



CALL TEXT AND SUPPORTING INFORMATION

Call: Section 2 – Multi-topic 2021

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Thematic Area 1- Water management

Topic 2.1.1 (RIA*) Alleviating Mediterranean water scarcity through adaptive water governance.

	<p>SRIA priorities addressed</p> <p>1.2 Sustainable, integrated water management Water sustainability in the Mediterranean region should be ensured through improved technical tools coupled with socio-economic <u>tools and governance, organisational and/or business models</u> to define the limits of water use in certain key regions under present and future global change scenarios.</p> <p><u>OPERATIONAL OBJECTIVES</u></p> <ul style="list-style-type: none">- 3/WATER GOVERNANCE SYSTEMS
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Challenge

Several countries bordering the Mediterranean are facing water scarcity of increasing severity, and this problem will expand over the entire region according to future climatic scenarios. Under this already fragile situation, the occurrence of extreme weather events predicted to be more frequent because of climate change will lead to more disruptive effects. Technological solutions offer already a comprehensive portfolio for more efficient water use by agriculture and the safe use of low-quality water, including reclaimed waste-water. Still, they need to be associated with innovative institutional arrangements to produce real changes in practice. It is now commonly admitted that to implement such changes, there is a need to consider water scarcity within a more extensive scope of water governance and in terms of water management to ensure compliance with the Water Framework Directive². There is then an opportunity to implement the obtained technological and management advancements integrating them into innovative and adaptive water governance schemes.

Scope

Innovative and adaptive water governance must encompass an integrated approach considering both sides of the resource/demand water balance, as well as water availability across both the spatial and temporal dimensions. Proposals should establish limits in water use under climate change constraints and should balance water competition between agriculture and other users or economic sectors, at local and entire water basin level (including the transboundary level) to be compliant with the Water Framework Directive. Ecosystems need to be considered as a “water user”, and governance measures should aim to preserve and/or restore them.

Proposals must demonstrate how the combination of innovative; alternative technologies, practices and inclusive dialogue between resource users and planners can pave the way for better water governance and decision-making, based on the integrated approach and three main criteria, namely resource maximisation, equitable allocation and multi-actor approach.

¹ Please note that the acronym RIA is used both for Section 1 and Section 2. In Section 1 the rules applying to these actions are the standard Horizon 2020 rules for participation (RFP). While the rules used in Section 2 are to some extent analogous to the Horizon 2020 RFP, specific rules, concerning participation and funding rates, apply. As the projects selected in Section 2 are funded directly by the national funding bodies, they will be subject to the respective national regulations. For more details regarding the rules for Section 2 please refer to the guidelines for applicants on the PRIMA *website*.

² <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32000L0060>

To maximise water resources in a context of scarcity, the use of non-conventional water resources, rainwater harvesting, aquifer recharge and other nature-based solutions should be considered as an opportunity to increase water availability for different uses: among others, irrigation of agricultural areas (rural, urban or peri-urban), ecosystems' preservation and restoration, or other uses (landscaping). Under a holistic approach, it is essential to integrate such measures aiming to increase water availability into water governance, policies, and decision making. Since formal governance arrangements tackling water scarcity are often poorly enforced and traditional decision-making processes have proven to be often ineffective, proposals must demonstrate how multi-actor approach and innovative decision-making (analytic deliberation) can lead to the creation of better, more effective water governance arrangements. As part of this and to guarantee the equitable allocation principle, a full socio-economic approach should be implemented to prevent conflicts among water users (industry, farmers, citizens) while assessing their real needs. To this end, applicants are encouraged to propose multidisciplinary projects encompassing also social sciences, political sciences and economics, where relevant.

The use of disruptive ICT solutions, Artificial Intelligence and Copernicus free-of-charge operational services should also be considered for developing more effective water management mechanisms.

