

# The Irrigation advisory systems and information and communication technologies

ARGENTINA / NICARAGUA / URUGUAY / HOLLAND / SPAIN



 Webstory



## The technological solution

The water balance of crops in real time, using various sources and platforms, will provide answers to decision-making on irrigation scheduling. The innovations will be adapted to the particularities of family agriculture.



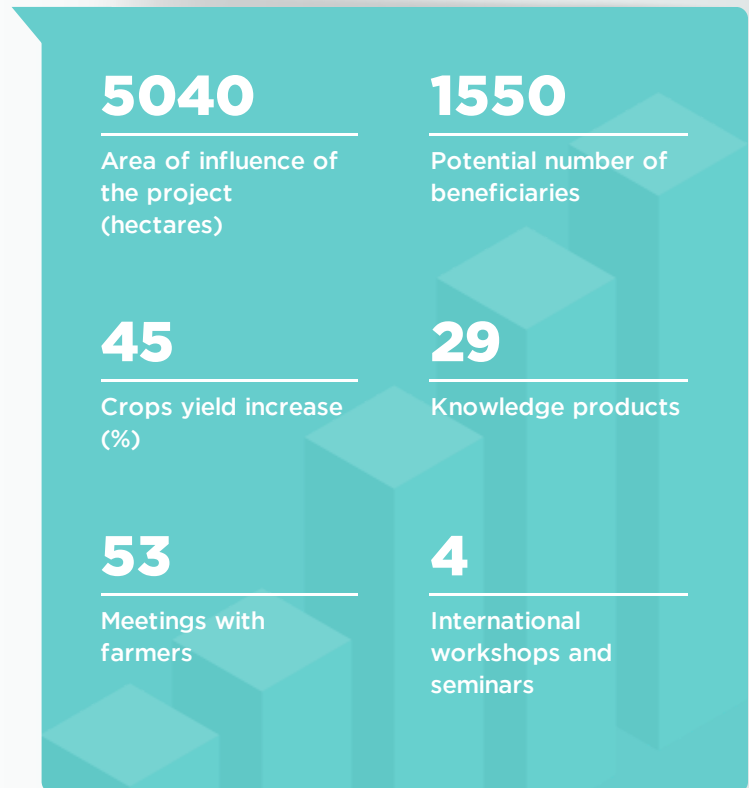
## Description

The general objective of the project is to generate a study to identify how to reduce the yield gap of selected crops, by using irrigation schedules adjusted to the water requirements.



## Results

The main result of the project is the development of the Irrigation Advisory Service (SAR) platform, which provides an answer to the two basic questions of irrigation scheduling: *when and how much to irrigate?* The SAR shows, graphically and numerically, the soil water availability. When the soil water content falls below a threshold (which mainly depends on the crop and the soil type), the irrigation alert is given. The SAR has been tested on alfalfa, cotton, strawberry, tomato, pepper and bean. Preliminary results show that adjusted irrigation schedules significantly increases crop yields: alfalfa 33%, cotton 67%, pepper 65%, strawberry 52%, beans 22% and tomato 62%. Complementary results of the project are: a) strengthening agrometeorological information networks through the installation of 6 automatic weather stations, 5 having online access; b) the use of satellite images for soil moisture estimation through algorithms, using predictor variables, such as bulk density and texture of soil, and spectral indices; c) the bases for scaling up the project were established and its results were communicated through reports, workshops, meetings and seminars.

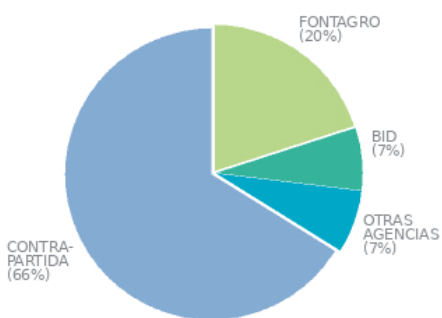


ABOUT FONTAGRO

FONTAGRO is a unique cooperation mechanism for agricultural innovation in Latin America and the Caribbean (ALC) and Spain, that works through regional platforms. It is composed of 15 countries that have contributed capital exceeding 100 million dollars and the Inter-American Development Bank (IDB), which is its legal representative.

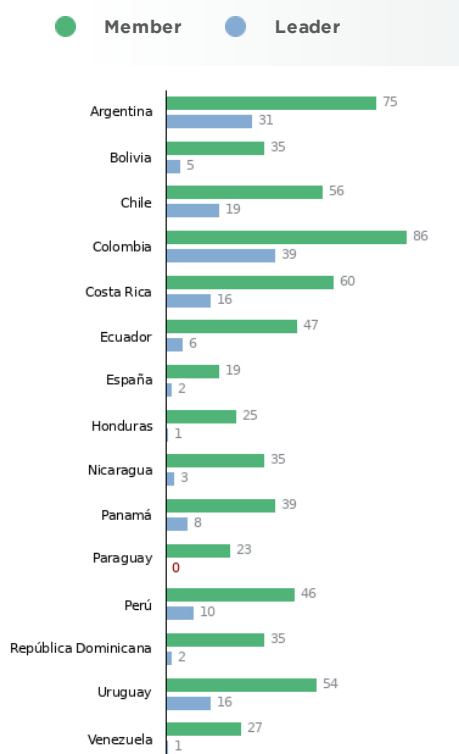


ORIGIN OF RESOURCES



- **Counterpart contribution**  
93.177.555
- **FONTAGRO**  
28.989.468
- **IDB**  
9.922.700
- **Other agencies**  
9.809.078

PARTICIPATION AND ROLE IN CONSORTIUMS SINCE 1998



FONTAGRO IN NUMBERS

**193** Number of projects approved

**141.9** Approved total amount US\$  
MILLONES

**9.8** Contribution from other agencies  
MILLONES

**32** Benefited countries

**63** Generated technologies

**15** New technologies for ALC

**8** Technology of global relevance

MEMBER COUNTRIES

- |            |                    |           |          |
|------------|--------------------|-----------|----------|
| Argentina  | Bolivia            | Chile     | Colombia |
| Costa Rica | Dominican Republic | Ecuador   | Honduras |
| Nicaragua  | Panama             | Paraguay  | Peru     |
| Spain      | Uruguay            | Venezuela |          |