



Webinar

From field to practice: nature-based and technical solutions for sustainable water and soil management on farms

30.06.2026, 10-11.30 am, Online

UNA GARLANDA FARM AGROFORESTRY IN RICE FARMING

Gemma Chiaffarelli
Legambiente Lombardia
Italy

Photo Source: Courtesy of Una Garlanda Farm

The territorial context

Name	Una Garlanda Farm
Country	Italy
Biogeographical Region	Continental region
Region	Po Plain district
Landscape/ Eco system type / protected area	Western 'Po Plain' (Piedmont region) Alluvial district dominated by intensive agricultural systems, mainly related to livestock breeding and rice production. The 'Po Plain' predominant landscape is a rural one, with predominant annual crops and poplar groves. Little to no landscape features and natural habitats are preserved, except for the main rivers ecological corridors.

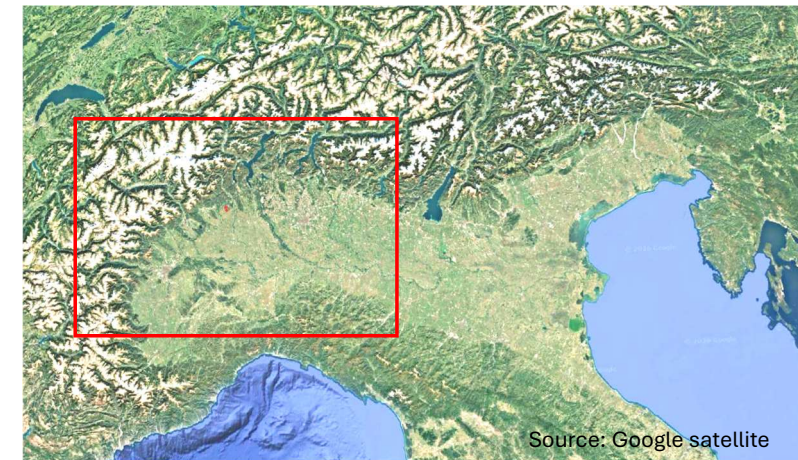
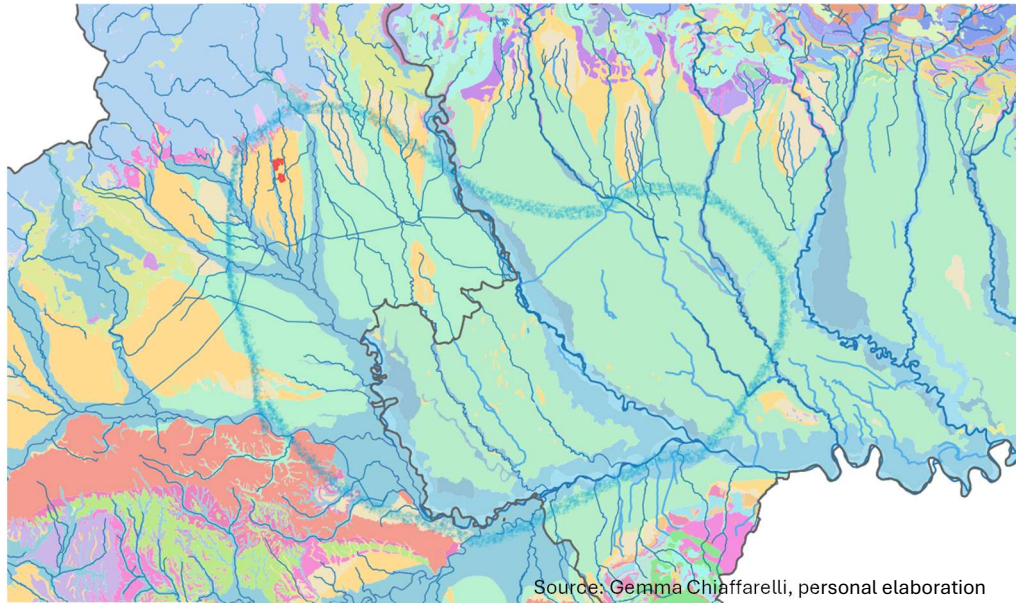


