



greenchange



LIFE17 NAT/IT/00619 GREENCHANGE

Green infrastructures for increasing biodiversity in Agro Pontino and Maltese rural areas

After-LIFE plan



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Key words

- Land Stewardship, Land stewardship agreements
- Windbreak trees, riparian strips, rubble walls, wildflowers strips,
- Common Agricultural policy, Rural Development Program, Greening
- Ecosystem services
- Green Infrastructures
- Agro ecosystems

List of abbreviations

- CAP: EU's common agricultural policy
- SP: strategic plan
- CIRF: Italian Centre for River Restoration (Beneficiary)
- CONFAGRICOLTURA: Confagricoltura UPA Latina (Beneficiary)
- LS: Land stewardship
- MIEMA: Malta Intelligent Energy Management Agency (Beneficiary)
- PL: Province of Latina (Coordinating Beneficiary)
- POLI: POLIEDRA (Beneficiary)
- US: U-Space s.r.l (Beneficiary)

PROJECT DATA

Project location	Rural territories in the Province of Latina (Italy - Lazio region) and in the Northern Malta and Gozo (Malta)
Natura 2000 site involved	ZPS IT6030043 Monti Lepini
Start date	01/07/2018
End date	30/06/2023
Project duration	5 years
Total Budget	3,196,595 €
EU contribution	1,917,957 €
% of eligible costs	60%
Name of coordinating beneficiary	Province of Latina
Associated beneficiaries	<ul style="list-style-type: none">• U-Space s.r.l. (IT)• CIRF – Centro italiano per la riqualificazione fluviale (IT)• POLIEDRA – Politecnico di Milano (IT)• Confagricoltura Latina (IT)• MIEMA – Malta Intelligent Energy management Agency (MT)
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PROJECT OBJECTIVES

In line with the objectives of the EU Biodiversity Strategy to 2020 and with the Communication from the Commission on Green Infrastructure, LIFE GREENCHANGE intends to contribute to halting the loss of biodiversity and to enhance the ecological value of the agricultural systems of the Agro Pontino and of the northern region of Malta and Gozo, by planning and implementing Green Infrastructure and multifunctional actions in rural, semi-natural and natural areas.

General objective

The general objective of the project is to preserve biodiversity and enhance the ecological value of the agro-ecosystems of Agro Pontino and Maltese rural areas, by supporting the establishment of decision-making processes and governance mechanisms based on the assessment of ecosystem services, and by launching the definition of demonstrative actions aimed at implementing green infrastructures.

Specific objectives

- 1** Integrating ecological functionality and connectivity goals for agro-ecosystems - based on the acknowledgement and assessment of ecosystem services - into public and private decision-making processes, through the involvement of public entities, management bodies and farmers in the implementation and management of green infrastructures.
- 2** Enhancing ecological functionality and connectivity in pilot agricultural areas, by launching the implementation of green infrastructures and the creation of new core and buffer areas and of ecological corridors among them, thus contributing also to the implementation of the Habitat and Birds Directives.
- 3** Mitigating the environmental impact of farming activities, especially in areas of high ecological value, and increasing their contribution to the maintenance and enhancement of ecosystem services, through actions of dissemination, training and direct involvement of farmers, and the improvement of the social awareness on this issue.

OVERVIEW OF THE CONSERVATION ACTIONS

C1 – THE BIODIVERSITY PACT: INCREASING THE FUNCTIONALITY AND ECOLOGICAL CONNECTIVITY OF RURAL AREAS

The Pact is conceived as a collaborative governance tool, aimed to promote the activation of decision-making processes based on the identification and evaluation of ecosystem services. Basing on the memorandums of understanding already signed, the Pact needs to evolve into an open and permanent working table to share and optimize rural areas management practices, promoting LS agreements and increasing the effectiveness of Agri-environment-climate PAC measures.

C2 – ORIENTING AND TRAINING FARMERS TO ENHANCE ECOSYSTEM SERVICES IN RURAL AREAS

In order to promote the implementation of the Pact for Biodiversity and the dissemination of LS agreements, various training and orientation tools have been activated: an information desk at Confagricoltura Latina, an IT tool in a GIS environment to support the identification of interventions, guidelines and technical documents, laboratory modules dedicated to high school students and farmers.

