



CALL TEXT AND SUPPORTING INFORMATION
Call: Section 2 – Multi-topic 2023

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Thematic Area 1- Water management

Topic 2.1.1-2023 (RIA*¹) New governance models to define best practices for sustainable water management and conflict mitigation.

	
Alignment with SRIA	Thematic area 1 Water management 1.2 Sustainable, integrated water management
Alignment with EU policies	European Green Deal, Water Framework Directive (WFD)

Challenge

The present water stress situation in all Mediterranean countries is exacerbated by climate change, with periods of drought and flooding, as foreseen in the IPCC Sixth Assessment Report, as well as by widespread unsustainable practices. This is likely to compromise further water availability and quality and, consequently, the food security of the Mediterranean countries. Indeed, major conflicts have already been observed between the different water users (agriculture, industry, tourism, households, etc.).

These risks of conflicts can be accentuated, especially when countries, regions or administrative units share surface or underground water resources and no common agreement is in place for sustainable management of the shared resources.

To reduce the risk of conflicts that could further destabilise the political situation in the region and the well-being of Mediterranean societies, it is necessary to create new governance models based on solid data and resulting, in the medium and long term, in improved agreements for the sustainable management of water resources under conditions of climate change, by establishing a solid process involving all relevant stakeholders at the local, national or transboundary levels, according to the case.

Scope

Projects funded under this call should contribute to water sustainability and security in the Mediterranean region through the following activities:

- Bring together a variety of stakeholders in water governance experiments to demonstrate how collaborative administrations, networking of non-state actors, use of innovative technologies (including GIS and remote sensing) to optimise water use and avoid its depletion, and shared creation of knowledgeable action can be mutually beneficial by changing the dynamics of water demand and supply. To this end, partners with expertise in social and economic sciences,

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 based on 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*.

as well as in multi-stakeholder communication strategies/models and participatory decision-making processes, are strongly recommended.

- Map the use of available water resources, establish methodologies based on monitoring, modelling and technical solutions to address information gaps, better plan response to climate-induced risks (e.g., flooding, storms and droughts), limit withdrawals, optimise water storage and preserve groundwater and surface water quality and quantity in a circular economy context.
- Examine governance solutions, analyse water tariff systems and prices for the provision of water services (supply, treatment, etc.) in a context characterised by climate change, identify any inefficiencies and the consequent impact on the environment and water security, and propose alternative models and economic instruments (e.g., true cost approach) that encompass the concepts of affordability, cost recovery, willingness to pay.
- Review existing legal frameworks and agreements (which can be either transboundary, national, regional or local) and propose measures to ensure that they guarantee fair and sustainable access to and allocation of water resources while preserving them, better balance conflicting interests and minimise opportunities for future conflict, enhance all stakeholders' participation.

Results from projects funded under this call for proposals should apply to countries facing similar challenges and conflicts, even if these do not share a common physical border. The identification, sharing and scale-up of good practices already existing in the region that can lead to the desired expected impacts are also encouraged.

Where appropriate, PRIMA projects selected under this call should contribute to the [PRIMA WEF Community of practice](#) through networking of selected demonstration sites, knowledge-sharing and capacity building.

Due to the specific challenge of this topic, and in line with our principles of allowing maximum participation from Southern Mediterranean Countries to foster both North-South and South-South cooperation, the following additional eligibility criteria apply: "In addition to the minimum number of participants set out in the standard eligibility conditions (section 5.1.3), consortia must include at least one independent legal entity established in any of the MPCs².

Expected impacts

- Mitigation and prevention of current and future water conflicts under climate change conditions through developing the necessary governance solutions and fair allocation of water resources to different users through limits in water use;
- Elaboration of participation and governance models resulted in improved coordination of water users and stakeholders at the basin level and, in the case of transboundary waters, adopting multilateral management agreements for strengthened cooperation among countries;
- Increased water security and strengthened protection of depleted water bodies (quality and quantity) and water-related ecosystems, stemming from adopting innovative technical solutions with appropriate legal, economic and governance instruments.