Source: Gemma Chiaffarelli, personal photo

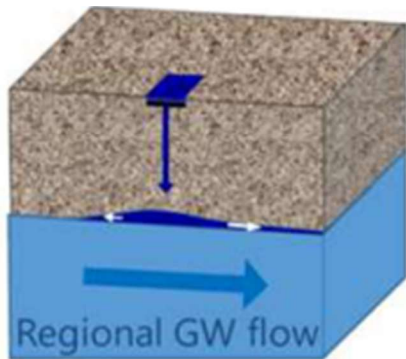


Source: Google satellite

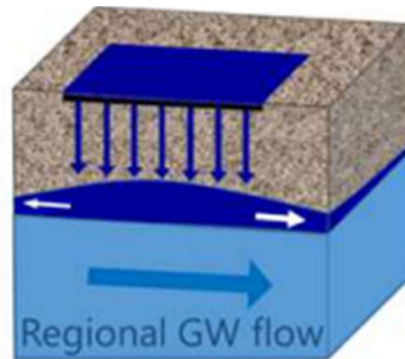
Local water management issues



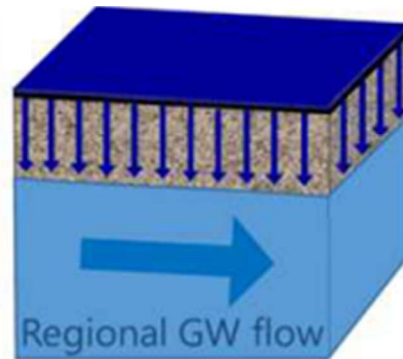
WINTER FLOODING



WINTER FLOODING



SUMMER FLOODING



Source: Negri et al., 2020

Una Garlanda farm

Name	Una Garlanda Farm
Country	Italy
Biogeographical Region	Continental region
Region	Po Plain district
Size / Scope	140 hectares
Type of farm	Organic rice farm and Organic rice mill
Duration	Since 2001
Agricultural Use	Rice fields in biennial rotation



Source: Courtesy of Una Garlanda Farm



Best-practice / main idea

A wider approach focused on agroecosystem ecological balance restoration

GOALS

Ecological
change

- **Support agrobiodiversity and ecosystem services while producing high quality and healthy food.**
- **Minimize external input and promote circular use of resources.**
- **Promote knowledge building and sharing and citizens awareness.**

Social
change

Measures
addressing
BOTH
soil & water
management

Measures addressing soil management

A wider approach focused on agroecosystem ecological balance restoration

RICEFIELDS:

Traditional, low-impact practices:

- biennial crop rotation
- diverse rice varieties
- minimum tillage
- multi-species cover crops
- green mulching

Agroforestry

Source: Courtesy of Una Garlanda Farm

millet, black-eyed bean, oat,
rye, grassland, soyabean,
wheat, pea;



Measures addressing soil & water management

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Measures addressing soil & water management

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Measures addressing soil & water management

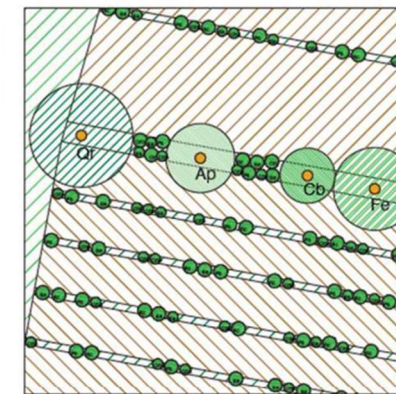
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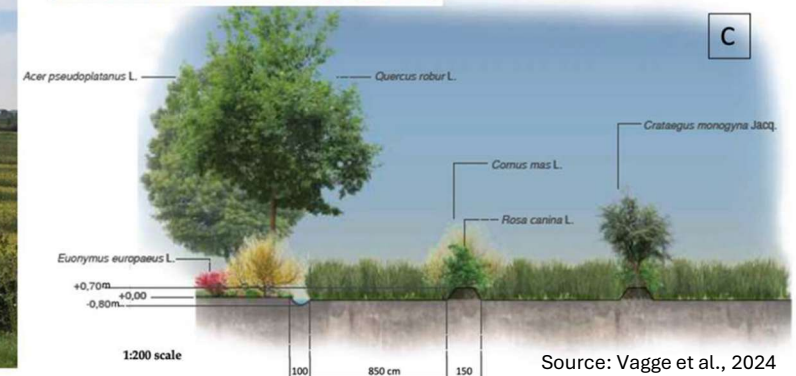


Trees

Qr – *Quercus robur* L.
Cb – *Carpinus betulus* L.
Fe – *Fraxinus excelsior* L.
Ap – *Acer pseudoplatanus* L.

