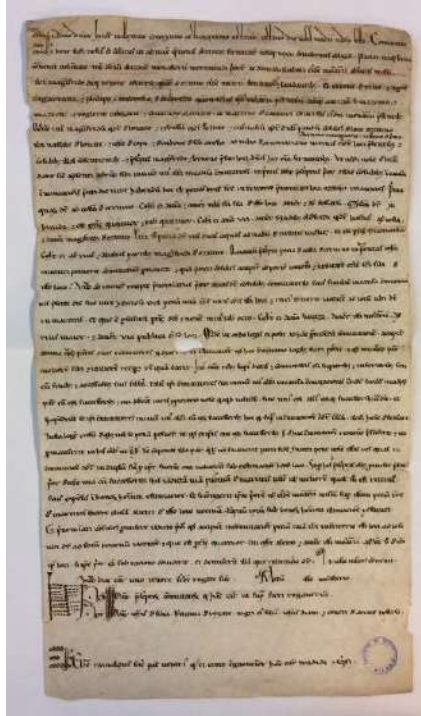


1914



Origine, apogeo, declino e ...

1188



XIX secolo



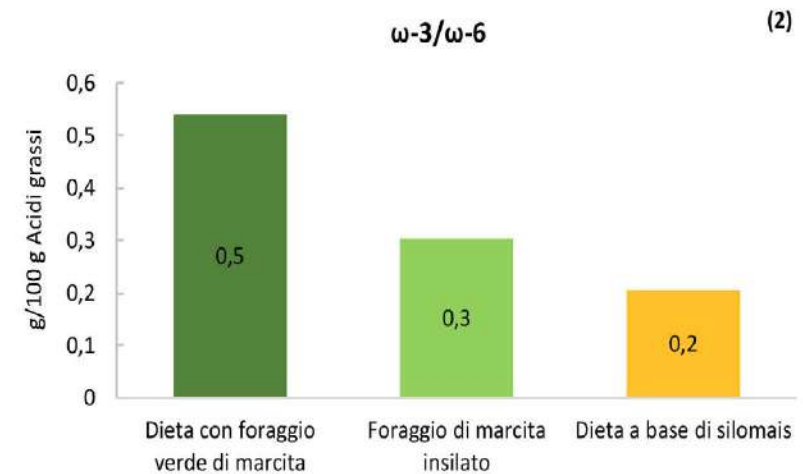
Metà XXesimo secolo



...riscoperta odierna



il ruolo ambientale e produttivo



il ruolo educativo



Irrigazione tradizionale in Europa

Chapter 6 Water Meadows as European Agricultural Heritage

Hans Renes, Csaba Centeri, Sebastian Eiter, Bénédicte Gaillard,
Alexandra Kruse, Zdeněk Kučera, Oskar Puschmann, Michael Roth
and Martina Slámová

Abstract From the Middle Ages until the twentieth century, water meadows in Europe were primarily irrigated to improve their productivity and to lengthen the growing season. They were water management systems designed to collect and use water and to discharge it: water had to be kept moving. This chapter presents a general overview and a history of research on European water meadows. It also examines examples from the sandy landscapes of northwestern Europe, from Slovakia, and Norway. Three main types of water meadows are distinguished: simple dam systems, more elaborate catchworks, and highly developed bedworks. Of these, bedworks were technically and organizationally the most complex; they were also the most costly in construction and maintenance. Most water meadows were abandoned in the twentieth century; in many places, however, their traces can still be