² Mediterranean Partner Countries (MPC) are considered the Third Countries associated to Horizon 2020 (AC): Israel, Tunisia, and Turkey and the Third Countries (TC) having concluded international agreements for scientific and technological cooperation setting out the terms and conditions of their participation in PRIMA: Algeria, Egypt, Jordan, Lebanon and Morocco

Key Performance Indicators

Please provide specific KPIs to measure the outcomes of the project.

For this, you may refer to the [Strategic Research and Innovation Agenda](#). Please also note that the below list is not exhaustive and consortia are free to propose other KPIs.

- Number of newly developed water rights systems ensuring the right allocations for water users

Contributions to EU Policies, HE Mission and Partnerships


The proposal should indicate their contribution to relevant EU policies and objectives in the context of the European Green Deal, Water Framework Directive (WFD), and relevant EU Missions and Partnerships.

Contributions to Sustainable Development Goals

The proposal should indicate their contribution to relevant SDGs and methodology to contribute to reporting SDG indicators.

Thematic Area 2 – Farming Systems

Topic 2.2.1 (RIA): A step toward carbon-neutral farms: coupling renewable energy sources with circular farming systems.

	
Alignment with SRIA	Thematic Area 2 - Operational Objective 4 - Research Priority 2 - Cross-Cutting: Digital Technologies
Alignment with EU policies	European Green Deal EU 2030 Energy Strategy Circular Economy Action Plan Water Reuse Regulation Methane Strategy

Challenge

Agriculture is key to sustainable food systems while contributing to achieving climate neutrality's European Green Deal ambition by 2050. Greenhouse gas reduction and adaptation to climate change are significant challenges that European agriculture will face over the coming years.

Non-sustainable agriculture practices in the Mediterranean countries result in an increase in water and inputs used for irrigation and fertilisation, which in turn also increase the cost of production and reduce the income of small farmers, increase greenhouse gases (GHG) emissions and harm the adaptative capacity of the agro-ecosystems to face and alleviate climate change impacts.

By adopting more sustainable practices (agroecology, agroforestry, mixed farming systems, new manure management/ nitrogen fertilisation practices), agriculture has the power to decrease GHG emissions and increase carbon storage that could be optimized through a new approach to “greening agriculture”. Moreover, the Mediterranean farming systems, aligned with the [Water Reuse Regulation](#) and [Circular Economy Action Plan](#), need to optimize external resources by favouring circular systems facilitating the recovery and subsequent reuse of the main inputs into their production systems and along the value chains. This shift from linearity to circularity in the Mediterranean region is a transition facing gaps in innovation and practices that this call intends to bridge.

In addition to the steadily and fast-growing water scarcity and land degradation in the Mediterranean region, energy and nutrients that are the primary external inputs have seen their prices drastically increase during the last decade. This situation has been exacerbated by the COVID-19 pandemic and the Ukrainian war, which have changed the world trades for critical commodities and compromised access to essential resources for our societies, such as cereals, gas, and fertilizers, leading to an extra layer of unbearable production costs for smallholders.

Integrating local renewable energy sources at the farm or regional level and sustainable agricultural practices is a promising way to reduce farmers' GHG emissions and related production costs.

Diversification of the energy sources, a modernization of the equipment's/installations (more efficient heating or cooling systems, pumping systems, isolation, use of precision agriculture) and an increase in the use of renewable energies is already in place on some farms. Yet, there is a growing trend to keep the role of renewables regenerative and not an extractive asset/resource.

However, access to these alternatives/technologies or the costs associated with farm implementation is often an obstacle for the farmers, especially for the Mediterranean smallholders.

Accordingly, affordable and sustainable production-consumption systems need to be developed and scaled up in the Mediterranean region to stabilise the farmers' profitability and attract a new generation of young farmers making use of the digital transformation opportunities in a circular economy context.

Scope

Proposals should develop an integrated farming system using renewable energy to decrease GHG emissions and maximize the use and reuse of wastes and inputs. (For instance, and not limited to reusing treated wastewater and sewage sludge). The proposals are seeking innovative, actionable and affordable systems in open fields or protected farming systems such as greenhouses, aeroponic, hydroponic, aquaponic and cascade systems, or any other systems that can minimize the costly use of external inputs while optimizing the resource use.