Shrubs

Cm – *Cornus mas* L.
Ee – *Euonymus europaeus* L.
Cmo – *Crataegus monogyna* Jacq.
Ps – *Prunus spinosa* L.
Rc – *Rosa canina* L.



Measures addressing water management

A wider approach focused on agroecosystem ecological balance restoration

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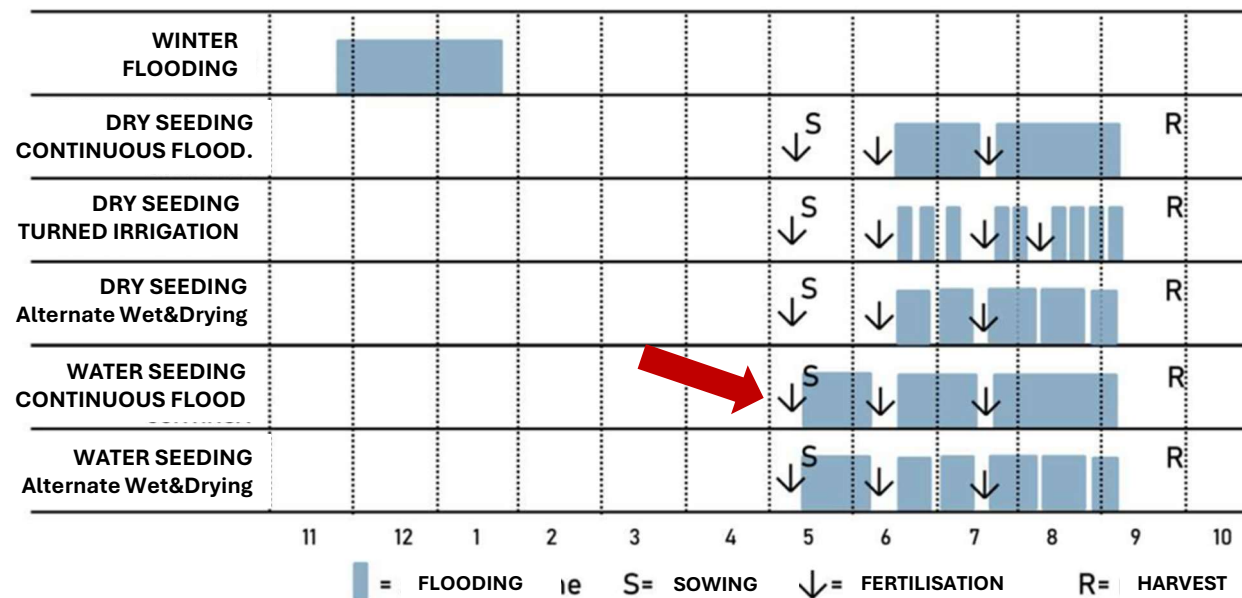
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Agroforestry

WATER MANAGEMENT IN RICEFIELDS:

Permanently flooded during the growing season

Flooded areas and drainage ditches maintained year-round



Source: Legambiente Lombardia 2025

Measures addressing water management

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All these practices, tailored to farm clayey “alfisols” allow for no use of pesticides, herbicides and external fertilisers.

