

LIFE NATURE & BIODIVERSITY – 2020 CALL FOR PROPOSAL

Project proposal

LIFE REWET-RICE (Provisional)

Concept note deadline: July 16th 2020

Programme Guidelines

Connection with the LIFE Programme

The proposal will be submitted under **Sub-programme: Environment**

Priority Area: LIFE Nature & Biodiversity aims specifically at contributing to the development and implementation of EU policy and legislation in the area of nature and biodiversity. LIFE Nature and LIFE Biodiversity projects should be primarily focussed on nature conservation and/or on halting the loss of biodiversity and the degradation of ecosystem services. A project that may have a positive but secondary impact on nature and biodiversity and whose main objective is in relation to another environmental thematic priority (e.g. water) should not be submitted under LIFE Nature and Biodiversity.

LIFE Biodiversity: LIFE Biodiversity projects must contribute to implementing the EU Biodiversity Strategy to 2020 targets and actions, with a view to achieving the objectives of the 2020 headline target of "halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss", other than those already covered by LIFE Nature. LIFE Biodiversity projects must be compatible with national and/or regional strategies for biodiversity (where these exist). Projects should be designed to provide EU added value in terms of coverage, conservation benefit, replicability, transferability and transnational scope. If projects implementing Targets 2, 3, 4 and/or 5 of the Biodiversity Strategy to 2020 take place (even partly) in Natura 2000 sites, the measures proposed must be in line with the site's conservation objectives.

Project topic

Development and implementation of Green Infrastructure plans and actions improving the condition of ecosystems and the services they provide and/or the connectivity between Natura 2000 sites and/or other protected areas

Type of project

Demonstration project - means projects that put into practice, test, evaluate and disseminate actions, methodologies or approaches that are new or unknown in the specific context of the project, such as the geographical, ecological, socio-economic context, and that could be applied elsewhere in similar circumstances;

Best practice project - means projects that apply appropriate, cost-effective, state-of the-art techniques, methods and approaches taking into account the specific context of the project;

Project budget and duration

3 or 4 years

EU co-financing

Up to 60%

Timeline

- 2 April 2020 - Publication of the call for proposals
- 16 July 2020 - Deadline for applicants to submit concept notes (extended)
- October 2020 - Notification of applicants if their concept note has been pre-selected: shortlisted applicants are invited to submit full proposals
- February 2021 - Deadline for applicants to submit full project proposals
- Notification of applicants if their proposal has been selected - The dates of the evaluations will be defined at a later stage, based on this year's experience.
- July 2021 - Signature of individual grant agreements

Proposal general structure

Environmental problem targeted, general context

Freshwater species are one of the most threatened biodiversity facets, experiencing the highest extinction rates globally (Dudgeon, 2019). This is especially true in Arid and Mediterranean regions where climate change forecasts indicate a substantial reduction of water availability in coming decades (Hoerling et al., 2012). This critical scenario is exacerbated by the generally scanty quality of waters and the growing spread of alien species, that pose a series of challenges and problems to counteract their establishment and their negative repercussions on the natural resources' exploitation, as well as the preservation of biodiversity. There is a widespread recognition that agriculture plays a major role in freshwater ecosystems degradation (Moss, 2008; Gordon, et al. 2008). European member states report that nutrient pollution significantly degrades 28% of all 45 surface water body types classified in the Water Framework Directive (Carvalho et al., 2019). Thus, nature-based measures in agricultural landscape are pivotal to preserve freshwater biodiversity (Williams et al., 2020). In many areas, pristine wetlands are totally supplanted by rice fields; therefore paddies represent the backbone system of local ecological networks, being very often the only semi-natural areas in an extremely simplified landscape (cfr. agricultural intensification). Literature and applied experiences have highlighted the pivotal contribution of rice fields in harboring plants and animals, frequently rare and threatened. However, in the Mediterranean area the agronomic practices are still totally oriented towards maximizing production, applying management methods - above all of water levels - which induce relevant negative implications on the conservation of aquatic and semi-aquatic biodiversity, which had found hospitality in these agricultural systems because often they are the only available wet spots in a pervasive agricultural and anthropic matrix. At the same time, the development and testing of more sustainable management practices can open great opportunities to counteract the loss of aquatic habitats and biota, offering win solutions for farmers-fauna conflicts. As an example, the rice fields of the Camargue and Sardinia, are often visited by water birds, in particular by flamingos, generating frictions with the interests of farmers that are difficult to solve (Tourenq et al. 2001).

