

Incentives for collective reservoirs

A group of farmers builds a water reservoir benefiting of support by the CAP through the Rural Development Plan. The support is conditional on the creation of a consortium composed by a minimum number of farmers.



Summary

The measure has been programmed in the RDP since the 2007 - 2013 and supports the construction of collective small-medium irrigation reservoirs. The objective is two-fold: 1) to ensure a stable water supply for the agricultural sector, and 2) to reduce the pressure on groundwater resources. The largest share of reservoirs have been built in the hilly area of the Ravenna province, an area characterized by water scarcity. The construction of the reservoirs hence lessens the potential trade-offs and conflicts among water use (e.g. irrigation and human consumption) while supporting a vibrant rural economy. Simply forbidding irrigation would create an unbearable burden on the area. The support is in the form of partial coverage of construction costs and it is granted if the candidate projects involve a minimum number of farmers and/or water stored (even though the thresholds have changed over the years). In the Ravenna province there is the largest number of measure applicants. In such an area the Consorzio di Bonifica della Romagna Occidentale (Land Reclamation Board of Western Romagna) has proved a key actor in the management of such projects, coordinating farmers demand and providing technical assistances.

Objectives

1. To ensure a stable water supply for the agricultural sector
2. To reduce the pressure on groundwater resources.

Problem description

The measure has the double objective of ensure a stable water supply for the agricultural sector, and at the same time the reduction of groundwater consumption.

Data and Facts - Contract

Participation: In the 2007-2013 there were 249 farmers involved in the Ravenna province, storing a total of 774,000 m³ of water. In the programming period 2014-2020, the projects managed by the Consorzio di Bonifica della Romagna Occidentale involved 320 landowners, storing a maximum of about 1 million mc of water, and about 200 km² of pipe networks. Landowners co-financed the projects with about 6 million euros.

Involved parties: Farmers send the application, but the consortium is the real link both between the region and farmers and also among farmers.

The benefits for the farmers: Farmers have two benefits: firstly, the increasing amount of water available; secondly, stabilizing water availability, being less vulnerable to precipitation variability. The reservoir acts as a buffer. The water that the single participant can get is bound to the surface of the cultivated area.

Management requirements for farmers: There is a minimum number of farmers involved (in the RDP 2007-2013) and a minimum (100,000 m³) and a maximum (250,000 m³) for the reservoir capacity.

Controls/monitoring: There are no controls.

Risk/uncertainties of participants: Despite the regional funding the cost are high. It is an investment often made but it is risky indeed. The profitability for farmers depends on their production and on the market price.

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COLLECTIVE



Water reservoir - consortium

PUBLIC GOODS



Water quantity

INDIRECT EFFECTS

Indirect effects on rural viability and vitality

LOCATION

ITALY



Ravenna province, it's an area of the Consorzio di Bonifica della Romagna Occidentale (Land Reclamation Board of Western Romagna).

PARTICIPATION

249 farmers are involved in this contract solution (2007-2013)

CONTRACT

Public- private contract



Contract conclusion:
Written agreement



Payment mechanism:
Investment support



Length of participation in scheme:
one-shot, it's an investment.

Start of the program:
2007

Financing party:
Government (with EU-funding)



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Context features

Landscape and climate: The mountain and hilly area of western Romagna has semi-arid climatic conditions. Fruit production is the main farm specialization. The reservoirs were built in this area which implied more complicated works, in order to overcome the height differences from the water supply to the farm. 7% of the irrigated area in the case study region is served by reservoirs, which is considerably higher than the average share served by reservoirs in the hilly areas of E-R (2%) (ISTAT 2010). The importance of irrigation in the case study area is suggested by observing how, in the period 1982–2010, the share of irrigated areas over the total utilised agricultural area has remained steady at the regional level (around 10%), but has increased markedly from 2% to 16% in the hilly part of the Province of Ravenna (ISTAT 2010).