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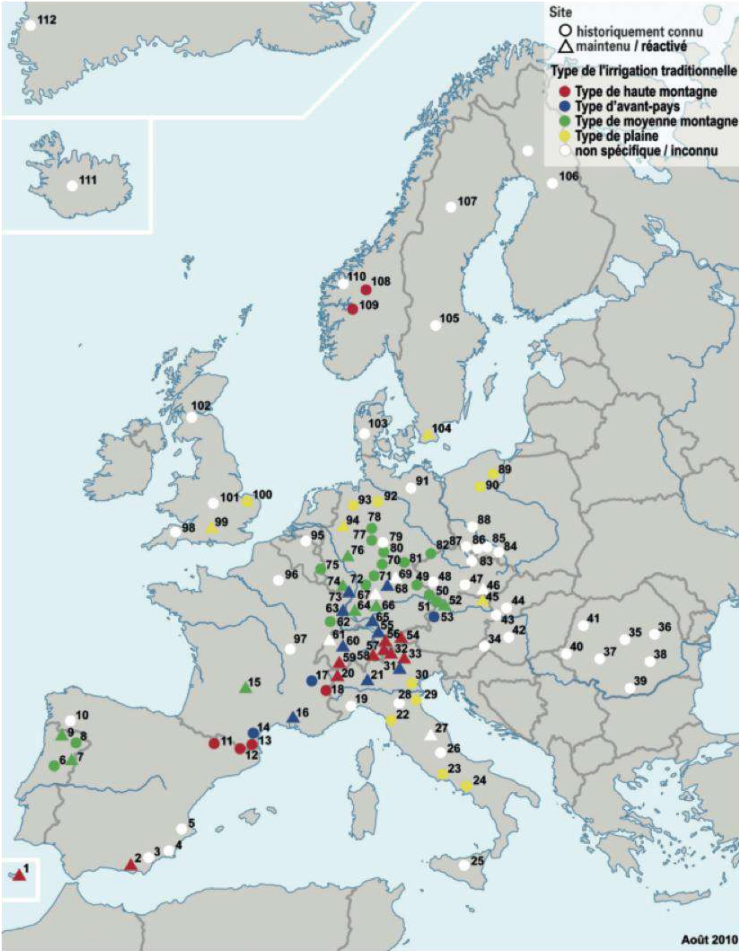
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C. Hein (ed.), *Adaptive Strategies for Water Heritage*.

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Vue d'ensemble de l'irrigation traditionnelle en Europe. (Leibundgut, Kohn)

La prairie arrosée: un système ingénieux du patrimoine agricole européen

Rôle sur la biodiversité des communautés
et des paysages, perspectives de restauration et
conservation



Ancienne prairie arrosée, Réserve naturelle régionale de la vallée de la Moselle sauvage (d'après J. Girel, 2011)

Jacky GIREL
(LECA, UMR 5553 CNRS-Univ. Joseph Fourier Grenoble-Univ. de Savoie)



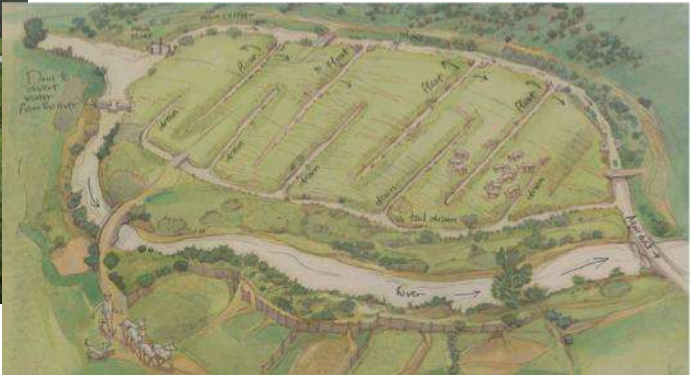
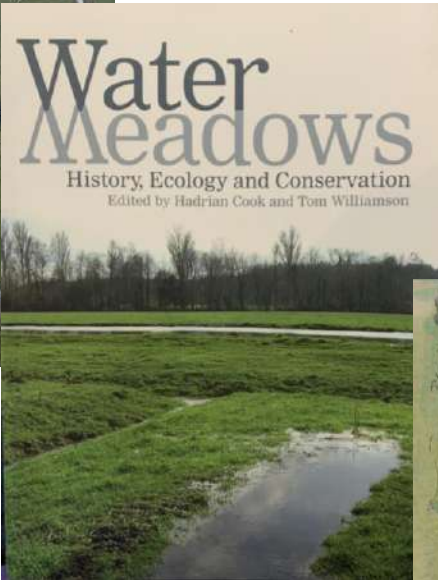
Février 2012