Expected Impact

- Development, adaptation and utilization of applications and decision-support tools, based on new computational solutions resulting in the application and integration of new and sustainable practices into water governance models applied to agro-ecosystems.
- Establishment of Mediterranean demo sites to test efficient local water governance at agro-ecosystem level, based on multi-actor approach, and to develop innovative policy solutions. This includes the integration of traditional knowledge, practices and models for efficient water management and restoration of degraded water bodies.
- Development of new water governance organizational models concerning water use at multiple levels (PPPP = People-Public-Private-Partnerships and mixed institutional types and designs, e.g., market- and state-based) protecting and respecting the social value of water.
- Conflict mitigation and increased legitimacy of policy instruments addressing water scarcity.
- Reduction of the implementation gap between rules on paper and societal compliance on the ground.
- Development and demonstration of innovative solutions to take advantage of non-conventional and low-quality water resources, rainwater harvesting, aquifer recharge and other nature-based solutions, including natural water retention measures, to mitigate regional water scarcity.

Key performance indicators

- Number of water allocation and prioritisation rules designed and implemented
- Increase in the water availability in a given demo area (m³)
- Improved efficiency of water-use by agricultural and natural ecosystems

Links with EU Policies

The proposal should indicate linkages to relevant EU policies and objectives in the context of the EU Green Deal and relevant Horizon Europe Missions and Partnerships³

- Farm to Fork Strategy⁴
- Biodiversity Strategy⁵
- Horizon Europe Mission on Soil Health and Food⁶
- European Partnership Water Security for the Planet (Water4All)
- European Partnership accelerating farming systems transition: agroecology living labs and research infrastructures
- European Partnership Agriculture of data
- European Partnership for Safe and Sustainable Food Systems
- European Partnership for rescuing biodiversity to safeguard life on Earth

Links with SDGs

- Target 6.5. By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
- Target 6.6B. Support and strengthen the participation of local communities in improving water and sanitation management
- Target 13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

³ Horizon Europe candidate Partnerships: https://ec.europa.eu/info/horizon-europe/european-partnerships-horizon-europe/candidates-food-security_en


⁴ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system" https://eur-lex.europa.eu/resource.html?uri=cellar:ea0f9f73-9ab2-11ea-9d2d-01aa75ed71a1.0001.02/DOC_1&format=PDF

⁵ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "EU Biodiversity Strategy for 2030 Bringing nature back into our lives" https://eur-lex.europa.eu/resource.html?uri=cellar:a3c806a6-9ab3-11ea-9d2d-01aa75ed71a1.0001.02/DOC_1&format=PDF

⁶ https://ec.europa.eu/info/horizon-europe/missions-horizon-europe/soil-health-and-food_en

Thematic Area 2 – Farming Systems

Topic 2.2.1 (RIA) Up-scaling field practices based on agroecology principles to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers' incomes.

	<p>SRIA priorities addressed</p> <p>2.1 Adaptation of agriculture to climate change Genetic and plant breeding but cropping system diversification, and spatial organisation, as well as diversification of animals, are also crucial for improving resilience to climate change.</p> <p>2.2 Developing sustainable and productive agro-ecosystems Better integration of natural environmental regulation of biotic and abiotic stresses into farming systems, optimization of input use, development of new cropping systems and use of digital technologies. To do so, the specificity of Mediterranean ecosystem assets and vulnerabilities must be taken into account and solutions adapted to local conditions must be developed.</p> <p><u>OPERATIONAL OBJECTIVES</u></p> <ul style="list-style-type: none">- 4/ SMART AND SUSTAINABLE FARMING
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Challenge

