



# **OREN**

## **PR1 National Report – Italy**

### **MULTI-STAKEHOLDER PLATFORM FOR RURAL ENTREPRENEURS**



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## Contents

1. INTRODUCTION .....	7
1.1 Rationale of the OREN Project .....	7
1.2 Purpose of the Study .....	8
2. Desk Research in Italy.....	9
2.1 Brief introduction of the status of rural business development in Italy.....	9
2.2 Desk research on the state-of-the-art business models in rural economies .....	14
2.2.1 Bringing different areas of economy together.....	19
2.2.2 Rurality and Technology .....	19
2.2.3 Rural Tourism .....	20
2.3 Identification of driving and limiting factors.....	21
2.3.1 Safeguard of local communities and territory .....	21
2.3.2 Valorization of natural, cultural and sustainable tourism resources.....	23
2.3.3 Agri-food systems.....	25
2.3.4 Local renewable energy supply chains.....	26
2.3.5 Know-how and crafts .....	28
3. Case Study analysis.....	29
4. Analysis of existing relevant programs.....	33
National Rural Development Programme (PSRN) 2014-2020. ....	37
5. Analysis of Questionnaires Results .....	37
6. Concluding Remarks & Recommendations.....	39
Annex 1: Case Study Identification.....	48
3.1 REC/Agrivoltaic farmer .....	48
3.1.1 Short Description of business model:.....	48
3.1.2 Socioeconomic background .....	49



3.1.3 Main achievements .....	49
3.1.4 Main driving factors and criteria that play significant role for achievements .....	50
3.1.5 Main challenges/obstacles limiting potential for success .....	50
3.1.6 Level and way of local community's or other organizations engagement in business activities: .....	51
3.1.7 Role of the local community and other organizations in the advancement of business models: ....	51
3.1.8 Main characteristics that model good practices: .....	53
3.1.9 Who can access the benefits of the AGRO-energies: .....	53
3.2 A social cooperative in the Lazio region .....	53
3.2.1 Short Description of business model:.....	53
3.2.2 Socioeconomic background: .....	54
3.2.3 Main achievements:.....	56
3.2.4 Main driving factors and criteria that play significant role for achievements: .....	56
3.2.5 Main challenges/obstacles limiting potential for success:.....	57
3.2.6 Level and way of local community's or other organizations engagement in business activities:.....	57
3.2.7 Role of the local community and other organizations in the advancement of business models: ....	58
3.2.8 Main characteristics that model good practices: .....	58
3.3 Santo Stefano di Sessanio (L'Aquila, Abruzzo).....	58
3.3.1 Short description of business model: .....	59
3.3.2 Socioeconomic background: .....	59
3.3.3 Main achievements:.....	59
3.3.4 Main driving factors and criteria that play significant role for achievements: .....	60
3.3.5 Main challenges/obstacles limiting potential for success:.....	61
3.3.6 Level and way of local community's or other organizations engagement in business activities:.....	61
3.3.7 Role of the local community and other organizations in the advancement of business models: ....	62
3.3.8 Main characteristics that model good practices: .....	62
Annex 2: Online Questionnaire .....	63



- Annex 3: Identification of existing relevant programs ..... 65
  - 4.1 The OECD Trento Centre for Local Development..... 65
    - 4.1.1 Short Description and objectives: ..... 65
    - 4.1.2 Target groups: ..... 65
    - 4.1.3 Sector(s) that this program concerns: ..... 66
    - 4.1.4 Main Contents (Modules/Units): ..... 66
    - 4.1.5 Type of involvement: ..... 66
    - 4.1.6 Description of advantages and disadvantages:..... 66
    - 4.1.7 Impact: ..... 66
  - 4.2 Interreg ALCOTRA (France – Italy) ..... 67
    - 4.2.1 Short Description and objectives: ..... 67
    - 4.2.2 Target groups: ..... 67
    - 4.2.3 Sector(s) that this program concerns: ..... 68
    - 4.2.4 Main Contents (Modules/Units): ..... 68
    - 4.2.5 Type of involvement: ..... 68
    - 4.2.6. Description of advantages and disadvantages: ..... 68
    - 4.2.7. Impact: ..... 68
  - 4.3. National Rural Development Programme (PSRN) 2014-2020..... 69
    - 4.3.1 Short Description and objectives: ..... 69
    - 4.3.2 Target groups: ..... 70
    - 4.3.3 Sector(s) that this program concerns: ..... 70
    - 4.3.4 Main Contents (Modules/Units): ..... 70
    - 4.3.5 Type of involvement: ..... 70
    - 4.3.6 Description of advantages and disadvantages:..... 70
    - 4.3.7 Impact: ..... 71
- Annex 1: Case Study Identification ..... 45
- Annex 2: Online Questionnaire..... 45