Water meadows in Inghilterra

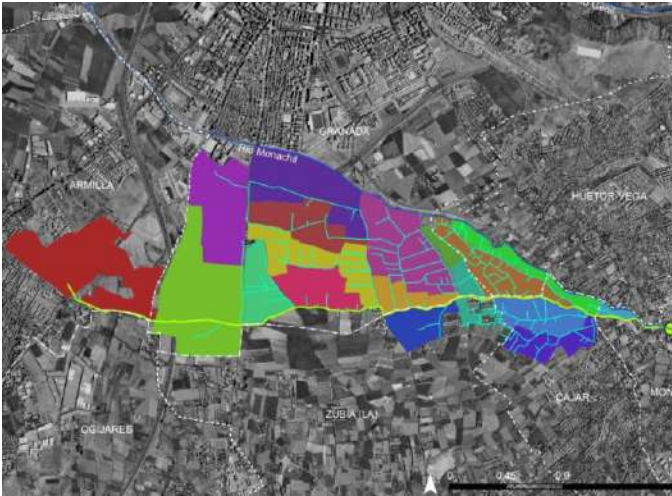


Agriculture

Scheduling Selection Guide



Acequias de careo,Granada, Spagna



ARGUMENTARIO PARA LA DEFENSA DEL REGADÍO HISTÓRICO Y TRADICIONAL

Los valores, tanto culturales como agrícolas, de regadío son los valores del agua y el territorio. (Dr. Antonio)

A. MANTENIMIENTO DE ESPACIOS AGRÍCOLAS Y NATURALES

Conservar el patrimonio agrícola y natural es esencial para el desarrollo sostenible. El regadío histórico es un elemento clave para la gestión del agua y el territorio. Los espacios agrícolas y naturales son esenciales para la gestión del agua y el territorio. Los espacios agrícolas y naturales son esenciales para la gestión del agua y el territorio.

B. RESILIENCIA Y SOSTENIBILIDAD

El regadío histórico es un elemento clave para la gestión del agua y el territorio. Los espacios agrícolas y naturales son esenciales para la gestión del agua y el territorio. Los espacios agrícolas y naturales son esenciales para la gestión del agua y el territorio.

C. COHESIÓN SOCIAL

El regadío histórico es un elemento clave para la gestión del agua y el territorio. Los espacios agrícolas y naturales son esenciales para la gestión del agua y el territorio. Los espacios agrícolas y naturales son esenciales para la gestión del agua y el territorio.

D. LUCHA CONTRA EL CAMBIO CLIMÁTICO Y PROTECCIÓN DE ECOSISTEMAS

El regadío histórico es un elemento clave para la gestión del agua y el territorio. Los espacios agrícolas y naturales son esenciales para la gestión del agua y el territorio. Los espacios agrícolas y naturales son esenciales para la gestión del agua y el territorio.

E. PATRIMONIO HISTÓRICO Y CULTURAL

El regadío histórico es un elemento clave para la gestión del agua y el territorio. Los espacios agrícolas y naturales son esenciales para la gestión del agua y el territorio. Los espacios agrícolas y naturales son esenciales para la gestión del agua y el territorio.

30/07/2023, 14:16 News, Facing a Future of Drought, Turns to Medieval Solutions - The New York Times

The New York Times <https://www.nytimes.com/2023/07/19/world/europe/spain-drought-acequias.html>

Facing a Future of Drought, Spain Turns to Medieval Solutions and 'Ancient Wisdom'

Acequias, a network of water channels created by the Moors over 1,000 years ago, are being excavated and brought back to life to adapt to the crises of climate change.

By Constant Méhaut
Constant Méhaut spent two days reporting from the villages of Píres and Cañar, in the Alpujarras mountains, in southern Spain.

Published July 19, 2023 Updated July 20, 2023 at 10:17 a.m. ET

High in Spain's southern cleared stones and piles of keeping the slopes green.

"It's a matter of life," said of Píres, population 400, can't survive."

The extreme heat sweep reminder of the challenges reached 109 degrees Fahrenheit weather alert. Such heat quarters of the country c

Faced with that reality, 51 history for solutions, turn the Muslim population in Ages.

