Peer review
Interreg Europe Policy Learning Platform

Digitalisation of agri-food and forestry sectors in depopulated areas

FINAL REPORT

Peer Review hosted by
Government of Aragon – Instituto Aragones de Fomento

Dates: 23rd, 24th 29th September 2020
1. Host of the peer review

This peer review was hosted by the Regional Development Agency (IAF) of the Government of Aragon.

IAF is the public regional development agency, linked to Industry Competitiveness and Business Development Department of the Government of Aragon (Spain). It aims to become an agile and efficient instrument that acts as a promoter and recipient of plans and activities that contribute to the integrated development of the region. The agency supports the socioeconomic development of Aragón through investment projects, with special emphasis on less developed areas. To this end, it may grant guarantees, loans, participate in their shareholding, promote the entry of other financial partners, monitor and support the management and development of projects.

Another mission of IAF is to enhance the increase and consolidation of employment. That objective is achieved through the promotion of industrial infrastructure, equipment and collective services for companies (specially for SMEs and cooperative societies) apart from technical assistance and financial advice. Also, it supports business location and consolidation in Aragon, as well as fundraising, through the creation of start-ups or participation in existing ones.

IAF is compromised with fixing intra-territorial imbalances through the study of the possibilities of endogenous development in the Aragonese regions and the viability of new settlements according to the new social needs, as well as the necessary impulse for its implementation.

In Aragon, depopulation is a problem leading regional imbalances. Some initiatives driven by IAF like Red ARCE (Aragonese Network of Entrepreneurship Centers) seek to exploit the potential of emerging businesses, experience and present contacts in the Aragonese market as an horizontal model of articulation and collective knowledge. This network is defined as a space for connectivity, information and management of regional entrepreneurship and knowledge creation among entrepreneurs throughout the territory. On the other hand, IAF, together with the Leader AGUJAMA and OMEZYMA groups, organizes the Programa de Emprendimiento Rural Sostenible (Sustainable Entrepreneurship Rural Programme) to promote entrepreneurial culture and support the revitalization of business activities in consonance with the possibilities and resources of the territory linked to these associations (Matarraña, Bajo Aragón, Maestrazgo and Gudar-Javalambre). Finally, IAF and other Aragonese agencies have developed the Programa Emprendimiento Agroalimentario (Agri-food Entrepreneurship Program) to foster R&D in such
an important sector in the Southwest of Europe and that, however, counts with a low participation in R&D programs.

2. Motivation of the host to call for the peer review

The region of Aragon has experienced a negative growth in population since 1990. Specifically, the province of Teruel is the most impacted case with 50% of reduction in population in relation to levels in 1910 and 22 municipalities without people below the age of 18.

Thus, in 2017, it was approved the Directriz de Ordenación Territorial de Política Demográfica y contra la Despoblación6 (Directive on Territorial Planning for Demography Policies and against Depopulation) to tackle this problem. Entrepreneurship and SME creation oriented to innovation are top priorities in this Directive.

To address this challenge, IAF is focusing on key enabling technologies and ICT including digitalization and upgrading of traditional economic sectors such as agri-food or forestry.

However, the stimulation of business around these opportunities requires the implementation of well-defined measures.

The main goal in participating at the Policy Learning Service is to receive advice from other regional and local governments across Europe dealing with depopulation regarding the improvement and implementation of this measures.

3. Focus areas of the peer review

The host selected the following areas in which the analysis of the peer will focus:

a) Development of local competences and capacity for training and analysis of business models of agri-food or forestry sector digitalization, TIC, KET implementation

Current situation: IAF Training is a tool offered by the IAF for entrepreneurs mentoring. Nevertheless, it is too focused on the business development, management, funding... Therefore, it is needed some technical specialization for the development of businesses models of ICT,
Industry 4.0 and KET for agri-food or forestry industries. Besides, the Aragon Digital Innovation Hub co-lead by IAF needs an approach to the rural environment businesses reality, especially regarding to some modernization gaps in the rural industries.

**Main Issues:** It would be interesting to add training for analysis of business models of agri-food or forestry sector digitalization, TIC, KET implementation... Peer's experience would be helpful to develop this specific training in a proper way.

Regarding to Aragon DIH, It should be include a training (complementary to IAF’s one) on technologies applied to agri-food business projects and to stablish a services portfolio of ICT, Industry 4.0 and KET applied to the agri-food sector.