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Annex 3: Identification of Existing relevant programs.....45



# 1. INTRODUCTION

## 1.1 Rationale of the OREN Project

While the role of rurality in the prosperity of the European Union (EU) is widely acknowledged, rural areas tend to lose their positions and opportunities in an increasingly urbanizing world. Despite the diversity of rural areas in terms of their socio-economic performances, natural characteristics, and cultural heritage, the majority of them demonstrates intrinsic fragility in social, economic and environmental aspects, and, consequently, different rural areas face common challenges, experience depreciation of their values and underutilization of the opportunities they are able to provide. In the 2016 High Level OECD Seminar “Delivering productivity and competitiveness for rural areas”, four “areas of opportunity” emerged: *forestry, local foods, tourism and renewable energy*. **Forestry** is considered to be an integral part of rural development. Beyond providing wood products, healthy, sustainably managed forests are valuable tools for mitigating and combating climate change. They are also locations for important recreational activities, such as appreciation of nature, hiking and mountain biking, and, together with other rural sectors, can produce a variety of local foods. In many EU countries, the **local food** system is used as part of a regional **tourism** strategy where specific foods are the focus for visitors who follow a “trail” that leads them from producer to producer. These local foods provide an opportunity to market a region’s food products to a global audience, as well as connecting local farmers to the communities in which they reside. To some, **renewable energy** is rural energy, because virtually all renewable energy technologies are space-intensive and thus rely upon a rural location. Wind, biodiesel, and photovoltaic technologies now represent the fastest growing energy industries, whereby windfarms require clear sites, biofuels rely on agricultural feed stocks, and solar generation, though somewhat more flexible, is increasingly implemented on open rural land. On the other hand, over the last few years experts on rural development policy have consistently identified out-migration and ageing as key trends affecting investment decisions in rural areas, along with “changes in the rural economic structure” and the “decentralization” process. Thus, rural areas share also common structural vulnerabilities: distance, lack of critical mass and low population density. Furthermore, the recession, the COVID pandemic in combination with the consequences from the ongoing climate change, and war crisis in Ukraine that contributed to the energy crisis have put an extra burden to rural entrepreneurs, who are facing increasing complexity and deep uncertainty in their business, exacerbating existing vulnerabilities. These vulnerabilities were further compounded since the spring of 2022, with Russia’s invasion of Ukraine leading to a worsening of the energy crises that had been brewing in Europe. Maximizing the opportunities depends on a constellation of factors coming together. If one or two of the elements cannot be achieved, there could be continued stagnation or decline instead of transformation. In other words, no matter how much progress is made towards tapping rural opportunities, if rural vulnerabilities are not addressed, they could render any form of progress shallow. These discussions



underscore the importance of exploiting future opportunities in a manner that addresses rural vulnerabilities under a systemic perspective and current state of the art calls for new strategies and models of rural development to be found and applied so to turn lagging rural areas into resilient rural communities.

The main objective of the OREN project is to involve agricultural entrepreneurs in an interactive learning programme, specifically designed and addressed to the rural development issues in the COVID era, while also considering the fall-out from Russia's invasion of Ukraine. The partnership will develop an interactive, multi-stakeholder platform that will contain sustainable rural business models, and simulation models, accompanied by a small set of managerial courses targeted to agricultural entrepreneurs. The purpose is to train the participants in some of the most needed managerial and business skills, as well as giving them a number of pointers in order to acquire more advanced ones, based on the most essential needs identified by the research. By acquiring such skills, the entrepreneurs will be able to analyze the root causes of successful business scenarios to improve their expertise and skills in understanding and modelling potential good practices.