In open fields, proposed systems must be based on eco-friendly practices that enhance an integrated utilization of farm waste or agro-food by-products (manure management practices, on-farm bio-waste refineries) for fertilization and/or energy production according to circular bio-economy principles. Under greenhouse conditions, improving the passive accumulation of heat and carbon dioxide enrichment should be considered. Closed soilless farming systems—hydroponics, aquaponics and vertical farming can significantly help ensure sustainability in this competitive sector.

In the case of producing energy using waste, the proposal should ensure that this is not done at the cost of organic fertilization nor has a negative impact on the practices favouring soil carbon / organic matter storage.

The novel agronomic developments should be coupled with solar, geothermal, wind, biomass/wastes, or any renewable energy to ensure more carbon-neutral farming operations and limit the impact of high energy prices on smallholders. The use /integration of ICT, IoT, nano-technologies and sensors devices to estimate and follow up on the farm's energy consumption and CO₂ emissions (T equivalent) is requested.

The socioeconomic feasibility of the proposed measures should be demonstrated considering the complexity of the new integrated farming operations and the need for specific skills related to the possible simultaneous farming of diversified products and/or the use of new technologies.

Proposals should involve a critical mass of stakeholders from policymakers, public authorities, farmers, and other end-users through a multi-actor approach. The living lab can also be an enabling environment to co-develop and test the proposed solutions. The development of new business models is also encouraged, and the engagement of policymakers to scale up disseminate and replicate the solutions at a larger scale and envisage incentives such as guarantees, concessional loans, subsidies, or other types of financial instruments to facilitate the farmers' adoption at the scale of the new solutions.

Capacity development activities should be considered to create the critical mass of competencies needed for the transition to sustainable agro-biodiversity systems within the circular economy principles. The capacity development plan should respond to the country's needs assessment for the transition.

The proposal should also consider a framework for awareness raising customized to the different actors involved in the transition with factual evidence on the gains for all stakeholders.

Where appropriate, PRIMA projects selected under this call should contribute to the [PRIMA WEFE Community of practice](#) through networking selected demonstration sites, knowledge-sharing and capacity building. If the selected PRIMA projects work on soils (e.g. on carbon farming) they should seek coordination with relevant projects funded under the EU Mission “A Soil Deal for Europe”, notably those from Work Programme 2023 promoting the creation of living labs and lighthouses.

Due to the specific challenge of this topic, and in line with our principles of allowing maximum participation from Southern Mediterranean Countries to foster both North-South and South-South cooperation, the following additional eligibility criteria apply to this call: “In addition to the minimum number of participants set out in the standard eligibility conditions (section 5.1.3), consortia must include at least one independent legal entity established in any of the MPCs³.”

Expected impacts

- Decrease in CO2 equivalent emissions by using alternative sources of local and renewable energy
- Improving the overall efficient use of water, fertilizers, and nutrients in Mediterranean farming systems by adopting a circular bio-economy approach
- Reduce the dependency on conventional energy suppliers
- Improve the overall land productivity by integrating different cropping systems
- Use of local energy from renewable sources
- Reducing the impacts of climate change on Mediterranean farming systems.

Key Performance Indicators

Please provide specific KPIs to measure the outcomes of the project.

For this, you may refer to the [Strategic Research and Innovation Agenda](#). Please also note that the below list is not exhaustive and consortia are free to propose other KPIs.

- Number of sustainable practices applied
- Reduction of external use of entrants
- Number of business models
- Reduction of food costs production costs
- Reduction of GHG

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Contributions to EU Policies, HE Mission and Partnerships


The proposal should indicate linkages to relevant EU policies and objectives in the context of the European Green Deal and relevant [EU Missions and Partnerships](#)

Contributions to Sustainable Development Goals

The proposals should indicate their contribution to relevant SDGs and methodology to contribute to reporting SDG indicators.

Thematic Area 3 - Agro-food value chain

Topic 2.3.1 (RIA)⁴ – Assessing novel antimicrobial food packaging and coating materials to reduce food waste to improve safety in the Mediterranean food supply chain.