MULTIPLE CO-BENEFITS

- Cultivated agrobiodiversity
- Associated agrobiodiversity
- Microclimate regulation
- Water dynamics, cycling and quality
- Soil health
- Supporting wetland habitats
- Groundwater recharge
- Continuous ecological and water storage functions

Challenges faced during Una Garlanda experience

A farm based on multifunctionality

ECONOMIC SUSTAINABILITY & ISOLATION

- Local supply chain
- Direct selling
- Public fundings (CAP and Rural Development Program funds) for rice crop and organic agriculture and for the implementation or promotion of some of its practices.
- As 'Polyculturae' association member, 'Una Garlanda' indirectly benefitted of National and European fundings and Private sector grants (foundations, etc.), Research projects



Source: Gemma Chiaffarelli, personal photos

Key factors

NETWORKING

Network of 'Polyculturae' Association



Interdisciplinary collaborations involving research entities and universities

Wide networking activity with farmers, local, national and international associations
Dissemination & exchange of practices.

Promotes local activities based on citizens engagement.



The farm acted as a local forerunner of the best practices which are gradually being tested and integrated by other farms of the local and wider 'Po Plain' district.



Source: Gemma Chiaffarelli, personal photo

Key factors

‘Test and find the best fitting and tailored solution to your own on-farm conditions.’

‘Be patient and promote system thinking when designing your farm system.’



Photo Source: Courtesy of Una Garlanda Farm

Take home message

“Biodiverse rice fields generate and regenerate the environment and natural, traditional, and healthy foods”

Ugo Stocchi, Una Garlanda farm shareholder



Photo Source: www.polyculturae.it

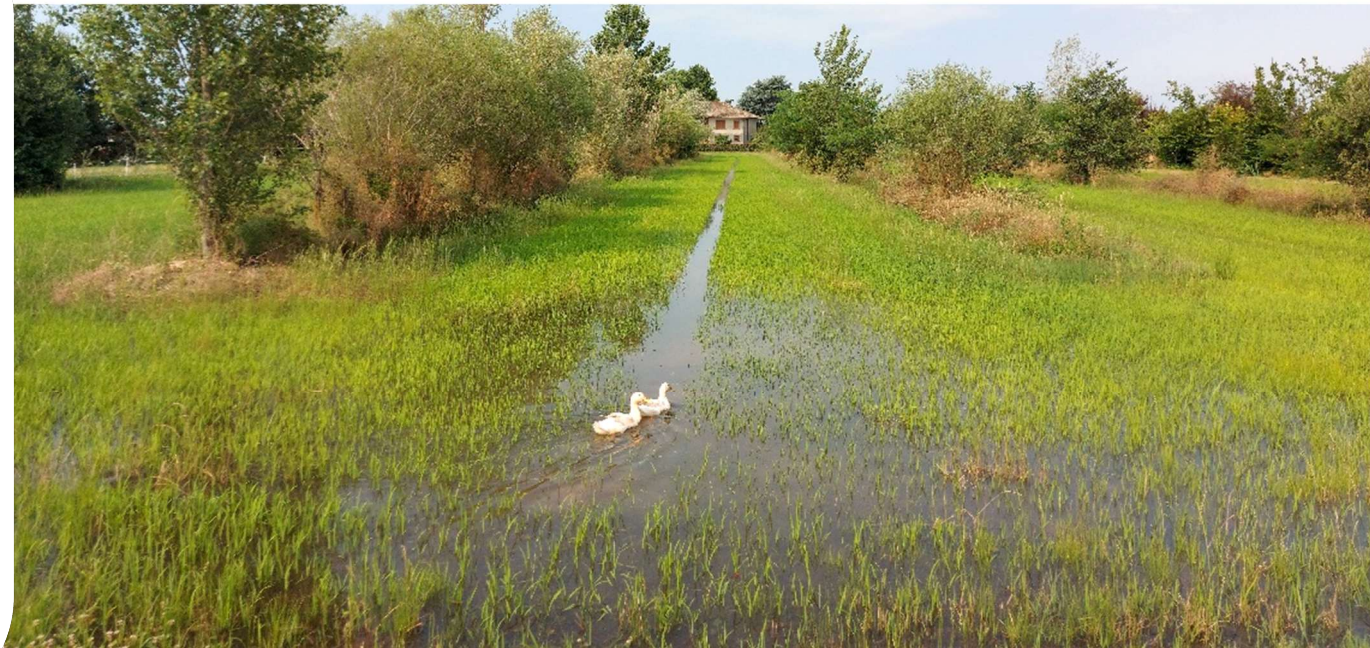


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