## **1.2 Purpose of the Study**

The aim of this study is to develop a sound and updated insight of agricultural business models across Europe and their driving and limiting factors among the project partners and stakeholders. Through a deep analysis, based on both theoretical and practical approaches and concepts from several academic and operative actors, the work performed under this first project result intends to deliver explorative and comparative findings by systematizing this knowledge, identifying the skill gaps and rural entrepreneurs' needs in terms of courses and trainings. The skill gaps concern mostly the IT skills (especially for tourism) and needs focus around having access to a potential knowledge database, where aggregated would be best practices and insights from other rural areas – both national and international, and also some more common needs like access to slow capital. The study will also harmonize main findings within a systematic framework that will guide the research, analysis and piloting that is planned for the other project activities. We will try to enrich our conclusions by: examining different case studies, analyzing relevant support and training programs for rural entrepreneurs, and by retrieving feedbacks to surveys aimed at specific target groups, so to ultimately construct a balanced, comprehensive and up-to-date overview.

In particular, the purpose of this document is to highlight the findings and results of research that has been conducted in Italy.





## 2. Desk Research in Italy

### 2.1 Brief introduction of the status of rural business development in Italy

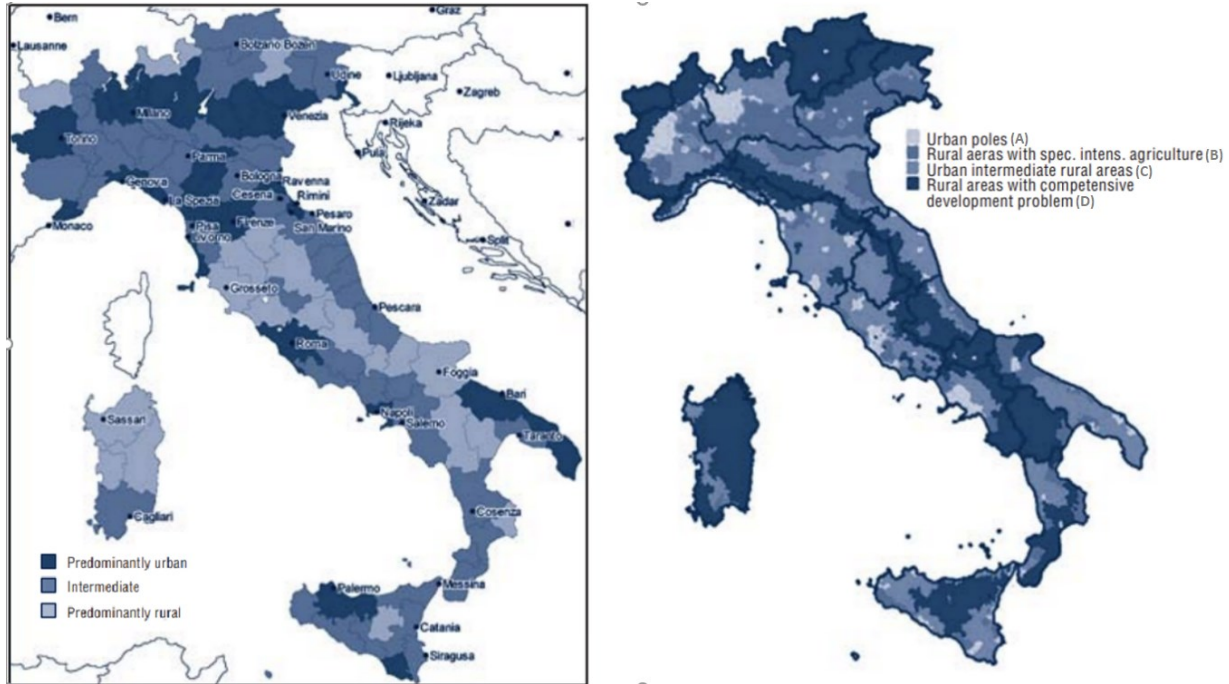
The Italian Ministry of Food, Agriculture and Forest Policies has classified the Italian rural landscape into four distinct types<sup>1</sup>. It is an official classification, also adopted by the National Observatory for Rural Landscapes, with precise policy objectives and used to allocate funds for specific interventions. The identified categories are:

- A. Urban and periurban rural landscapes
- B. High intensity landscape types
- C. Medium intensity landscape types
- D. Low intensity landscape types

Overall, the rural account for about 96% of the Italian territory and about 70% of the population (fig. 1). While the type B areas can be described as high energy-intensity areas due to a combination of factors like industrial facilities and intensive farming, the type C and D areas can be classified as low energy intensity ones.

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<sup>1</sup> Ministry of Food, Agriculture and Forest Policies. <https://www.reterurale.it/>



**Figure 1: A comparison between the rural classifications of the OECD - left - and the Ministry of Agriculture of Italy - right.** (Source: OECD Regional Database and Ministry of Agriculture of Italy).

This type of classification is used both in the context of the National Strategic Plan for Rural Development 2007-13, when landscape was introduced for the first time among the objectives of the plan, and the National Strategic Framework of EU Cohesion Policy. These classifications are also relevant in the context of the Common Agricultural Policy and the Biodiversity Strategy towards 2030, especially when spatial information is required to assess the stated objectives. Classifications based on intensity of agricultural activities, environmental features and economic development is supported by a rich scientific literature, usually measuring intensity as the anthropogenic energy (e.g., fertilizers, labor, cultivation) required in the primary crop production<sup>2</sup>.

In particular:

- **Urban and periurban landscape types.** These landscapes comprise 195 municipalities with high average population density (about 1,510 inhabitants per square kilometer), including regional capitals, large metropolitan cities, as well as those areas with high population density and low territorial extension of agriculture. They include 30% of the Italian population and cover 4% of the territory, representing urban and periurban landscapes in the plains of Italy. They are characterized by a strong presence of the tertiary sector and a moderate level of manufacturing

<sup>2</sup> Estel S., Kuemmerle T, Levers C., Baumann M., & Hostert P. (2016). Mapping cropland use intensity across Europe using MODIS NDVI time series. *Environmental Research letters*, 11(2).



activity. Agriculture accounts for 12% of the national added value, mostly concentrated in territories around large urban centers. These areas provide short-range consumer demand for high-quality products, but the quality standards of production are not always up to the demand. Immediately adjacent to the urban fabric, there is a strong concentration of industrial activities, employing 31% of the agro-industrial workforce. Most of these activities require high external energy inputs, putting these areas in the highly energy-intensive category. The urban centers are characterized by highly profitable land, with over €5,000 of added value per hectare of Utilized Agricultural Area (UAA). The high value of the land results in a significant decrease in total agricultural area in favor of urban sprawl. Indirect impacts on farms of these areas include splitting of cultivation units, constraints on agricultural practices due to the proximity of inhabited centers and pollution phenomena caused by non-agricultural sources<sup>3</sup>. Proximity to urban centers makes these areas fairly well equipped with services for the population and the economy. Although no data is available at this level of territorial breakdown, these rural areas are those with a greater supply of internet services. The particular orographic and demographic situation leads to the co-habitation of residential and tourist settlements with highly specialized and intensive agricultural activities. They represent important economic and employment realities, but, at the same time, have a significant environmental impact.

- **High intensity landscape types.** This group includes lowland landscapes that are classified as **rural, significantly rural** or even **urbanized rural**. They are located in plains and in the immediately adjacent low altitude hill areas, mainly in the northern regions of the country such as the Po river valley. The urban footprint represents 10% of the territory, cultivated areas 80%, forests 7%. They include over 1,782 municipalities, representing over a quarter of the total national population (27%). These areas constitute the backbone of the agro-industrial system: while they account for 24% of the UAA and 29% of the agricultural workers in the country, they produce 38% of the national agricultural added value. These areas are densely populated (313 inhabitants per square kilometer). Their population is relatively young, and growing quickly (more than 10% in the last decade), attracting young people from marginal rural areas and the south of the country. Agricultural and forest areas cover 87% of the territory and there is also a strong specialization in agricultural production and food industry, with a concentration of agro-industrial chains. The strong agricultural specialization and recent migratory phenomena have led, in some specific areas, to increased competition in the use of primary resources, creating problems of environmental impact and sustainability of agricultural activity. These areas have a higher concentration of zones vulnerable to nitrates, over 35% of the country total against an area of