	
Alignment with SRIA	Thematic area 3, Operational Objective 7 (reduce losses and waste), Research priorities 2
Alignment with EU Policies	Farm-to-Fork Strategy Waste Framework Directive EU Food 2030 R&I policy (Circularity and resource efficiency) Circular Economy Action Plan Plastics Strategy

Challenge

About 30% of the food globally produced for human consumption is estimated yearly, lost or wasted along the supply chains annually (FAO, 2021), with severe economic, social and environmental impacts. While this issue is addressed at the global level, it is even more challenging in the Mediterranean region due to the limited availability of land and water, the marginalization of some rural areas, the complexity and diversity between societies and regions in terms of food categories, food systems and technological development, and different traditional and cultural aspects influencing consumers' behaviour. Food contamination and spoilage are still the leading cause of limiting shelf-life and safety. Qualitative losses of nutrients and functional and bioactive compounds also occur along the food supply chain with inadequate facilities and poor maintenance of proper conditions. Packaging is essential to prevent food deterioration and preserve or prolong food quality and shelf-life while assuring safety.

Due to environmental burdens, biodegradable packaging materials are gaining significant importance in the face of ever-growing environmental concerns about plastic pollution. They are a sustainable, environmentally friendly, and cost-effective alternative to conventional plastic packaging materials.

Naturally, food products contain some microorganisms that can proliferate and adulterate the product depending on the preservation method. To control and minimize the microbiological hazards of foodborne pathogens and predict and enhance the shelf life of food products to fulfil consumers' quality expectations, new food packaging technologies are being developed by substituting synthetic/chemical antimicrobial agents with the microbiome-based atmosphere and by developing models and tools for predicting and controlling shelf life.

The main objective of this call is to foster the adoption of innovative biodegradable materials tailored to Mediterranean food systems, to prevent food spoilage with safer, more

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environmentally friendly alternatives to plastic packaging, contributing substantially to the [EU Plastics Strategy](#), the [Waste Framework Directive](#) and the [Circular Economy Action Plan](#).

Scope

Proposals should explore novel, cost-competitive and versatile biodegradable food packaging and coatings materials with adequate functionalities to control the packaging atmosphere and prevent food spoilage while causing no environmental damage.

Proposals should demonstrate bioplastics and/or coatings and/or bio-composites for food packaging and determine their potential environmental impact and economic feasibility compared with conventional products. Microbiome solutions could also be explored to get a more predictable and sufficient shelf life for food products in substitution for anti-microbial chemical agents.

The innovative biodegradable and microbiome-based packaging materials must be tailored for different traditional Mediterranean food categories and processing techniques and technologies (e.g. raw, cooking, fermentation, dehydration...) with better consumer safety features aligned with relevant standards.

Cost-effective and user-friendly ICT-based solutions integrated into the innovative food packaging materials can be considered to reduce waste and improve the efficiency of the food supply chains at local and regional levels by providing consumers and supply-chain actors with relevant information on storage and transportation conditions, supervising the quality of the food products.

Sound business models that benefit all actors along the value chains and maximise gains from biomass valorisation, protecting biodiversity and the environment while securing food products and food systems, would be desirable.

Proposals should establish local sustainability-oriented bio-based value chains and demonstrate their replicability in the Mediterranean region with low bio-economy activities.

Proposals should also include considerations about the safety of consumers of the targeted final application for the developed packaging solutions and validate their market acceptance.

Applications should fall under the multi-actor approach, with active engagement and communication with relevant stakeholders, end-users, and the food systems (producers, retailers, groceries, households, and chefs).

Where appropriate, PRIMA projects selected under this call should contribute to the [PRIMA WEF Community of practice](#) through networking of selected demonstration sites, knowledge-sharing and capacity building.

Due to the specific challenge of this topic, and in line with our principles of allowing maximum participation from Southern Mediterranean Countries to foster both North-South and South-South cooperation, the following additional eligibility criteria apply: “In addition to the minimum number of participants set out in the standard eligibility conditions (section 5.1.3), consortia must include at least one independent legal entity established in any of the MPCs⁵.”