C3 – ENVIRONMENTAL RESTORATION OF THE WET ECOSYSTEM ALONG THE UFENTE RIVER

The intervention is located in the municipality of Pontinia and interests an area of around 20 ha, corresponding to the former hydraulic diversion of the Ufente River, situated inside the SPA IT6030043 'Lepini Mountains' and bordering the SCI IT6040003 'Gricilli Lakes'. The planar environment has been reshaped through shallow excavations aimed at creating wetlands, hygrophilous and mesophilous woods, stable meadows and equipment for the fruition of the site. The action involved also the Ufente sources, in the area of Lago Pani and Mole Muti, in the municipality of Sezze, where hydrophilous and hygrophilous habitats suitable for different species of conservation interest were restored.

C4 – IMPROVEMENT OF ECOLOGICAL FUNCTIONALITY AND INCREASE OF BIODIVERSITY IN THE PANTANELLO AREA -GIARDINO DI NINFA NATURAL MONUMENT

The intervention is hosted by the 'Roffredo Caetani' Foundation, in the Municipality of Cisterna di Latina. In order to enrich the ecosystems mosaic within the Pantanello wetland (a former agricultural area re-naturalized between 2003 and 2009 and now annexed to the 'Garden of Ninfa' Natural Monument), the project has developed arboreal and shrub-like structures, both linear and areal, and has created a didactic pond, basking sites, floating islets and refuges for amphibians.



C5 – CONSTRUCTION OF GREEN INFRASTRUCTURES IN THE GELASIO CAETANI FARM

The intervention is hosted by the 'Gelasio Caetani' farm in the Municipality of Latina, and involves the restoration of the Epitaffio canal and of some minor drainage canals, for a total length of more than 3 km. The existing poplar grove has been thinned out by planting hygrophilous species, thus creating a new wetland, and a windbreak strip of about 400 m has been planted.

C6 – RESTORATION OF THE CICERCHIA AND ALLACCIANTE CANALS

The intervention, hosted by the farms 'Ganci' and 'Agrilatina' in the Municipality of Latina, resulted in the planting of new hygrophilous woodland around the existing basin, and in the restoration of the Allacciante canal, by reshaping the banks through the application of bioengineering techniques and the planting of hygrophilous vegetation. Hedges for pollinators have been installed as well.

C7 – ENVIRONMENTAL REQUALIFICATION IN LIVESTOCK FARMS

The intervention involves an area of 115 ha, entirely cultivated and privately owned by the 'Roana' farm holding. Within the site, located in the Municipality of Sezze, around 2 km of minor drainage canals have been restored.

C8 – RENEWAL AND MANAGEMENT OF LINEAR ECOLOGICAL CONNECTIONS: WINDBREAKS

This action led to the update of a geographic database of the whole Pontine system of windbreak strips, the environmental redevelopment planning of 8 km of windbreak strips as well the implementation of preliminary pruning measures needed to allow the signing of LS agreements with neighbouring farms.

C9 – LINEAR ECOLOGICAL CONNECTIONS, RUBBLE WALLS AND WILDFLOWER STRIPS IN THE RURAL AREAS OF NORTHERN MALTA AND GOZO

The intervention involves 6 farms in 3 different sites: Ta' Mena (Xaghra, Gozo), Xlendi (Gozo), Manikata (Malta), one of the farms is included in the Natura 2000 site 'L-Inħawi tax-Xlendi u tal-Wied tal-Kantra'. The action allowed the restoration of around 1.8 km of rubble walls with heights between 0.6 and 2 m, and planting of shrubs on both sides of the walls, so to create a favourable environment for pollinators.



Figure 1 The Area of the former hydraulic diversion of the Ufente river after the environmental restoration (action C3); up: overview of the new wetland, down left: Birdwatching hut; down right: entomological monitoring in progress



Figure 2 Environmental restoration of the Epitaffio Canal within the Gelazio Caetani Farm with reshaping of the banks and planting of hygrophilous vegetation (action C5)



Figure 3 The new wetland area created on the area formerly occupied by a poplar grove within the Gelazio Caetani Farm (action C5)



Figure 4 Improvement of ecological functionality and increase of biodiversity in the Pantanello area -Giardino di Ninfa Natural Monument, clockwise from up left: didactic pond under construction, bat boxes, refuges for amphibians and basking sites/floating islets.