Project's objectives

In this context, rice paddies can represent a key agro-ecosystem where applying robust and innovative rewilding management practices to recover biodiversity and to stimulate sustainable nature-based economy. Starting from the important results obtained in the past years from other projects, new solutions will be sought and good practices will be applied to make a further, important step towards an ecologically sustainable rice production.

The general objective of the project is to enhance the ecological value of the rice-agro-ecosystems in different European countries, trying to implement green infrastructures, nature-based solutions to substantially improve the conservation of species and habitats and consequently increase the value

of ecosystem services offered by rice paddies. The most relevant aspect to consider is the timing of flood, able to regulate the fundamental stages of the life cycle of aquatic and semi-aquatic species. By varying the target biological groups (e.g., algae, plants, invertebrates, amphibians, fish, birds), the management rules could be re-modulated to maximize desirable objectives in terms of species number or numerous populations, for example. A better synergy between the Water Framework Directive, the agronomic practices and HCI and species conservation (Habitats Directive and Birds Directive) will be pursued offering win win solutions in the frame of MedWet initiative. In this respect, the LIFE REWET-RICE will pursue the temporary conversion (3 years) of rice paddies into wetlands as an “aquatic set aside” strategy, as well as the enhancement and reinforcement of hedges to improve the landscape matrix. Decision-making processes and governance mechanisms based on the assessment of ecosystem services, innovative management protocols for rice farming, as well as demonstrative actions aimed at implementing green infrastructures will support the preservation of nature and eventually the shift to nature based agricultural techniques.

Specific objectives

- 1) definition of development scenarios based on the acknowledgement and assessment of ecosystem services, and their integration in the decision-making processes, which will engage public bodies and farmers in the implementation and management of sustainable farming practices;
- 2) improvement of the ecological network and of the ecosystem services provided, also contributing to the implementation of the Habitat and Birds Directives;
- 3) mitigation of the environmental impact of rice-farming activities and increase of their contribution to the maintenance and enhancement of ecosystem services through innovative cultivation approaches, as well as actions of dissemination, training and direct involvement of farmers;
- 4) contribute to the application of the principles of the "Farm to Fork" Strategy, which aims to achieve a "solid and resilient" food system in the EU, increasing the sustainability of agri-food production and taking into account the interrelationships between human health and conservation of ecosystems

Proposed actions and pilot projects

- 1) Establishment of a governance system aimed at reaching the right balance between nature conservation and the needs of quality food production with low environmental impact. A set of tools will be tested and shared; these tools will be targeted at both the implementation of the selected agricultural practices and management protocols and the harmonisation of agricultural investments. Land stewardship agreements will be proposed as tools capable of stimulating the cooperation of landowners and the sharing of environmental values.
- 2) Design and implementation of demonstrative actions in farms, as contributions to to increase the ecological role of rice fields and connectivity between Natura 2000 sites that fall within the project areas, with the direct involvement of a selected pool of farmers. Such actions are aimed at the restoration of the ecosystem functions and the testing of techniques and methods for their widespread application.
- 3) Monitoring activities.
- 3) Awareness-raising, communication and consulting activities, able to directly involve the farming sector in the mitigation of environmental impacts and in the enhancement of the services provided by agro-ecosystems.
- 4) Transferring the LIFE REWET-RICE model and its outcomes at national level and in the Mediterranean region.