⁵ Mediterranean Partner Countries (MPC) are considered the Third Countries associated to Horizon 2020 (AC): Israel, Tunisia, and Turkey and the Third Countries (TC) having concluded international agreements for scientific and technological cooperation setting out the terms and conditions of their participation in PRIMA: Algeria, Egypt, Jordan, Lebanon and Morocco

Expected impacts

- Introduce new environmentally-friendly techniques to reduce food waste:
- Demonstrate the efficacy of bio-based materials for packaging to improve food safety and reduce food waste that meets market requirements.
- Reduce the need for chemical treatments by using agricultural by-products and control pathogenic bacteria while preserving food's nutritive and organoleptic properties.
- Job creation and job retention activities with equal gender opportunities.

Key Performance Indicators

Please provide specific KPIs to measure the outcomes of the project.

For this, you may refer to the [Strategic Research and Innovation Agenda](#). Please also note that the below list is not exhaustive and consortia are free to propose other KPIs.

- Number of newly designed food products with enhanced shelf-life, quality and health-related beneficial properties
- Number of developed Innovative bio-based materials from packaging to improve food safety and reduce food waste meeting market requirements
- Number of jobs created/retained with equal gender opportunities

Contributions to EU Policies, Mission, and Partnerships

The proposal should indicate linkages to relevant EU policies and objectives in the context of the European Green Deal and relevant [EU Missions and Partnerships](#)

Contributions to Sustainable Development Goals

The proposals should indicate their contribution to relevant SDGs and methodology to contribute to reporting SDG indicators.

Supporting Information for the Section 2 Call for Proposals

Type of action	Research & Innovation Activities (RIA * ⁶)
The total indicative amount allocated to this call	EUR 36 132 500
Funding level	Depending on National Regulations
Budget and duration of grants	PRIMA considers that proposals requesting a contribution of at least EUR 1.5 million and with a duration of 36 months would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submitting and selecting proposals requesting other amounts or duration, following national regulations.
TRL	Proposals should clearly state the starting and end TRLs of the key technology or technologies targeted in the project.
Standard eligibility conditions for participation	Please refer to section 5.1.1 of the PRIMA Annual Work Plan 2023 (AWP2023) for the list of countries eligible for funding.
Specific additional requirements for the 2023 Calls	<p><i>Due to the specific challenge of these topics, and in line with our principles of allowing maximum participation from Southern Mediterranean Countries to foster both North-South and South-South cooperation, the following additional eligibility criteria apply:</i></p> <p><i>"In addition to the minimum number of participants (3 legal entities) set out in the standard eligibility conditions (mentioned above), consortia must include at least one additional independent legal entity established in any of the MPC.</i></p> <p><i>So the eligibility rules can be read as follows:</i></p> <p>At least four legal entities established in three different countries considered as PRIMA Participating States, out of which:</p> <ul style="list-style-type: none"> -at least one must be established in an EU Member State or a third country associated with Horizon 2020 and not being an MPC -at least two must be established in third country/countries bordering the Mediterranean Sea (MPC): Algeria, Jordan, Israel, Tunisia, Morocco, Lebanon, Egypt, Turkey." <p>Examples:</p> <p>Germany-Greece-Morocco-Turkey is eligible Germany-Greece-Morocco entity 1-Morocco entity 2 is eligible Germany entity 1-Germany entity 2-Greece-Morocco IS NOT ELIGIBLE, lack of the 4th partner from a MPC France-Algeria-Egypt is NOT ELIGIBLE, lack a 4th partner that can be from a MPC OR from a EU PRIMA PS</p>

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Submission and evaluation procedure	<p>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.</p> <p>Successful applicants in the first step will be invited to the second step to submit a full proposal (maximum 50 pages).</p> <p>A timeline for submitting and evaluating applications can be found in Table 9 of the AWP2023.</p>
Grant agreement	<p>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 AWP2023).</p> <p>The coordinator of the project has to decide with his/her partners of a common starting date and send this information to all the funding bodies involved in funding this project in order to ensure that the national <u>grant agreements</u> are <u>synchronized</u> in time to cover all the period of the project.</p>
Consortium agreement	<p>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 agreements, so it is necessary to refer to the national regulations and draft the <u>consortium agreement</u> accordingly (section 5.2.11 of AWP2023)</p>