Figure 5 Maltese panorama with rubble walls (Pilot site in Xaghra, Gozo – action C9)

SWOT ANALYSIS

STRENGTHS

- Rich database from land the use update and the environmental monitoring campaigns;
- Success of environmental restoration interventions;
- Fruitful communication activities e activation of a wide network;
- Involvement of relevant farmers associations in Agro Pontino;
- Many communication products and guidance documents to be disseminated.

WEAKNESSES

- Late conclusion of some conservation works hindered the monitoring of ex-post environmental impacts;
- Unsuccessful intervention for eradicating alien vegetation in Agro Pontino;
- Weak involvement of the regional authorities within the Pact for Biodiversity in Agro Pontino;
- Land fragmentation and aging of the rural sector in Malta.

OPPORTUNITIES

- Immediate response from species that have repopulated the restored areas (Positive results from post operam monitoring);
- Other collaborative governance mechanisms active in the area (river contracts, coast contracts);
- Real interest of the farmers in land stewardship agreements;
- Introduction of measures dedicated to the management of rubble walls and re-naturalization interventions in the Maltese CAP SP - years 2023-2027.

THREATS

- Poor opportunities for green infrastructure initiatives from the rural development measures activated by the Lazio Region;
- Difficulties in avoiding hunting within the restored areas;
- Prolonged draught due to climate change effects threatens the proper evolution of the restored sites;
- Need for constant maintenance for ensuring the access and public fruition of the restored sites and lack of appointed bodies;
- Increasing greenhouse farming hinders promoting actions for the enhancement of green infrastructures.

AFTER-LIFE PLAN: OBJECTIVES AND ACTIONS

Priority refers to the relevance of the action to the long term maintenance of project results:

*= relevant but not referred to main restoration works

**= very relevant

***= essential

Needed finance refers to the resources needed to implement the planned activities in the indicated period:

€= activities implying only personnel costs from permanent staff

€€= activities may imply also direct costs estimated up to 10.000€

€€€= activities may imply also direct costs estimated over 10.000€

PROJECT GOALS	AFTR LIFE COMMITMENTS/ACTIONS					
	Where	Who	What	When	Priority	Needed finance
1. Integrating ecological functionality and connectivity goals for agro-ecosystems into public and private decision-making processes (Prosecution of action C1)	AGRO PONTINO	PL	Keeping on promoting the principles and objectives of the Biodiversity Pact within the activities related to the River Contracts (Contratto di Costa, Contratto di fiume Ufente, Contratto di fiume Amaseno)	At least up to 2028	***	€
		Confagricoltura	Keeping on promoting the principles and objectives of the Biodiversity Pact among its members and with other farmers' associations.	At least up to 2028	***	€
	MALTA	MIEMA	Keeping on promoting subscriptions to the Biodiversity Pact, in particular involving the Ministry of Agriculture and obtaining its signature.	2023/24	***	€
2. Enhancing ecological functionality and connectivity in pilot agricultural areas, by maintaining the green infrastructures realized (Maintenance of actions C3-C9)	AGRO PONTINO (Environmental restoration works on public property Ufente river, action C3)	PL	Inquiring to the regional authority for the institution of a new Natural Monument (a specific type of protected area provided for by the regional law) on the area of the former hydraulic diversion of the Ufente river, where the environmental restoration works took place.	2023/24	**	€
			Defining an agreement to allow the Province of Latina obtaining the concession on the restored area, developing a maintenance program, and proceeding to a call for interest for local associations aimed at managing the area and organizing guided tours, environmental education and similar activities.	2023/24	***	€€€
			Ensuring the maintenance and the public accessibility of the site Mole Muti - Pani Lake (Ufente sources) subject to environmental restoration, promoting and mediating an agreement between one or more cultural associations in Sezze and the Prefecture which is the managing body of the religious fund owning the plot of land.	At least up to 2028	**	€
		CIRF	Carrying out naturalistic-environmental monitoring for a period of 5 years at the diversion of the Ufente River and at Mole Muti - Pani Lake area (Ufente sources).	At least up to 2028	***	€€