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The age of extinction
Species

Spring time: why an ancient water system is being brought back to life in Spain

Canva
Create better graphics online



“Irrigazione tradizionale: conoscenza, tecnica e organizzazione”

Patrimonio Culturale Immateriale, UNESCO

Iscrizione transnazionale: Austria, Belgio, Germania, Italia, Lussemburgo, Paesi Bassi e Svizzera

La sua importanza non risiede nella manifestazione culturale in sé, bensì nella **ricchezza di conoscenza e competenze** che vengono trasmesse da una generazione all'altra

Si basa su **gravità e movimentazione manuale**, profonda conoscenza del paesaggio naturale, del flusso d'acqua e delle condizioni meteorologiche, **stretta collaborazione** tra i responsabili della distribuzione dell'acqua (come agricoltori e proprietari terrieri) e altri soggetti coinvolti nella manutenzione delle strutture fisiche (come cooperative idriche e autorità locali)

Trasmissione informale del sapere di generazione in generazione coadiuvata dal sapere esperto, vocabolario specifico



Marcite oggi a Milano



Cascina Linterno Parco delle Cave, Paolo Campi, en service, avec gestion estivale



Grangia di san Gregorio, Parc Lambro, Coopérative sociale Cascina Biblioteca, récupération des submersions hivernales



Cascina Campazzo, Ticinello Park, famille Falappi, en activité avec gestion estivale



Chiaravalle, Vettabbia Park, Arioli et Ubertone, se remettant de la submersion hivernale

Quali benefici si ottengono attraverso il mantenimento e il recupero del patrimonio storico culturale dei canali?

Riconoscimento identità locale storica

Mantenimento pratiche storiche agroecologiche e conoscenze fondamentali

Si mantiene attivo lo scambio e la trasmissione dei saperi

Vengono favoriti la coesione sociale e la risoluzione dei conflitti, la collaborazione tra attori della manutenzione e della gestione

Educazione alla cura del patrimonio attraverso il coinvolgimento delle scuole e del pubblico



Marcita del Maglio,
Ozzero, 2023



Marcita del Parco Lambro,
Milano 2024

Da dove siamo partiti

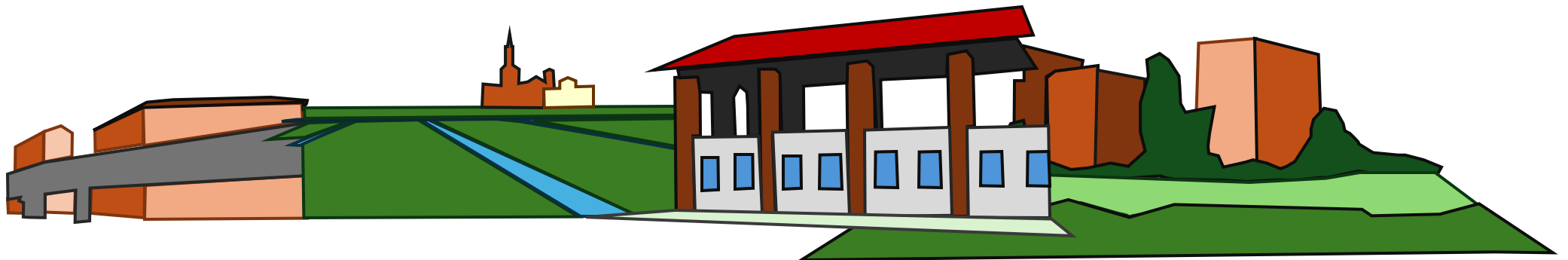
**EVIDENZE
EMPIRICHE**

**Mitigazione alla siccità del
2022-2023 per chi ha
praticato sommersione
invernale di marcite e risaie**

**Ampia partecipazione
della popolazione ad
iniziative pratiche di cura
del paesaggio**



**Quantificazione degli impatti socio-eco-
idrologici delle marcite attraverso un
approccio multidisciplinare e di
partecipazione attiva**

