

## SPAIN

# Climate change adaptation

### Location

Salamanca, Toledo and  
Guadalajara

### Programming period

2014 – 2020

### Priority

P3 – Food chain & risk  
management

### Measure

M16 - Cooperation

### Funding (EUR)

Total budget 509 019.20  
EAFRD 407 215.36  
National/Reg. 101 803.84

### Project duration

2018-2020

### Project promoter\*

Agencia Estatal Consejo  
Superior de  
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### Website

<http://pionerosecologicos.net/>

Knowledge exchange network established to foster multi-actor collaboration and sharing around organic agriculture.

## Summary

ECOPIONET is an EIP-AGRI Operational Group that introduces an innovative knowledge exchange methodology based on building a network of actors in the field of dryland organic farming. The network includes farmers, scientists and researchers to improve the actors' knowledge of agroecosystems, new technologies, farm management and commercialisation. It supports farmers to increase their farm profitability whilst simultaneously promoting organic and/or more environmentally-friendly practices that protect the environment and increase the farmers' capacity to adapt to climate change.



The project was developed in the dryland cereal areas in Spain's interior (Salamanca, Toledo and Guadalajara), where production has been abandoned massively for different reasons, including climate change. As a result the viability of many farms has been compromised. ECOPIONET promotes organic farming practices, conversion and marketing, as these systems allow for greater adaptation to climate change and provide the tools for farm businesses to increase profitability. Organic farming practices help secure the farms' economic sustainability and guarantee their viability over time. The network establishes a knowledge exchange system where various actors (farmers, researchers, technicians, industry representatives) share their knowledge and viewpoints to support climate adaptation.

## Results

A knowledge sharing network has been successfully established between farmers researchers, scientists, industry representatives, technical advisors and associations engaged in organic farming. The structure and activities of the network have created a dynamic flow of information amongst the actors ranging from practical experience and knowledge to scientific findings from formal trials. This approach has given rise to producer organisations and associations promoting organic production, empowering farmers through solutions and insights into best practices, value-added strategies, and enhanced capacity to improve their environmental impacts from production and adapt to climate change.

## Lessons and recommendations:

- ❑ An effective collaboration amongst different actors requires knowledge, experience and ideas to flow multi-directionally within the network and their contribution to the process must be recognised and valued
- ❑ Building capacity amongst technical advisors as well as farmers new to organic production or interested in methods to enhance the sustainability of their operations allows for a broad influence and transition within the sector rather than simply enhancing the organic operations that already exist.

\* The Project promoter/beneficiary is an EIP-AGRI Operational Group (<https://ec.europa.eu/eip/agriculture/en>)

## Context

The lack of farm profitability due to factors such as the price of inputs, costs of production or climate change is resulting in the abandonment of farming and the depopulation of rural, cereal-producing areas in Spain's interior. At the same time, the lack of efficiency in the use of inputs combined with drought conditions and increasingly frequent torrential rains has contributed to soil quality degradation and leaching into aquifers.

Organic farming systems have a greater capacity to adapt to climate change compared to conventional agriculture as they improve soil quality by allowing for higher levels of soil organic matter and higher levels of carbon retained in the soil. By enhancing soil structure and quality, organic farming practices such as integrating crop rotations and cover cropping also reduce the risk of erosion and contribute to improve water use efficiency. This allows for increased permeability, infiltration and water retention capacity due to the higher soil organic matter content. In severe drought conditions, which are expected to increase with climate change in many areas, organically managed farms demonstrate higher yields than conventional ones.

Organic production models also generate less nitrate and phosphorus pollution. This contributes to the reduction of water eutrophication phenomena and hypoxia, while not using pesticides helps reduce their appearance in aquifers. Organic systems therefore tend to be more energy efficient than their conventional equivalents. They consume less energy per unit of production area by eliminating synthetic fertilisers and the energy costs involved with their use (manufacturing, transportation, application).

Consequently, organic farmers are less exposed to the volatility of input prices. By reducing production costs and increasing the productive stability in a climate change scenario organic farmers are less at risk than traditional farmers. The organic market, which continues to grow, provides farmers with the opportunity to achieve value-added prices for their products and increases their competitiveness.

Despite this, the area used for organic production is still small, suggesting that knowledge transfer methods used so far have not been sufficient.

## Objectives

The overall objective of the Operational Group is to achieve greater supply chain connection in the sector and ensure farm profitability, through the promotion of organic production practices, enhancing the agroecosystem's resilience against climate change.