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<sup>3</sup> Houser M., Gunderson R., Stuart D., & Riva C.H.D. (2020). How farmers "repair" the industrial agricultural system, *Agriculture and Human values*, March



about 5%, causing river degradation and harming people's respiratory system<sup>4</sup>. These zones include also 6% of the national protected areas that fall within the Natura 2000 network. They are, nevertheless, significantly affected by the strong anthropization of the territory and by the commercial and tourist industry.

- **Medium intensity landscape types.** This typology includes mostly hills and small parts of mountain landscapes, especially in the center of the country, but also in the north and south of Italy. **They are mainly or significantly rural and have a good level of diversification of economic activities.** There are 3,084 municipalities, representing about 30% of the Italian population and 33% of the territorial surface. The urbanized area covers 5% of the total territory, agricultural area 62%, forest area 29%. The population has grown by 5.7% in the last decade but is characterized by a higher aging index. Agriculture plays a significant role, both in terms of surface and employment, even if the intensity of production is more modest than in previous areas (about €2,200 per hectare). In the last decade, this type of landscape has shown strong signs of crisis, significantly losing agricultural area (-12% of UAA and -14% of Total Agricultural Area (TAA), with percentages that drop respectively to -18% and -20% in the less developed regions) and jobs (-27%). The main factors behind these developments are the high production costs and lower profitability due to the morphology of the territory and the presence of traditional agricultural arrangements, such as terraces and polycultures<sup>5</sup>. These problems are compounded by commercial difficulties of promoting the rich variety of typical products, abundant in these areas. Farmers with alternative income represent 28% of the total also because agriculture in these areas is complementary to other activities and promotes growth of the local economic system in an integrated form. The highly qualified agricultural sector is supported by the presence of highly valued resources such as attractive landscape, cultural and historical landmarks, as well as typical food and wine. This is confirmed by the fact that more than 83,9% of agritourism firms is located on mountain and hilly areas in Italy. Synergies among these resources help creating an integrated local economic system, with a balanced development of tertiary activities related to tourism, trade and specialized services. These areas can be considered as cultural landscapes, where the term cultural becomes a value-laden concept putting a premium on historical agricultural traditions<sup>6</sup>. About 23% of Natura 2000 areas of Italy are concentrated in this area, for a total surface of about 10%. The nitrate vulnerable areas instead represent 29% of those identified at national level, with an incidence on the total area of only 2.3%. The infrastructure is typically rural,

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<sup>4</sup> Ladrera R., Belmarid O., Tomas R., Prat N., & Canedo-Arguelles M. (2019). Agricultural impacts on streams near Nitrate Vulnerable Zones: A case study in the Ebro basin, Northern Spain. PLOS ONE, Vol 14, 1.

<sup>5</sup> Barbera G. & Cullotta S. (2016). The Traditional Mediterranean Polycultural Landscape as Cultural Heritage: Its Origin and Historical Importance, Its Agro-Silvo-Pastoral Complexity and the Necessity for Its Identification and Inventory. In Agnoletti M., Emanuelli F. (eds), Biocultural Diversity in Europe. Environmental History, vol 5. Springer, Cham

<sup>6</sup> Agnoletti M. (2013). Italian historical rural landscapes; dynamics, data analysis and research findings. In: Agnoletti M. (ed.) The Italian Historical Rural Landscape. Cultural values for the environment and rural development, Springer Verlag, Dordrecht. 3-88.



limited to roads and railways, with often reduced connections and services. Same goes for telematic infrastructures, with broadband serving only a minority of the population. The reduced specialization of agriculture, less developed infrastructure, the lower urban and industrial concentrations, and the good presence of natural and landscape resources contribute to classify these areas as medium energy-intensity<sup>7</sup>.