Loss of biodiversity in the Mediterranean Region has been increasingly affected by unsustainable agricultural practices (i.e. monoculture and over-tilling) that negatively affect the environment and crop yields, increase soil degradation, water over-exploitation and contamination, leaching and overuse of agriculture inputs (e.g. fertilizers, pesticides and herbicides). These negative impacts over impose the detrimental effects on farming system productivity due to climate change. There is, therefore, an urgent demand to find new practices that are respectful to the environment, enhance the biodiversity in the agro-systems, increase the benefits of the ecosystem services provided by sustainable agriculture and be able to respond to the increasing environmental threats effectively. This calls for improving the resilience of the farming community to better adapt to climate change, increase profitability, and mitigate environmental risks. Several agriculture practices and methodologies have been identified and adopted under the notion of circular agriculture and have shown to have a positive impact on the mitigation of Climate change. For example, regenerative agriculture, and permaculture showed positive applications improving ecosystem services through increasing biodiversity and farmers' incomes around the Mediterranean.

Scope

The call focuses on introducing sustainable farming practices to increase the resilience of the agro livelihood system based on agroecological principles, such as regenerative agriculture and permaculture, through recommended methodologies amongst farming communities that contribute to the zero-pollution ambition. Proposals must have a systemic approach (not focusing only on a component of the system, such as soil). Proposals must adopt agroecological or permaculture practices. They should encourage the use of functional biodiversity new and environmentally-friendly techniques for pest management and weeds control, no/minimum tillage and land cover management (control of soil erosion, soil quality, soil health, soil microbiological composition and composting increase carbon sequestration). The reintroduction of local varieties/breeds, or old varieties better adapted to climate change and Mediterranean conditions (water shortage, pest attacks, low soil fertility) is strongly encouraged.

Under the notion of agroecology, projects should take care of the reduction of entrants and consider the development of new cropping systems according to the specificity of Mediterranean ecosystem assets and vulnerabilities. The proposed solutions must be adapted to local conditions. They should integrate the zero-pollution ambition for a toxic-free environment and the reduction of greenhouse gases to achieve climate neutrality by 2050 as proposed in the EU Green Deal. In parallel, it is crucial to demonstrate the socio-economic benefits for the farmers (incomes, yields, price of the products, raw or transformed) when using sustainable farming practices. Within this holistic context, short value chain development, valorisation of the local products, certification mechanisms can be considered, as well as new organisational models for resource-sharing among the farmers that lead to a more resilient community. The research and approach should tackle technical and social challenges in the context of small-holder farmers, and identify mechanisms to measure impact assessing a triple bottom line approach on the farmer, i.e. economic, social, and environmental. Activities should be implemented in living labs and demo sites, including a cost-benefit assessment of the tested models, which addresses the different dimensions of sustainability and promotes inclusive and sustainable rural development, with a specific focus on poverty eradication, women's empowerment and youth employment.

Expected Impacts

- More sustainable agriculture and food production system with more efficient use of natural resources and better climate change resilience/adaptation and, when possible, mitigation.
- Improved economic and social resilience of Mediterranean smallholder farming systems to climate change
- Contribution to the zero waste farming systems target There is no mention of waste reduction in the text
- Decreasing use of chemical inputs and development of alternative solutions (new bio-based products, new techniques and policies)
- Increasing income of the farmers from biodiversity use, improved farming techniques and improved certification of products
- Engaged youth, empowered women.
- Encouraged consumption of food produced using more sustainable practices, e.g. in schools through EU green public procurement.

Key performance indicators

- Number of innovations in farming systems developed, enabling sustainable and efficient agriculture and food systems.
- Increase in Incomes of smallholders adopting innovations developed in PRIMA projects

Links with EU Policies

The proposal should indicate linkages to relevant EU policies and objectives in the context of the EU Green Deal and relevant Horizon Europe Missions and Partnerships⁷

- Farm to Fork Strategy⁸

⁷ Horizon Europe candidate Partnerships: https://ec.europa.eu/info/horizon-europe/european-partnerships-horizon-europe/candidates-food-security_en

⁸ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system" https://eur-lex.europa.eu/resource.html?uri=cellar:ea0f9f73-9ab2-11ea-9d2d-01aa75ed71a1_0001_02/DOC_1&format=PDF