To this end, the Operational Group aims to create a knowledge exchange network connecting organic farmers, advisers, researchers, food industry and consumers. The network will:

- Integrate knowledge and information from actors from various fields that promotes the protection, enhancement and management of the rural environment.
- Establish a knowledge exchange model that can benefit farmers starting the conversion to organic farming as well as those who are already producing organically.
- Provide a knowledge platform accessible to those practicing conventional agriculture who want to improve their knowledge about agroecosystems and organic production.
- Facilitate exchange around new technologies, farm management and commercialisation of organic agriculture to improve farm profitability.

## Activities

1. Creation of a multidisciplinary knowledge exchange network composed of farmers who have initiated the change to organic farming or are in the conversion period (labelled "Pioneers"), farmers already producing organically and offering support to the Pioneers (called the "Tutors"), advisers and technicians with knowledge in production, management and commercialisation, and researchers responsible for experimental farms.
2. Organisation of specific training for technical advisors across Spain on advanced organic farming concepts.
3. Continuous individual advice for Pioneer farmers about production, administrative tasks (certification and subsidies) and commercialisation. The technical advisors visit the pilot plots of each Pioneer, collecting data to analyse the initial starting point of each one independently. These pilot plots are very important as they allow other farmers in the area (referred to as Neighbours) to see the process they undergo when transitioning to organic production.
4. The training of Pioneers, key to the success of the project, is provided through periodic courses, also focusing on the marketing of organic production. The training aims to provide farmers with an understanding and appropriate knowledge on the interactions of the key factors involved in the agricultural activity (climate, soil, microorganisms, production methods, etc.) to enable them to achieve maximum profitability without the use of synthetic chemicals.

5. Tutorials: individual meetings of Tutors and Pioneers are promoted to allow for a more tailored technical support.

6. Technical workshops are held, addressed to Pioneers, Tutors, as well as to interested farmers and other stakeholders.

7. Demonstration trials on experimental farms are carried out to generate knowledge about agroecosystem functions and organic farming.

8. A website has been developed to ensure the dissemination of the project outcomes and the further interaction with other farmers beyond the network and target region. Also project profiles on social networks were created. Through these channels farmers share their queries and experiences, generating feedback loops in both directions with farmers from the region and farther afield.

9. A final report (in English and Spanish) with conclusions and recommendations will be prepared at the conclusion of the project, so that other interested parties can implement this knowledge transfer system.

10. Further dissemination of project related information has been ensured through article published through other media channels and through the participation in fairs (BioFach in Nuremberg, Germany and Salamanca, Spain). Final dissemination conferences will also be organised.

### Main results

- 25 Pioneer farmers have successfully become organic producers, acquiring the necessary knowledge to effectively implement organic production measures and commercialise the production to guarantee the future sustainability of the activity.
- Larger amounts of land are now under organic management with the resulting environmental benefits: reduced erosion risk, biodiversity increase, energy efficiency, reduced groundwater pollution, a more efficient use of water resources, etc.
- Tutors as well as other farmers in the neighbourhood have benefitted from the information and experiences generated in this network to improve the profitability and sustainability of their farms.
- Improvement of the advisory services provided by the five participating Professional Agricultural Organisations, whose technicians can now rely also on the data and results collected through the tests carried out by the project in the experimental farms.
- Through the network and its activities, the research

centres have been brought closer to the producers, helping researchers understand farmers' concerns and interests; and producers to approach the research centres and break the existing barrier between those carrying out the practices and those researching different ideas and methods.

- The network led to the creation of a Producers Organisation for organic crops, key to achieving greater margins for the production.
- In parallel a producer association for the marketing of the organic production was also created, to increase members' power in the food chain.

Additional results expected in the longer-run, after the project conclusion:

- The Operational Group will enable many more farms, whose current profitability is seriously compromised, to continue operating by diversifying and re-orientating their production towards high value-added products responding to a growing demand in the market. It is estimated that Pioneer farmers will be able to improve their net margin per hectare by 20-30%.
- Thanks to the training provided and the promoted collaboration between the different actors of the food chain, the project will also allow for better coordination of organic products offered to meet customer needs, also shortening supply chains.

### Key lessons

- The knowledge-sharing network design on which ECOPIONET is based proved to be very efficient and dynamic, benefiting all the network members. This model of connecting various actors is scalable and transferable to other sectors.
- Through the network, technical advisors and researchers can provide better and tailored services, responding to the needs of farm holdings and specific sectors.
- The creation of producer organisations and associations contributes to improved farm financial performance by providing farmers with greater collective bargaining power and the ability to negotiate higher prices for their products as well as cost savings from potentially being able to skip intermediary actors and shorten the supply chain.
- Adding value to the sector and providing viable livelihoods from farming also help facilitate generational renewal in areas suffering from rural depopulation.

### Additional sources of information

n/a

\*This project has been categorised under 'Climate change adaptation by the nominating National Rural Network