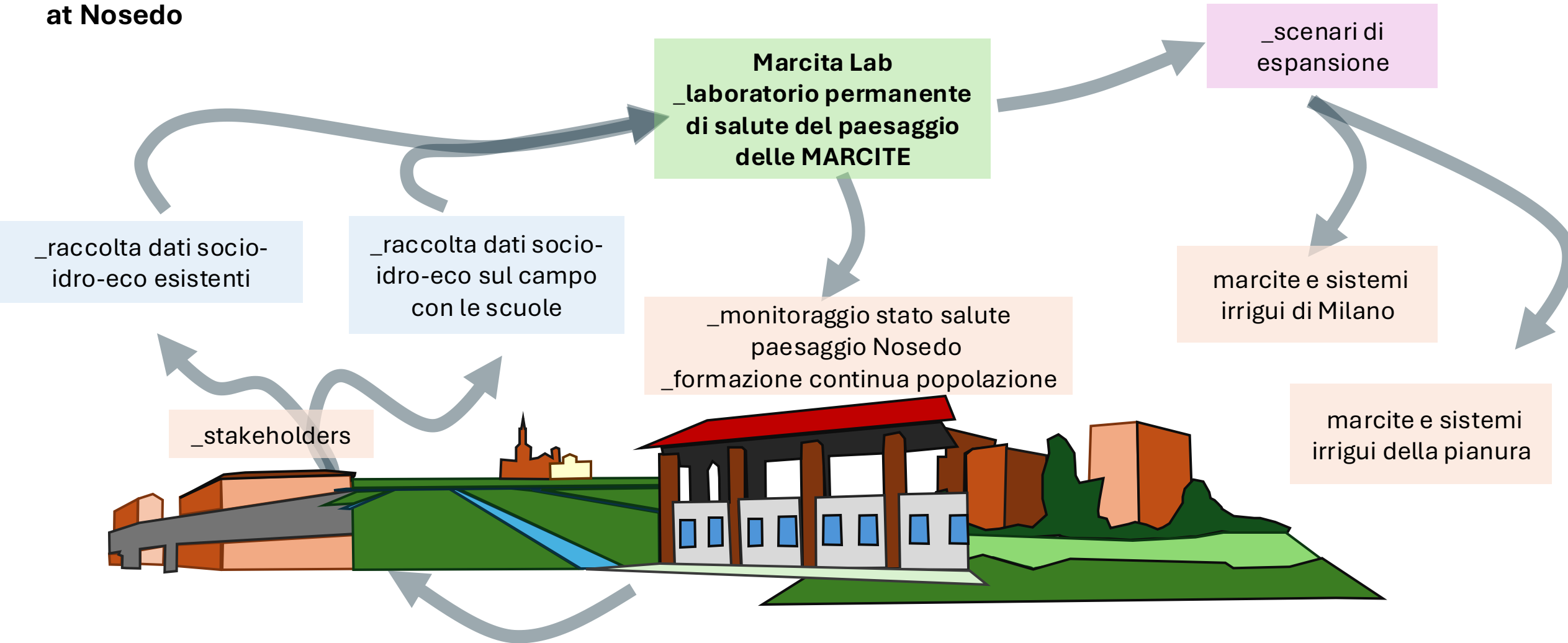


ECHOES-NOSEDO

Il Living LAB della Marcita

Social engagement and responsibility programme

Ecological, Cultural, and Hydrological Observatory for Education and Sustainability at Nosedo



ECHOES-NOSEDO

Il Living LAB della Marcita

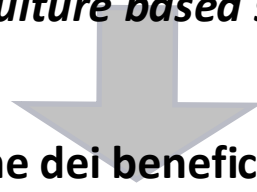
Ecological, Cultural, and Hydrological Observatory for Education and Sustainability at Nosedo

Conoscenza ed educazione alla
cura del paesaggio



Co-costruzione di percorsi didattici
aperti dedicati a conoscenza e cura
del paesaggio e di dialogo con la
cittadinanza

Riconoscimento della marcita quale ***nature
and culture based solutions***

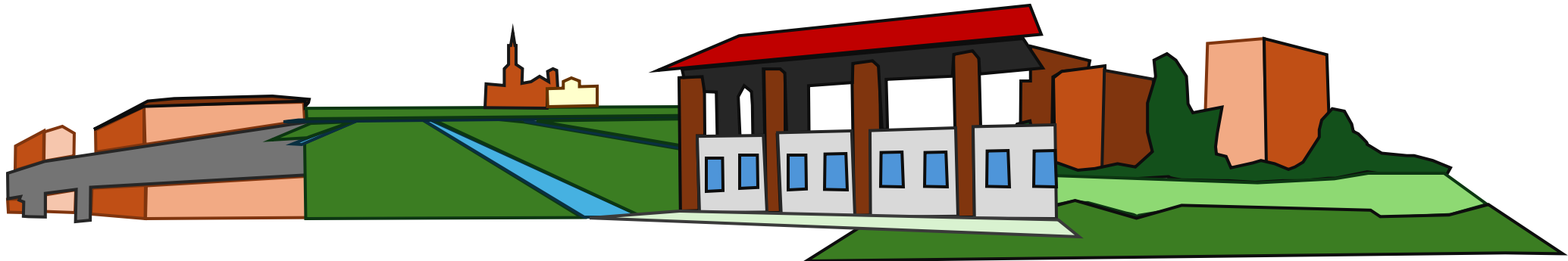


Quantificazione dei benefici idro-eco-socio
culturali attraverso indicatori che ne
favoriscano la replicabilità e l'esportazione in
altri contesti