- **Low intensity landscape types.** These areas include 2,865 municipalities, **mostly in the mountains and significantly rural high hills in southern Italy, the central and northern mountains with a more markedly rural nature, and some areas of the southern plains and islands.** The urbanized area covers 2% of the territory, the agricultural areas 34% and forests 54%. They are the least densely populated areas of the country (59 inhabitants per square kilometer), characterized by scarce presence of local development processes in all sectors and abandonment by the population (-0.76% in the last decade). The demographic decline in southern regions has been accelerated by emigration, in particular from mountain areas, consistent with developments in other European mountain areas<sup>8</sup>. The aging index is far above the national average. These areas represent 13% of the population, occupy 46% of the country's territory, 42% of the TAA and 35% of the UAA. They represent 20% of the agricultural workers and 18% of the national added value. The agricultural workers in these areas are around 225,000, the agro-industrial 53,000, the non-agricultural 2.6 million. The presence of widespread extensive agriculture is accompanied by the presence of most of the Italian forests (69%) and a great variety of natural habitats. These areas are of particular environmental importance, with 68% of Italian protected areas and over 62% of Natura 2000 areas, accounting for more than 2.5 million hectares and an incidence on the total area of over 21%. This contrasts sharply with the rapid agricultural intensification that occurred in Europe and northern Italy after World War II, which sacrificed heterogeneity for more homogeneous and commercially profitable landscapes. Only 16% of the nitrate vulnerable areas are located in these areas, with an incidence on the total area of 1%. These areas can be classified as low energy-intensity, given their limited industrial, urban and infrastructural development. Farming is characterized by low levels of profitability of the land (just over €1,000 per hectare of Utilized Agricultural Area) and a low level of production intensification (on an average of 100 hectares of Total Agricultural Area only 56 are used). Abandonment processes are particularly intense, especially in the inner mountains. Traditional Mediterranean crops (olive trees, vines, promiscuous arboriculture with arable crops, forest crops) are widespread even if at low productivity and characterized by traditional planting schemes and reduced presence of chemical

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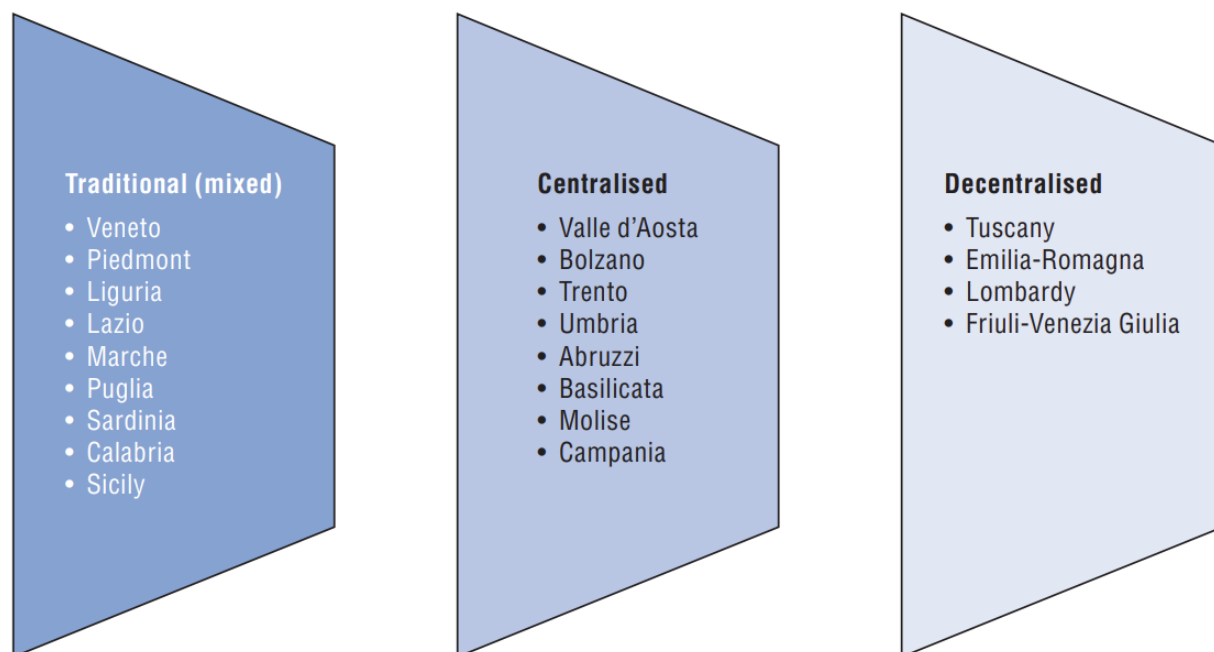
<sup>7</sup> Marull J., Font C., Padrò R., Tello E., & Panazzolo A. 2016. Energy Landscape Integrated Analysis: A proposal for measuring complexity in internal agroecosystem processes (Barcelona Metropolitan Region, 1860-2000). *Ecological Indicators*. 66: 30-46.