- Farm to Fork Strategy⁹
- Biodiversity Strategy¹⁰
- Horizon Europe Mission on Soil Health and Food¹¹
- European Partnership Water Security for the Planet (Water4All)
- European Partnership accelerating farming systems transition: agroecology living labs and research infrastructures
- European Partnership Agriculture of data
- European Partnership for Safe and Sustainable Food Systems
- European Partnership for rescuing biodiversity to safeguard life on Earth

Links with SDGs

- Target 2.4: By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality
- Target 12.2: By 2030, achieve the sustainable management and efficient use of natural resources
- Target 12.3: By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses
- Target 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse


⁹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system" https://eur-lex.europa.eu/resource.html?uri=cellar:ea0f9f73-9ab2-11ea-9d2d-01aa75ed71a1.0001.02/DOC_1&format=PDF

¹⁰ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "EU Biodiversity Strategy for 2030 Bringing nature back into our lives" https://eur-lex.europa.eu/resource.html?uri=cellar:a3c806a6-9ab3-11ea-9d2d-01aa75ed71a1.0001.02/DOC_1&format=PDF

¹¹ https://ec.europa.eu/info/horizon-europe/missions-horizon-europe/soil-health-and-food_en

Thematic Area 3 - Agro-food value chain

Topic 2.3.1 Increasing the resilience of small-scale farms to global challenges and COVID-like crisis by using adapted technologies, smart agri-food supply chain and crisis management tools.

	<p><i>SRIA priorities addressed</i></p> <p>Thematic Area Sustainable Farming systems Priority 2.4 Developing farming systems able to generate income, to create employment and to contribute to a balanced territorial development</p> <p>Thematic Area -Agro-food value chain Priority 3.3 Implementation of innovation in the Agro-food chain, promoting higher quality, sustainability and competitiveness, with particular reference to smallholders</p> <p><u>OPERATIONAL OBJECTIVE</u></p> <ul style="list-style-type: none">- 8/ NEW AGRO-FOOD BUSINESS MODELS
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Challenge

COVID-19 pandemic has demonstrated the fragility of the Mediterranean food systems already distressed by climate change, population growth and scarcity of resources.

The outbreak of COVID-19 imposing restrictions on movement, limiting farmers' access to markets to buy inputs and sell products have decreased the capacity to produce food shrinking in purchasing power. Also, labour shortages of seasonal workers, unable to travel between regions, have caused fresh products accumulation and impressive food losses.

Incomes and thus, food security for people who rely on casual labour for their livelihoods have been severely affected. Increasing the resilience of Mediterranean smallholders is a significant challenge to face and overcome adverse and unforeseen events with similar crises due to the outbreak of diseases such as COVID-19. The purpose of this topic is to strengthen the resilience of smallholder farmers to shocks limiting or avoiding disturbances of their livelihood caused by unexpected crises (e.g. pandemic, climatic, political unrest).

Scope

Proposals should identify strategies and establish lines of resilience to the new challenges determined by the COVID-19 pandemic for producers and in particular, smallholders. The development of intelligent applications based on digital technologies will be critical to improving the agri-food value chain making smallholders able to address the inefficiencies in the production system, which are even more vital during COVID-like crisis. Applications should be investigated at the production level (farm vehicle tracking, livestock monitoring, storage monitoring, open-field monitoring) and food transformation level, leading ultimately to process optimization and automation. Innovative business models of smallholder's organization or partnership should be investigated to propose a smart agri-food supply chain to cope with any crisis similar to the one COVID-19. Cases studies involving smallholders and critical stakeholders, including policymakers, will be crucial to maximising opportunities. Proposals could also consider e-commerce channels linking the farmers to the food processing and retail stages of the value chain to cope with unexpected product stocks like that generated by COVID outbreak.