Mitigazione dell'impatto ai
cambiamento climatici

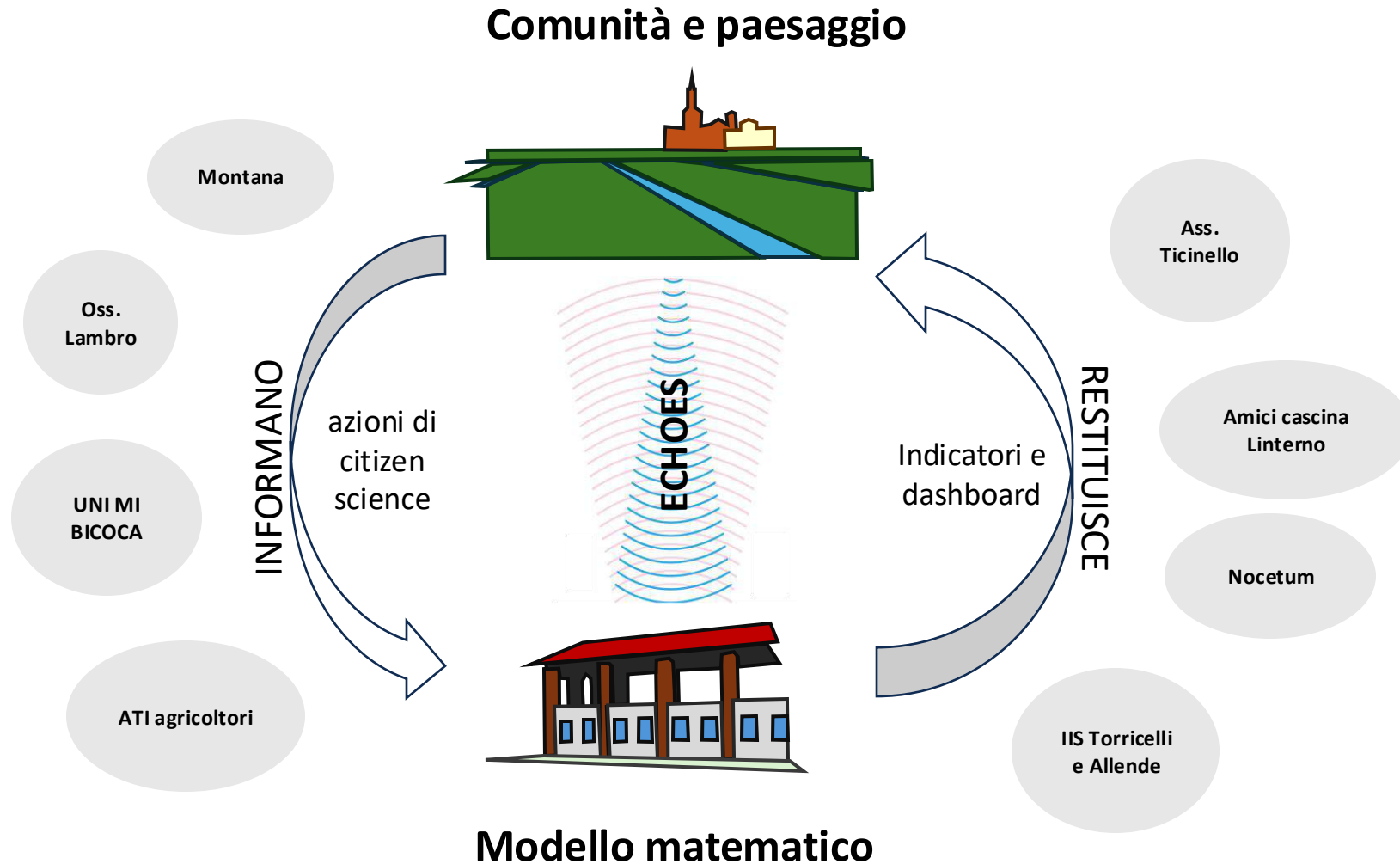


Off campus Nosedo
**modello di paesaggio
sostenibile e resiliente**



Beneficiari, Partner, Public engagement

Il progetto **Marcita Living Lab –ECHOES NOSEDO** si basa su una **fitta rete di relazioni territoriali pregresse**