Funding and Payments: EU is the funding organization through the regional (in Italy) Rural Development Plans.

Targets to receive the payments:

- construction / expansion of irrigation reservoirs,
- works for water distribution,
- other adjustments such as gates, ladders, signs, etc,
- improvement of a water network systems for water distribution;
- intangible investments such as software to help the logistic part (maximum 10% of the investment).

Farmers will receive the payment directly. The support is the 60% of the project, from a minimum of 100.000€ to a maximum of 1.200.000€.

SUCCESS OR FAILURE?



It is a success, high adhesion rate, and it helps the farmers on having more stability on the water issue.

SWOT analysis



Main external factors influencing success

Political/governance, economic/market, social, technological, legal and environmental factors can all have a strong impact on the success of contract solutions. In this case study an in-depth analysis found that the following, selected factors were of specific importance.



AECPG losses in production systems have negative effects: Climate and climate change affecting water availability:

The main environmental variable of concern in this contract solutions is climate and climate change, especially in relation to water availability.

- A **reduction in precipitation levels** has been observed since the beginning of the 20th century and an **increase in min. and max. temperatures** since the 1950s (Cervi and Nistor 2018).
- Moreover, in the last decade, severe **droughts** have hit the region with substantial effects on agricultural activities (Cervi et al. 2018).
- Stability of water supply is necessary to ensure the cultivation of high value crops (fruits) and hence for the survival of a vibrant and export-oriented rural economy.

Existing local institutions as key success factor:

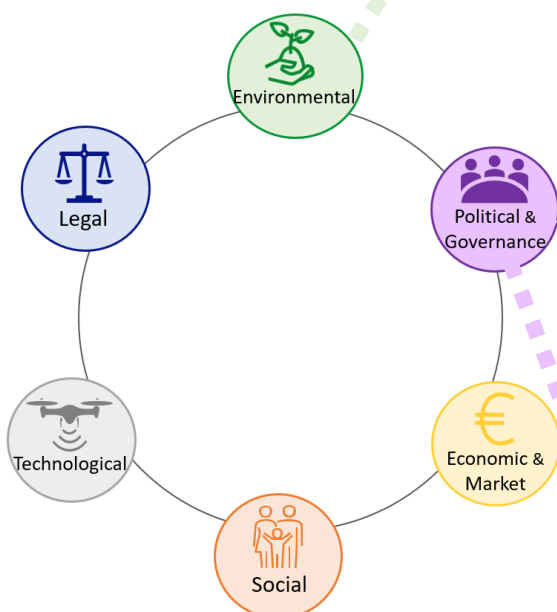
Local institutions are key in the success of the response to a measure that is otherwise targeting the whole region.

The great majority of the projects applying to the measure were developed in collaboration with the CBRO that works as a bridge institution both:

↕ vertically (between farmers and the regional administration) and

↔ horizontally (among farmers).

High trusts on the Consorzio has been reached through lengthy participatory process toward planning and designs of reservoirs.



Developments within the European Common Agricultural Policy:

The general framework of the CAP is the most relevant policy basis for agriculture in Europe, hereby particularly the Rural Development Programs with their individual national AES are mentioned.

Particularly for collective approaches such as the collective reservoirs, the aim to develop and elaborate of national RDPs towards more acceptable and innovative approaches were the main driver for initiation and implementation.

References:

Cervi, F., and M.M. Nistor. 2018. "High Resolution of Water Availability for Emilia-Romagna Region over 1961–2015." *Advances in Meteorology*. Available at: <https://www.hindawi.com/journals/amete/2018/2489758/> [Accessed February 19, 2020].

Cervi, F., F. Petronici, A. Castellarin, M. Marcaccio, A. Bertolini, and L. Borgatti. 2018. "Climate-change potential effects on the hydrological regime of freshwater springs in the Italian Northern Apennines." *Science of The Total Environment* 622–623:337–348.