**Questions to be answered by the peers:**

- How to increase expertise on agri-food sector digitalization, ICT, KET implementation and analysis of new business model?
- Are there any programs, courses, webinars specialized in these topics which have been proved to be successful?
- Are there any other Digital Innovation Hubs with success stories in digitalization in rural and depopulated areas?
- How do they work, organize trainings (seeing also complementarities with other organizations training) and offer their own service portfolio?
- Which technologies within Industry 4.0 (as a wide and complex term) are the most accessible (in technical and economic perspectives) to entrepreneurs and SMEs in rural and depopulated areas?

b) Implementing innovation actions related to the digitalization and modernization of agri-food and forestry sectors via TIC, IoT, KET, etc

**Current situation:** ARCE network is a network developed to foster entrepreneurship by offering guide and help to the region's entrepreneurs. However, its activity is lower than expected so its dynamization its key to turn it into a more useful tool.

**Main Issues:** It is necessary to develop a strategy for the dynamization of the network and activities which can be helpful to increase its visibility.
Questions to be answered by the peers:

- Which are the promotional strategies that the other regions are using to launch networks which are similar to ARCE?
- How to dynamize and transform this kind of networks in an useful tool?

c) Regional funding programs and EU funding for agri-food and forestry sectors supporting innovation in SMEs for digitalization and KET development in rural areas

Current situation: IAF and Teruel investment funds are useful financial support tools for the business development in the region. However, it is necessary to approach them to the rural reality and to focus them of their needs, especially in the modernization of agri-food and forestry sectors.

Main Issues: It will be studied the possibility of prioritising innovation actions related to the areas involved in the peer review (digitalization and modernization, via TIC, IoT or KET implementation, of the agri-food and forestry sectors) in the funding programs promoted in the region. Also, it will be stressed the interest on obtaining European projects of support to I+D and innovation in SMEs for digitalization and KET development in rural areas.

Questions to be answered by the peers:

- How do other regions manage funding on these areas (agri-food TIC and KET)?
- Which dedicated funding instruments have proven to be the most successful ones? For example, are tax benefits more useful than grants/loans for innovative projects?
- How could Aragon channel or attract EU funding related to support to R&D and innovation in SMEs for digitalization and KET development in rural areas?

d) Planning new ERDF objectives and actions for 2021-2027 and development of new Smart Specialization Strategy related to agri-food and forestry

Current situation: Aragonese Observatory for demographic and population dynamization is an organism dedicated to developing strategies to deal with the depopulation in Aragón. However, it lacks a more technical approach of some sectors and of the visibility between the population necessary to accomplish its objectives.
Main Issues: The project’s results will be shown here, so that they can be taken into account by other organisms in the future and help to guide the FEDER objectives of 2021-2027 and the new Specialization Strategy.

Questions to be answered by the peers:

- How do other regions report project results, so they can be interesting for EU initiatives like FEDER and RIS3 network?
- Which recommendations in terms of methodology could we use to report these results?

4. Participants to the peer review

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<th>List of Participants</th>
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<tr>
<td><strong>Government of Aragon – Aragones Institute of Development</strong></td>
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<tr>
<td>- Pilar Molinero, Managing Director</td>
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<td>- Fernando Fernández, European Projects Unit Manager</td>
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<td>- Joaquin Crespo Martin, Project Manager</td>
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<td><strong>Peers</strong></td>
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<tr>
<td>- Rodrigo Gomez, Head of ICT and Knowledge management department, Cesefor Foundation, Spain,</td>
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<td>- Marino Cavallo, Head of Research Innovation and Management of EU Projects, City of Bologna, Italy</td>
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<td>- Esteban Pelayo, Director, European Association of Development Agencies (EURADA), Belgium</td>
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<td><strong>Regional Stakeholders</strong></td>
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<td>- Javier Allué, Commissioner for the Demographic Challenge, Government of Aragon</td>
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<td>- Fermín Serrano, Commissioner for the Agenda 2030, Government of Aragon</td>
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<td>- Manuel Pérez Alconchel,, Cluster Manager, Aragon IT Cluster (TECNARA)</td>
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<td>- Vicente Pinilla, University Professor, University of Zaragoza</td>
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<td>- José Ignacio Domingo, Manager, Association of Food Industries of Aragon (AIAA)</td>
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<td>- María Martín, Business development, Aula Dei Scientific and Technological Park Foundation (PTCAD)</td>
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<td>- Bárbara Cerdán, European Project Manager, Teruel County Council</td>
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<td><strong>Interreg Europe Programme</strong></td>
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<td>- Ilaria Ramaglioni, Policy Officer</td>
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5. Peers’ recommendations

a) Development of local competences and capacity for training and analysis of business models of agri-food or forestry sector digitalization, TIC, KET implementation