Partner:

- 2 istituti scolastici
- 1 università (UNIMB)
- 1 società di servizi
- 3 aziende agricole
- 4 associazioni di Volontari

Sostenitori:

- Comune di Milano
- Municipio 5
- MM
- Parco del Ticino
- FAI
- OIKOS

Beneficiari:

- Scuole
- Comunità

Attività del progetto, risultati attesi e rischi

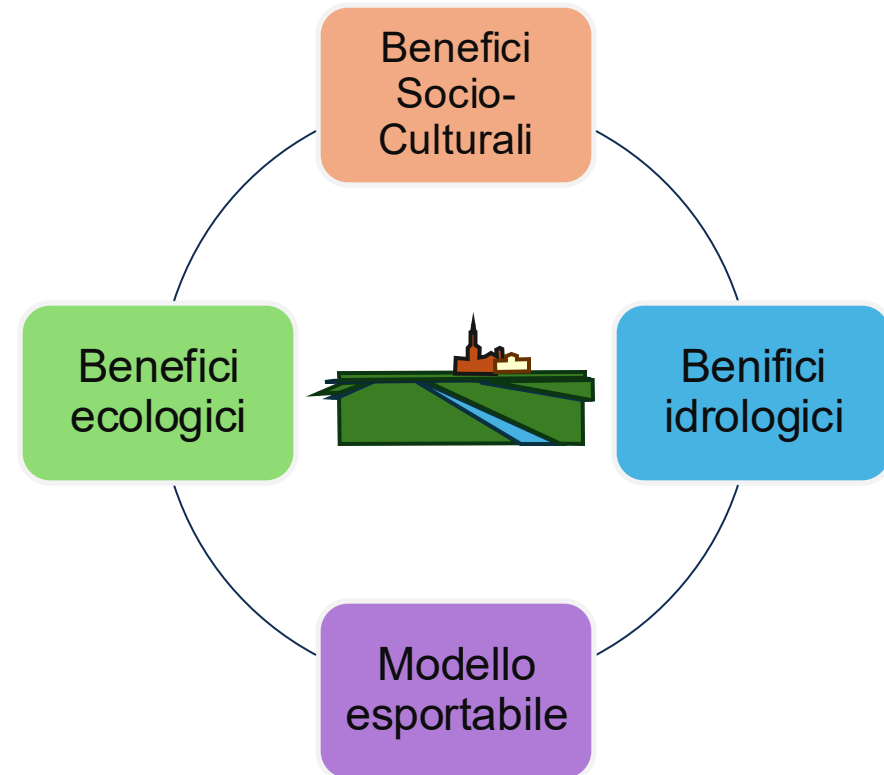
- OFF campus NOSEDO** come:
- **Laboratorio** per la **quantificazione** e il **monitoraggio** dei **benefici** del paesaggio della marcita
 - Modello esportabile di soluzione resiliente e sostenibile ai cambiamenti climatici attraverso *nature and culture based solution*
 - Approccio, raccolta e rielaborazione di dati attraverso strategie di partecipazione attiva (*citizen science data collection*)

