

## **PRIMA – SECTION 2**

### ***Topic 2.1.1 (RIA) Low-cost, lean solutions for enhancing irrigation efficiency of smallholder farmers***

**Advised budget for proposals: not less than €1 Million**

**Submission deadline**

**Stage 1: 15th April 2020. 17:00h CET**

**Stage 2: 16th September 2020. 17:00h CET**

#### **01. Focus and profile of the projects**

**SRIA priority addressed: 1.3 Irrigation technologies and practices**

To improve irrigation water productivity while minimizing the possible environmental risks associated with irrigation also considering aspects related with the efficient use of energy in pressurized irrigation networks.

**Link to SRIA:** [http://prima-med.org/wp-content/uploads/2018/02/PRIMA-SRIA\\_Strategic-Research-and-Innovation-Agenda.pdf](http://prima-med.org/wp-content/uploads/2018/02/PRIMA-SRIA_Strategic-Research-and-Innovation-Agenda.pdf)

**Types of action:** Innovation Action (RIA)

**Funding level:** Depending on National Regulations (check the 2019 while waiting for the 2020 ones: <http://prima-med.org/wp-content/uploads/2019/01/National-Regulations-2019-v5.pdf> )

**Technology Readiness levels (TRL):** TRL 3-5

**Duration of the projects:** from 36 months to 48 months

**Submission and evaluation procedure:** Two-stage application procedure. For the first stage, a short proposal (maximum 10 pages) must be submitted by the first deadline. Successful applicants in the first stage will be invited to the second stage to submit a full proposal (maximum 50 pages).

#### **02. List of countries, Consortium conditions, Proposal template and Orientation paper**

**EU Countries:** Croatia, Cyprus, France, Germany, Greece, Italy, Luxembourg, Malta, Portugal, Spain, Slovenia.

**Non-EU Countries:** Israel, Tunisia, Turkey, Algeria, Jordan, Egypt, Lebanon and Morocco.

**Consortium** must present at least three legal entities from three different countries, being at least one EU country and one non-EU country.

**Stage 1 proposals templates** (beware, 2019 templates. Check the web page for update):

- Administrative aspects: <http://prima-med.org/wp-content/uploads/2018/12/PRIMA-Pre-proposal-Template-PART-I-RIA-and-IA-2019.docx>
- Technical aspects: <http://prima-med.org/wp-content/uploads/2018/12/PRIMA-Pre-proposal-Template-PART-II-RIA-and-IA-2019.docx>

**Orientation paper Calls 2020:** Very similar to H2020 in terms of kind of actions, funding schemes, participant's eligibility, evaluation criteria, etc. <http://prima-med.org/wp-content/uploads/2020/01/Orientation-Paper-calls-2020.pdf>

**Reference documents** (pending updated 2020 call for proposal specific documents):  
<http://prima-med.org/calls-for-proposals/reference-documents/>

### 03. Challenge

Population growth and changing food consumption patterns are expected to lead to a big increase of food production, part of which would need to be covered through higher crop yields and greater crop intensity given limited scope for agricultural land expansion. Widening the use of efficient irrigation technologies and practices among small farmers is key to increase yields in a sustainable manner.

A lot of progress has been made in irrigation water methods and systems leading to enhanced efficiency of water use at large field scale. However, adoption of solutions enhancing irrigation efficiency has not reached the small holder farmers, primarily due to the high initial cost and high skills requested to master the technology. Efforts are needed to develop/adapt existing high-cost, high-tech solutions into low-cost, lean solutions for enhancing the irrigation efficiency, optimisation of natural resources use and income at the scale of smallholder farmers.

### 04. Scope

Research projects must develop feasible, low cost and lean technologies (or adapt already existing ones) that can enhance water efficiency at the level of smallholder farms. More specifically, technology and solutions should help Mediterranean farmers increase yields and crop quality, allow water savings and higher efficiency in the use of water, while taking into account the specificities of the agro-ecological and socio-economic contexts as well as the operation of the upstream wastewater treatment system. Efficient irrigation solutions should also help farming systems achieve better food security, sustained production and income and improvements in the living standards of small farmers. Proposals shall also take into consideration irrigation systems with sustainable and low cost systems for water harvesting. Proposals should encompass a participatory approach: farmers should be involved through demonstrations and capacity building actions, so that they can familiarise with the proposed technologies, tools and practices, assess them, adjust to their operational aspects and subsequently adopt them.

The proposed solutions should enhance farmers' knowledge of benefits and costs of water use for farming, while strengthening cooperation among them to achieve sustainable management of water resources. Involvement of decision-makers, water resource and irrigation planners/ scheme managers should also be sought to create synergies where possible, and inform sectoral policies, schemes and governance frameworks through the demonstration of best practices (bottom-up approach). Technical, agricultural (local customs in crop production and land use), social (social norms, as well as gender issues), climatic (variability in rainfall and temperatures, impact on crop production) and environmental (consequences of increased water use by irrigation) aspects should be analysed holistically to ensure that the proposed irrigation technologies are well tailored for the specificities of the context, as well as to guarantee their long-term viability.

Since lack of access to finance is often a constraint faced by small-scale farmers, the financial sustainability of the proposed irrigation solutions should be carefully considered, by assessing aspects like the investment, operational and maintenance costs (energy, labour), as well as the cost of agricultural inputs (seeds, fertilizer, pesticides, machinery). The market value of the produce and the possibility for farmers to access credit and markets should also be considered.

## 05. Expected impact

The project results are also expected to contribute to:

- Number and efficiency performance of new irrigation technologies to achieve optimal crop yields, while ensuring water safety and security (water quality and quantity);
- Strengthening capacities of small-scale farmers to support transition towards the use of more efficient and effective irrigation options
- Establishment of possible synergies with public authorities, as well as non-governmental actors (NGOs, private sector), to create the necessary policy/regulatory framework to support small-holder farming;
- Increase profitability of irrigation as an economic activity which can generate sustainable income for local farmers and help recover equipment costs, while decreasing use of resource inputs use (less water used to grow more higher-value crops) to preserve environmental sustainability.

## 06. Key Performance Indicators

- Number and efficiency performance of new irrigation technologies and scheduling protocols and models.
- SDG#6: indicator 6.4.1 Change in water-use efficiency over time