Partnership building

- Set up events for the interaction of different stakeholders
- A powerful network that will create projects everyday is important.
  - Especially cross sectoral projects between technology, agriculture, livestock, and tourism could be implemented
- Promote a new concept of e-services, based on the multi channel delivery of services and the user-based interfaces
- Disseminate information about forestry and agriculture
- Use living labs to find new business models
- Living lab to define in innovative ways the business model for agri-food sector and the role of new technology. Set up events for the interaction of different kind of stakeholders: enterprises, associations, local authorities, informal actors of the territories.
- Create clusters of activities based on the traditional sectors of the economy and try to re-design the industrial process in these sectors in a new perspective, based on the application of these strategic drivers of innovation:
  - Promote the link between food quality, circular economy, blockchain technologies
  - IOT for smart logistics and optimization of the supply chain
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- use of the public investment leverage for the modernization and digitalization of the sector and the improvement of the digital skills of employees

The result will be a LAB DESIGN of R&D and Industrial priorities in Agri-food sector

### Good Practice Examples

**Madre project: Metropolitan Agriculture for Developing an innovative, sustainable and Responsible Economy.** The objectives achieved are:

- capitalization on good practices implemented at local and transnational level on MPA;
- paving the way for a technical and political empowerment of local food production networks of the 5 countries involved within the project (Italy, France, Spain, Albania, Greece);
- establishment/dissemination of a consolidated set of knowledge (technical, organizational, institutional) on urban agriculture at Mediterranean level;
- development of a transnational cluster of metropolitan agriculture stakeholders based on the quadruple helix model

MADRE in a spot: [https://www.youtube.com/watch?v=ej34N2IbQw8](https://www.youtube.com/watch?v=ej34N2IbQw8)

Project presentation: [https://www.youtube.com/watch?time_continue=214&v=4oAqcjN7-MM&feature=emb_logo](https://www.youtube.com/watch?time_continue=214&v=4oAqcjN7-MM&feature=emb_logo)

**SESAME Supporting Entrepreneurship and Agricultural Know-How in Metropolitan Areas:**

The main objective of the SESAME project is to promote the deployment of agricultural projects in urban and peri-urban areas of the partner countries through developing innovative training adapted to key players in the sector, taking into account the skills-based approach and the digital transition challenges. For this purpose, a professional training module will be created for students enrolled in vocational training courses in the different participating schools.

These initiatives will be implemented through microlearning training sessions on the challenges and opportunities for urban and peri-urban agriculture, and will foster new synergies between the students and the administrations in order to approach metropolitan agriculture with an enhanced cross-cutting vision. Website: [https://www.dropbox.com/s/ogjtll8x5e743d/SESAME_FUNC_01-05.mp4?dl=0](https://www.dropbox.com/s/ogjtll8x5e743d/SESAME_FUNC_01-05.mp4?dl=0)
Interreg Europe Policy Learning Platform policy brief on supporting rural enterprises: How to boost entrepreneurship in rural areas?

b) Implementing innovation actions related to the digitalization and modernization of agri-food and forestry sectors via TIC, IoT, KET, etc.

Technological solutions

- Transform information into knowledge (Data - Information - Knowledge - Know how)
- Digitize from the forest and trace - IOT information from the forest
- Build comprehensive traceability systems - trace product location, sales, etc.
- Match offer and demand in real time and make the sector maintain costs
- Bring to the forest solutions from other environments, e.g. parking solution example
- Link public procedures with landowners/ forest managers tools through cloud computing.
- Include users of the services and consumers in the EDP. Promote the power of the consumers to modify and adapt services to the needs. Involve these stakeholders in the initial phase of the process with access to the preparatory steps of the development of the sectorial S3 strategies.
- Promote a new concept of e-services, based on the multi channel delivery of services and the interfaces user based. The new services will be designed considering the different target of people and consumers.
- Promote open access database and free access to information and communication on the policies and information about the use of public funds for the different target of citizen and consumers. Give the users the possibility to modify information and to change priorities and components of the service.

Good Practice Examples

SINCE Project: SMEs of the Agri-Food chain in circular economy through the promotion of the appropriate managing and financial horizontal mechanisms. The project has identified as a good practice The Italian Circular Economy Stakeholder Platform (ICESP), promoted by ENEA as a mirror initiative and integrated with ECESP (European Circular Economy Stakeholder...
Platform). ICESP is a network whose goal is to create a national convergence on initiatives, experiences, criticalities and expectations on the circular economy that Italy should represent in Europe, promoting the “Italian way of making circular economy”.