Attività

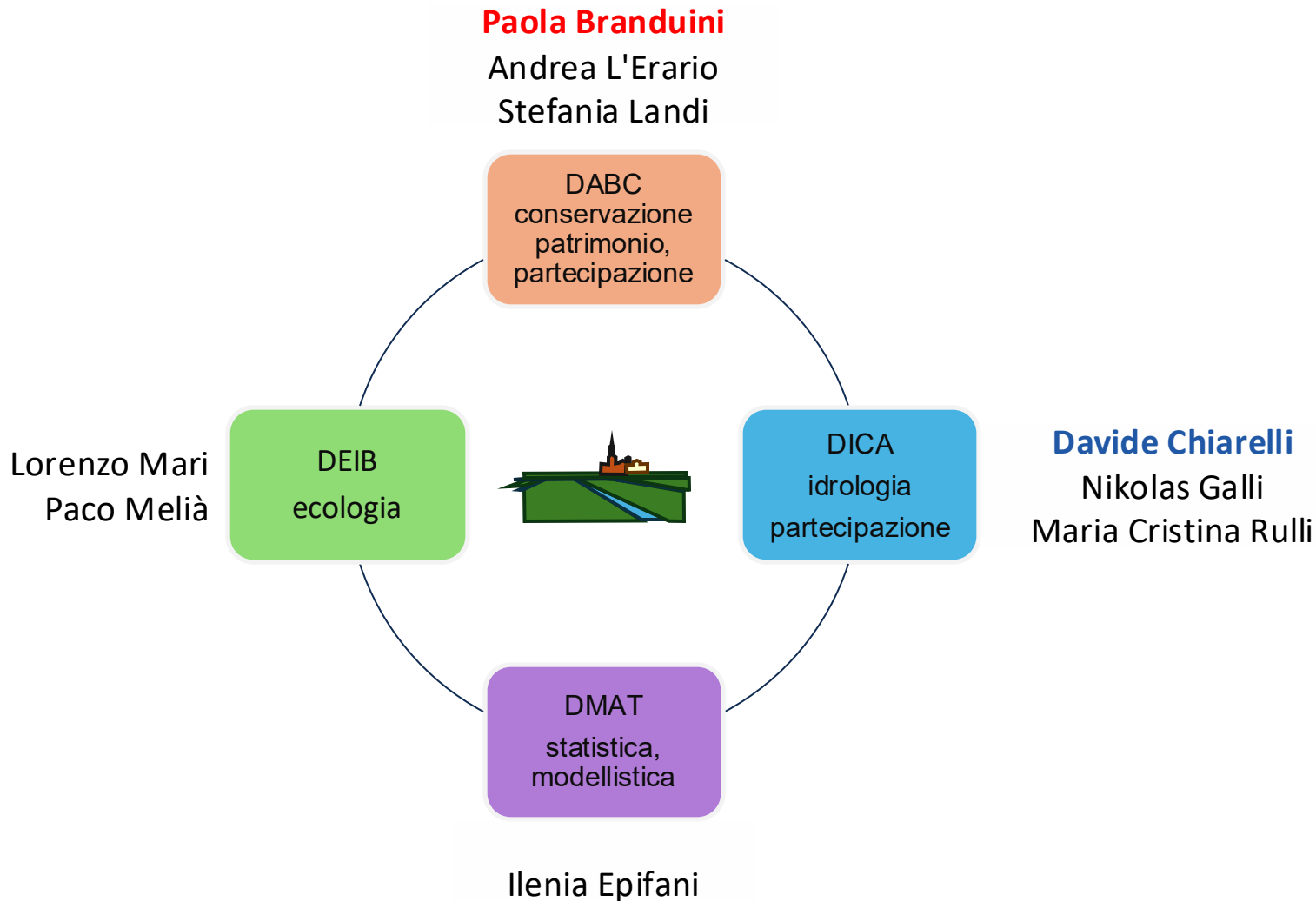
- WP1 Coordinamento
- WP2 Raccolta dati
- WP3 Modellazione
- WP4 Indicatori
- WP5 Co-creazione percorso scuole
- WP6 Scenari di espansione
- WP7 Disseminazione e divulgazione

Rischi

- Reclutamento del personale
- Trattamento dati da Citizen science
- Modulazione ore scuola
- Coordinamento lavori meccanici e manuali



Gruppo di lavoro e valore aggiunto della multidisciplinarietà



DABC -> identificare e gestire il patrimonio paesaggistico contribuendo a definire indicatori socio-culturali

DICA -> modellazione idrologica delle marcite, con focus sulla ricarica della falda e gestione partecipata in progetti di gestione della risorsa

DEIB -> modellazione e indici ecologici e stima di potenziali espansione delle marcite

DMAT -> modelli statistici per analisi dei dati e integrazione di modelli bio-fisici con modelli culturali-paesaggistici



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E AMBIENTE COSTRUITO

Grazie dell'attenzione

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