Expected impacts

- Ensure incomes to smallholders facing COVID-like crisis
- Decrease inefficiencies and barriers to market access
- greater efficiency and sustainability in processes and the use of resources
- increase in mitigation capability;
- Increase profitability via either or both the reduction of production costs or/and the increase of quality.
- Reduce food loss

Key Performance Indicators

- Models of the smart agri-food value chain
- Models for e-commerce channels
- Number of smart technological solutions

Links with EU Policies

The proposal should indicate linkages to relevant EU policies and objectives in the context of the EU Green Deal and relevant Horizon Europe Missions and Partnerships¹²

- Farm to Fork Strategy¹³
- Biodiversity Strategy¹⁴
- Horizon Europe Mission on Soil Health and Food¹⁵
- European Partnership Water Security for the Planet (Water4All)
- European Partnership accelerating farming systems transition: agroecology living labs and research infrastructures
- European Partnership Agriculture of data
- European Partnership for Safe and Sustainable Food Systems
- European Partnership for rescuing biodiversity to safeguard life on Earth

Links with SDGs

The proposal should indicate linkages to relevant SDGs

¹² Horizon Europe candidate Partnerships: https://ec.europa.eu/info/horizon-europe/european-partnerships-horizon-europe/candidates-food-security_en

¹³ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system" https://eur-lex.europa.eu/resource.html?uri=cellar:ea0f9f73-9ab2-11ea-9d2d-01aa75ed71a1.0001.02/DOC_1&format=PDF

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¹⁵ https://ec.europa.eu/info/horizon-europe/missions-horizon-europe/soil-health-and-food_en

Supporting Information for the Section 2 Call for Proposals

Type of action	Research & Innovation Activities (RIA* ¹⁶)
The total indicative amount allocated to this call	EUR 35 545 000
Funding level	Depending on National Regulations
Budget and duration of grants	PRIMA considers that proposals requesting a contribution of at least EUR 1 million and with a duration of 48 months , would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts or duration, according to the national regulations.
TRL	Proposals should clearly state the starting and end TRLs of the key technology or technologies targeted in the project.
Eligibility conditions for participation	In addition to the standard admissibility, and eligibility conditions (please refer to section 5.2.2 and section 5.2.3 of the PRIMA Annual Work Plan 2021) the following additional eligibility condition applies: each participant in a bidding consortium must check its own eligibility for participation/funding in accordance to their national regulations.
Submission and evaluation procedure	The call will be organised according to a two-stage submission process. For the first step, a first-stage proposal (maximum ten pages) must be submitted within the first-stage submission deadline. Successful applicants in the first step will be invited to the second step to submit a full proposal (maximum 50 pages). A timeline for the submission and evaluation of applications can be found in Table 8 of the PRIMA Annual Work Plan 2021.
Grant agreement	Each national funding body will fund the beneficiaries established in its own country; thus, the national funding rules apply. Each national funding body will sign a grant agreement (or any official documents acting as a contract) with their national beneficiaries taking part in the selected project (section 5.2.11 of the PRIMA Annual Work Plan 2021). The coordinator of the project has to decide with his/her partners of a common starting date of the project and send this information to all the funding bodies involved in funding this project in order to ensure that the national contracts are synchronized in time to cover all the period of the project
Consortium agreement	A consortium agreement mentioning the distribution of the tasks among partners (as listed in the proposal) must be concluded. Some national funding bodies may require this document before signing the grant agreement then it is necessary to refer to the national regulations and draft this document accordingly (section 5.2.11 of the PRIMA Annual Work Plan 2021)

¹⁶ Please note that the acronym RIA is used both for Section 1 and Section 2. In Section 1 the rules applying to these actions are the standard Horizon 2020 rules for participation (RfP). While the rules used in Section 2 are to some extent analogous to the Horizon 2020 RfP, specific rules, concerning participation and funding rates, apply. As the projects selected in Section 2 are funded directly by the national funding bodies, they will be subject to the respective national regulations. For more details regarding the rules for Section 2 please refer to the guidelines for applicants on the PRIMA *website*.