Website: [https://www.interregeurope.eu/since-afc/](https://www.interregeurope.eu/since-afc/)

**Madre project: Metropolitan Agriculture for Developing an innovative, sustainable and Responsible Economy.** The territorial challenges and innovative actions of the project:

- ensure a sustainable and efficient management of land and water able to guarantee sufficient crop yields for producers;
- improve and promote local distribution and marketing areas by integrating short circuits in metropolitan planning;
- create large-scale networks of local food system and insert the MPA and territorial eco-innovation as strategic priorities in public policies;
- improve the rural-urban linkages and inclusion of vulnerable populations through agriculture;
- development of data base and information using ICT technology and communication tools;
- get back to the proximity between city and nature, between city and agriculture, between city and food.

MADRE in a spot: [https://www.youtube.com/watch?v=ej34N2iBQw8](https://www.youtube.com/watch?v=ej34N2iBQw8)

Project presentation: [https://www.youtube.com/watch?time_continue=214&v=4oAqcjN7-MM&feature=emb_logo](https://www.youtube.com/watch?time_continue=214&v=4oAqcjN7-MM&feature=emb_logo)

c) **Regional funding programs and EU funding for agri-food and forestry sectors supporting innovation in SMEs for digitalization and KET development in rural areas**

**Strengthen public-private partnerships in planning and implementation of ERDF measures**

- Use the capacity of the public organisations to reinforce territorial cooperation. Involve private sector actors in the planning phase.
- Currently there is a great opportunity as the programmes are being established. The EU recovery plan already approved provides immediate availability of resources.
Reinforce your projects of territorial cooperation to internationalise your stakeholders
Specific opportunities are:
- Initiative on Interregional Innovation Investment
- EIC’s Innovation Ecosystems for the Future of Europe
- Interreg Europe programmes
- INNOSUP calls in Horizon Europe

Use structural funds to improve infrastructure

- Mobilising private investments in infrastructure with public funds; using ERDF combined with, CEF and rural development programmes (EARDF)
  - Especially in 5G and fibre to increase bandwidth in rural areas
- Combine resources from ERDF with European Agriculture Fund for Rural Development (EAFRD) and European Social Fund (ESF) to support skills development
  - Ex. vocational centre and business incubator PISMO
- Some other measures to be considered:
  - Cross-sector digital service platforms
  - Services should address societal challenges such as climate change or the sustainable provision of food, biomass and energy.
  - Integrated in Platforms for Connected Smart Objects and Services
  - Go to actual proof of concept and validation

Deploy digitalisation support services in the whole territory

- Provide similar connectivity to the rural enterprises that currently urban enterprises enjoy. Help and connect local companies.
- Facilitate the development of ICT tools applied to public services in rural areas with targeted calls to companies in cooperation with public authorities; use challenges and cocreation approaches.
- The Aragonese Digital Innovation Hubs should be at the working distance of each company.
- Create antennas in established organisations in the depopulated areas.
- Mobilise existing support structures to leverage other ongoing initiatives and organise them as a network.
- Qualify and improve the overall quality of intermediaries measuring them by immediate impact.
- Rewards by results taking into account proactivity, innovative approaches and sustainability.
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- Connect rural digital support services with similar initiatives in Europe.

**Implement ecosystemic approach to design actions**

- Reinforce your projects of territorial cooperation to internationalise your stakeholders
  - IAF and other public entities as facilitator, involving local and regional actor directly in projects
  - Watch the evolution of the new interregional investment initiative; See public consultation open nowadays to design ERDF Work Program 2021-2027

- Update the capacity of the ICT network and develop services
  - Mobilising private investments in infrastructure with public funds; using ERDF, CEF and rural development programmes (EARDF)
  - The deployment needs similar capacities in rural and urban areas to facilitate use
  - Facilitate the development of ICT tools applied to public services in rural areas with targeted calls to companies in cooperation with public authorities; use challenges and cocreation approaches

- Ensure the territorial deployment of your DIH in Aragon
  - The Aragonese DIH should be at working distance of each company; Create antennas in established organisations in the depopulated areas

**Good Practice Examples**

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<tr>
<th>The Agri-food Clust-ER is an association of public and private organisations: companies, research centres, training institutions that share skills, ideas and resources to support the competitiveness of the sector. Website: <a href="https://agrifood.clust-er.it/">https://agrifood.clust-er.it/</a></th>
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<td>S3P agri-food on Traceability Data <a href="https://s3platform.jrc.ec.europa.eu/traceability-big-data">https://s3platform.jrc.ec.europa.eu/traceability-big-data</a></td>
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<td>Public consultation on Interregional Innovation Investment supported by the European Regional Development Fund (ERDF)</td>
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**d) Planning new ERDF objectives and actions for 2021-2027 and development of new Smart Specialization Strategy related to agri-food and forestry**

- Develop a monitoring system in a EDP perspective using big data and innovative ICT tools: dynamic, place based, innovative. To create a panel of representatives and
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citizens following the quintuple helix model. The tool used will be a periodic survey to
citizen and stakeholders to evaluate the S3 approach. The methodology will be based
on the procedures of the “deliberative survey” (explain issues-discuss-reply to the
survey-periodically check the changes and the impacts in public opinion and stakeholder
panel.