The actions will be articulated as follows:

A – Preparatory activities

A1 – Mapping of Ecosystem services in target areas at the regional scale defining 5 target ecosystem services that will be assessed and improved with demonstration actions.

A2 – Design and authorization of pilot interventions. The consortium of partners must define an environmental problem common to all the project areas for which solutions will be sought. Moreover, each partner will have to identify a “local” environmental problem and devise an action that can minimize the problem and improve ecosystem quality.

A3 – Start-up of the governance process

C - Demonstration actions

C1 – Development of the Pact (governance process) for enhancing the sustainable development of rice-agro ecosystems

C2 – Development of decision Support System

C3 – Implementation of a management protocol for rice cultivation for each target area.

C4 to Cn – Demonstrative interventions (one for each pilot area of about 100.000,00 €).

- Improve the rice farming practices to better meet the ecological requirements of a series of key target species (differentiated for the different study areas), focusing on the flood timing, nutrients and pesticides;
- Implement nature-based solutions for testing the opportunity offered by an “aquatic set aside” option to create temporary aquatic habitats;
- Enhance and reinforce of ecotones and hedges of rice paddies to improve the landscape matrix expanding niches availability for threatened taxa and the self-purifying capacity of water.

D – Monitoring

D1 – Environmental monitoring. Monitoring program should measure the increase of ecosystem services provide by new green infrastructure and/or differences in agricultural practices. Moreover, a monitoring program to evaluate the amelioration of “local environmental program” should be develop from each working group.

D2 – Socio economic monitoring

E - Communication, dissemination, replicability and networking

E1 - Communication

E2 - Networking

E3 - Replicability

F – Management and monitoring (All partners)

F1 - Management

F2 – Project activity monitoring

Proposed partnership to be confirmed

1. Anatoliki (GR) – Lead partner
2. Elgo Demeter Institute (GR)
3. Province of Vercelli (IT)
4. Comune di Oristano and/or MedSea Foundation (IT)
5. Tour du Valat (FR)
6. SEO Birdlife (ES)
7. FAMP (ES)
8. U-SPACE (IT)
9. Fondazione Sviluppo Sostenibile (IT)
10. Italian Research Center to be confirmed

Associated partners

Each partner should designate as associated partners at least the farmers available for implementing the demonstrative actions.

Start date of the project: 01/10/2021

End date of the project: 30/09/2024

Contacts

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QUESTIONNAIRE

This project proposal aims at targeting a number of site specific nature conservation objectives, based on the engaged target area features and criticalities. Upstream nature conservation, the objective is to regulate rice farming in a more sustainable manner. For these reasons in order to draft the concept note and draft an appropriate proposal we need to know:

- Scientific data and information on target areas;
- Current rice farming techniques;
- Which species and habitat can be interested by an improved management of flooding/dry phases.

We kindly ask you to complete the following questionnaire and present it also to the farmers you plan to associate in the project proposal.

1. Pilot area description:

| | |
|-------------------|----------------------|
| Name | |
| Country | |
| Region | |
| Surface (ha) | |
| Short description | [max 500 characters] |

2. Natura 2000 sites included in the area (please specify if there is a management plan for the site):

- [code]
- ...

3. Please describe the environmental problem of the target area.

[max 1500 characters]

3b. Please suggest the environmental problem common to the Mediterranean area.

[max 500 characters]

4. Rice agronomic practices. Which are the practices currently in use? Do they create problems to biodiversity conservation? If yes, of which kind? Please give a brief description of the current situation in your target area and provide references: scientific papers, reports, grey literature.

[max 2000 characters]

5. Target species and habitats (Annex II Habitat and Species Directive and IUCN red list). On which habitat and species do the rice agronomic practices in use impact?

- ...
- ...

6. Set up a list of the top five alien species and describe their impacts on biodiversity.