<sup>8</sup> Macdonald D., Crabtree J.R., Wiesinger G., Dax T., Stamou N., Fleury P., Gutierrez Lazpita J., & Gibon A. 2000. Agricultural abandonment in mountain areas of Europe: Environmental consequences and policy response. *Journal of environmental management*. 59: 47-69.

inputs in the land. The chances of survival and growth of these realities are connected to the local resources. They range from the more effective promotion of typical and quality products, to development based on diversification of local economic activities, and attraction of tourism through environmental resources and cultural landscapes, when not affected by intense abandonment and inappropriate policies<sup>9</sup>. This could help alleviate socioeconomic problems, such as high unemployment levels, lower disposable income, gap in the provision of services compared to other areas of the country.

## 2.2 Desk research on the state-of-the-art business models in rural economies

According to the Ministry of Agriculture of Italy, three general rural governance models can be identified at the regional level, in terms of how Rural Development Plans are implemented: Traditional (or mixed), Centralized, and Decentralized (Figure 2).



**Figure 2: Rural governance models by region** (Source: OECD Regional Database and Ministry of Agriculture of Italy)

<sup>9</sup> Agnoletti M. (2014). Rural landscape, nature conservation and culture: Some notes on research trends and management approaches from a (southern)European perspective, *Landscape and Urban Planning*. 126, 66-73.



Among many business models for rural areas, in Italy, in addition to private enterprise, there is a large representation of cooperative sector<sup>10</sup> and Consortia of producers that aim to aggregate the input demand and the product offer with gains in negotiation, bargaining power and market advantages. In particular cooperatives is a business model that acted mainly to address many social inequalities over the past two centuries. Since its establishment in the second half of the nineteenth century, the Italian cooperative and consortia movement, has contributed in the agricultural sector to a long period of fast growing economy, especially after the agrarian reform in the 50'. Despite an overall recent stagnation, partly due to the COVID-19 pandemic, the cooperatives deal with domestic economy trend, confirming their effort to be a solid component of the national economy, and a business model with high potential in many private sectors. A growing trend was observed over the years and manifested itself in an increase both in the number of co-operatives and in their average size, and consequently in an increase in the number of employees. The emergence and the diffusion, as well the structure and the size of the cooperatives, varied significantly across Italian regions, partly due to the different historical background at the basis of the growing and development of local market of each region and territory, as well as the diverse levels of economic organization; and partly, as a response to different social and public (institutional) needs.

Cooperatives are encouraged pursuing the idea that a cooperative approach might support more equal resource distribution, reduce inequalities and profit redistribution among the societal component, increase the producers' negotiation power in the markets. Also, there are fiscal advantages and lower taxes payments for cooperative business, more facilitate employment etc. In addition, several measures of Rural Development Plans (PSR, see Measures on Cooperation) for agricultural supply chains enhance cooperation and cooperatives. Cooperative has high attractiveness for the enterprises that evaluate to enter in the market or change their management. Similarly, it has to be considered for the Consortia, which often represent a protection module for certain classes of farms or producers in certain areas, that they allow reaching higher added values of products with specific geographic indication or strict production protocols that ensure value and product quality in an extensive term (nutritional, health, environmental and social). It has to be considered that this additional quality is not always proven, but reaches usually high consensus by the consumers.