- S3 at a territorial and local/metropolitan (non only regional) level. Create a digital dbase
of innovative best practice of a new generation of soft policies. The dbase will be open
access, participative, frequently updated. The best practice will be selected and
discussed using these indicators: relevance, reputation, wide involvement, impact,
transferability.

- Better communication of S3 and of the impacts of the policies in the daily life of people
and organizations using in massive way ICT and Social media. Create “online
ambassadors of the S3” and involve “online local heroes” and opinion leader (influencer)
to disseminate the projects and the programs related with S3 in Agri food sector.

- It is important to incorporate metropolitan agriculture into legal frameworks and
strategic planning.

- There is a need to ensure the protection and access to agricultural land. Public
authorities should be able to reassign unexploited land, discourage speculation, and
create protection perimeters and agricultural parks. The dimension of cultural barriers
and poverty traps should not be forgotten.

- It is essential to encourage viable and sustainable economic models, by supporting
community-led projects, providing them with economic and legal assessment, and
helping them professionalize their logistics. Another way is to support collective
organization, create labels that provide information on products’ added value, or to use
environmental compensation mechanisms.

- Measures should be taken to localize food systems, particularly by implementing
alternative food production-distribution-consumption configurations. Reducing the
power of large groups and intermediaries is important to encourage economically and
socially fair relations. Local public authorities should make easier administrative
procedures and open spaces to help the new structures grow.

- The governance of food systems should be improved and participation integrated into
policy making. Promoting forms of food democracy is a more concrete way to
strengthen local governance.

- Effective communication strategies should be adopted to promote local food systems.
Information should be presented in an understandable and attractive way. Traditional
communication methods can be complemented with more innovative ideas and divulgation events organised in different spaces (such as farms or gardens).

● Include users of the services and consumers in the EDP (Entrepreneurial Discovery Process).

● Try to understand the way on how to promote S3 on sub-regional level.
  ○ Deliberative process
  ○ a digital database of innovative best practices of soft policies.
  ○ ex. Interreg Europe RELOS3 project

● Develop a monitoring system in a EDP perspective using big data and innovative ICT tools - a periodic survey to citizen and stakeholders to evaluate the S3 approach.

### Good Practice Examples

Example from Metropolitan City of Bologna: University signed a Memorandum of Understanding with the Cities of the Mediterranean area focused on this key point:

- Job creation in farming, food processing, marketing, logistics;
- Social inclusion of large communities without any gender, age, social or ethnical differences;
- Educational, health and nutritional benefits;
- Quality upgrading and value creation of local food chain;
- Organizational benefits through innovative and collaborative business model;
- Territorial integrity/land management to preserve agriculture in urban and peri-urban areas;
- Environmental benefits as concrete measures for the minimization, treatment and recovery of agricultural and food-processing waste;
- Synergies and cooperation between public authorities, academia, private sector and civil society

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**Smart Specialisation at work: the policy makers’ view on strategy design and implementation**

**Drawing funding and financing scenarios for effective implementation of Smart Specialisation Strategies**
6. Future steps

Following the peer review, the host organisation started a consultation process with the other stakeholders and government departments involved in the implementation of policies in the topics included in this peer review. This consultation process has the objective of discussing all the recommendations provided by the peers and assess the possibility of drafting action plans to implement some of the recommendation provided by the peers.

This consultation process started right after the peer review and the host organisation expects to have concrete actions plans in all the topics discussed before March.

These actions plans will be based on the recommendations provided by the peers, and therefore the host organisation would like to continue cooperation with the peers to go deeper and receive more information in some of the good practices and recommendations presented.

The plans will be presented in the Cortes de Aragón (legislative body of the region) and they will be used as a support to guide the FEDER objectives of 2021-2027 and the new Specialization Strategy.

However, as the new Smart Specialisation Strategy is currently being developed, the advice received will be taken into account. In particular the use of big data, the involvement of municipalities and the development of an S3 communication plan.