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(Following objective 2)	AGRO PONTINO (Environmental restoration works in farms, action C4-C7)	Caetani Foundation	Maintaining as best as possible the interventions carried out during the project in accordance with the management instructions, the operational details of the management activities and the restrictions on land use referred to in the LS contracts stipulated in 2020.	At least up to 2030	***	€€				
		Gelasio Caetani Farm								
		Ganci Farm								
		Agrilatina Farm	Raising awareness about the natural heritage and, more generally, the environmental improvement realised on their farms as well as promoting sustainable agricultural practices, necessary to preserve natural habitats; improve the conservation of the natural heritage, manage and protect it in accordance with the local ecological network. <i>(Note that both commitments are specified by the LS contracts stipulated between farms and the Province of Latina in 2020)</i>							
		Roana Farm								
		CIRF in collaboration with Confagricoltura and Caetani Foundation Farm					Carrying out naturalistic-environmental monitoring for a period of 5 years at the intervention areas within Pantanello wetland (C4).	Up to 2028	**	€€
		CIRF in collaboration with Confagricoltura and Gelasio Caetani					Carrying out naturalistic-environmental monitoring for a period of 5 years at the intervention areas within the Gelasio Caetani Farm (restored stretch of the Epitaffio Canal and wetland on the former poplar grove area (C5).	Up to 2028	**	€€
	Confagricoltura	Checking the conservation status of the pilot works within the involved farms Ganci, Agrilatina and Roana, at least at 3 rd and 5 th year (action C6-C7).	Up to 2028	*	€					
	AGRO PONTINO (Environmental restoration works on windbreak strips, action C8)	PL	Enquiring for a meeting with representatives of the regional public property office to verify the contents of the Greenchange Guidelines for the management of windbreaks and formally agree on the conditions under which farms can stipulate loan-for-use contracts on windbreaks areas in return for their management.	2023/24	***	€				
		Confagricoltura	Taking to the finalization of further LS agreements for the maintenance of the windbreaks interested by the safety measures under action C8, involving the Province of Latina, the regional public property office and the neighbouring farms, including the higher education institute San Benedetto.	2023/24	***	€				
MALTA (Environmental restoration works on rubble walls, action C9)	MIEMA	Continuing assisting farmers to identify feasible solutions that contribute to the maintenance of their rubble walls and the survival of flowers strips even against the threats related to climate change (e.g. by extending irrigation systems, where possible).	At least up to 2028	***	€€					
		Check the conservation status of the pilot works within the involved farms at least at 3 rd and 5 th year..								

<p>3. Mitigating the environmental impact of farming activities and increasing their contribution to the maintenance and enhancement of ecosystem services, through actions of dissemination, training and direct involvement of farmers, and the improvement of the social awareness</p> <p>(Prosecution of action C2)</p>	AGRO PONTINO	PL	Disseminating technical deliverables and communication products (in particular the virtual tour and the short video) both through institutional and informal channels: website, social media.	At least up to 2028	*	€
		Confagricoltura	Maintaining available the info-desk at the local headquarter to keep providing farmers with technical assistance regarding the implementation of agro-environmental measures and conditionalities within CAP 23-27 with a view to green infrastructure.	Up to 2028	***	€€€
	ITALY/EU	US	Maintaining online the project web site, the geo-blog, as well as the youtube channel and the social profiles on Instagram e FB for 5 years beyond the project end, ensuring new contents at least quarterly.	Up to 2028	*	€
		POLI	Maintaining online the webgisAPP to support farms in planning sustainable actions for 5 years beyond the project.	Up to 2028	*	€
		CIRF	Keeping on disseminating methods, tools and results of the project though papers on specialized journals and contributions to events related to nature conservation and territorial governance.	At least up to 2028	*	€
		US				
		POLI				
	MALTA	MIEMA	<p>Providing technical support to the design of future interventions that combine rubble walls restoration and planting of wildflower strips (also disseminating the Technical document for rubble walls restoration and the Guidelines for the ecologic management of the rubble walls and tree belts) and assisting proponents in the permitting procedures.</p> <p>Conducting training sessions for local farmers on the new CAP SP for Malta 2021-2027 focused on agri-environmental measures basing on the agreement reached with the Ministry for Gozo, Eco-Gozo Directorate, Gozo Regional Council and the Gozitan Municipalities.</p> <p>Maintaining and expanding collaborations with farmers' organisations to to host educational and awareness-raising activities on biodiversity and sustainable agriculture with schools, private companies and the general public.</p>	Up to 2028	**	€€