From a farm level point of view we can affirm that, even with differences in fiscal management and business models, farm aggregated in Cooperatives and Consortia are exactly similar, on average, to those that produce for the private sector. They have access to the same technological level and opportunities and can reach potentially the same production level or technical and managerial results. Differences can be observed in the product destination or on the post-processing phase. In particular differences can be sometimes found in the approach to market, especially for Consortia which follow the protection of a

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<sup>10</sup> Società Cooperativa: a commercial enterprise owned and managed by and for the benefit of customers or workers (Source: <https://www.collinsdictionary.com/dictionary/english/cooperative-society>)



specific product defining a production protocol procedure, recognized by the consumers, that limits the competitors; we can say that it has a large application in the production and export of the food recognized as Made in Italy, in general.

Thus in technical terms the supply chains of cooperative and Consortia are exactly similar to the private one. Cooperative producers carry out all the process “from cradle to farm gate” like in an independent farm company aiming to “sell” to the “cooperative transformation plant” as much as product is possible and with the highest price. Considering the long-term averages, product prices (milk, meat, grapes) paid by cooperatives are very similar to those paid by private companies.

Thus, considering that private farms and cooperative farms can be essentially similar from a technical and managerial point of view, Cooperatives and Consortia have the main role of aggregating the volume of products to be processed and destined to the market, or in a much less extent, to share services or import of inputs. Thus Cooperative and Consortia of producers represent an organized tentative to collectively interact with the market and with the transformation business complexity. Sometimes even farmers which are not aggregated in Cooperatives often belong to a Consortium of producers, to aggregate input demand and reduce the cost of input and/or to regulate typical or relevant production (PDO products). We can bring the examples of Grana Padano or Parmigiano Reggiano Cheese). On the other hand, the farmer roles are often limited to authorize a managing board, that is responsible of the market and/or processing part and the supply chain structure.

Otherwise in the private sector the relationships among producing farmers and private processing plants that collect and buy the product in the market are basically decided by the single company and can have multiple features: very tight, in which the private company orient the organizational quality of the production process aiming to specific targets (nutritional, security, environmental, social, etc.) or very leak, in which the company just buy the delivered primary product from the individual farmers deciding the price and the market conditions.

In this sense the Cooperative model is a representation of the relationship between the primary sector and other anthropogenic activities because it includes: i) the production phase and management of the farm; ii) the farmer perception and tentative to influence other stakeholders in their actions keeping the technical features of the whole agricultural sector in Italy.

Cooperatives of the Third Sector aim to depict business models and experiences with high potential for empowering rural communities to take advantage of the opportunities arising from improved value chain optimization supposing that they act with an high additional social value. In general, they can theoretically create favorable conditions for the deployment of innovative business models, to help public authorities and rural networks create adequate framework conditions for rural innovation. Third sector has also developed from a mere executor of the State’s redistributive tasks, into a real business part capable of designing, producing, and managing a large amount of goods and services of social interest. On the other hand it needs a big effort of capacity building to motivate people to cooperative management thinking and shared resource utilization without limit the individual ambition to improve the system.





New cooperatives were also founded to provide social, health and educational services and to create jobs for vulnerable people. In most cases these cooperatives were born spontaneously by groups of people, mainly on a volunteer basis and as a non-profit. The activities developed by cooperatives cannot be enclosed in a single sector, or in a single business idea or in a production or service chain; especially in mountainous and rural areas, cooperatives with multisectoral activities are found (from sustainable tourism, agriculture, renewable energy to the management of natural parks, from the marketing of typical products of the territory to the protection of environment).

The constant blossoming of the cooperative vs. private enhancement of rural development “model” over the years is driven by **4 main exogenous factors**:

- the maturation of a modern enterprise culture and the related management innovations with opportunities to reach a managerial structure (council boards, managerial directions, etc.) similar to private companies but with the fiscal management and the social advantages of a cooperative approach.
- a set of changes in the legislation (and “tailormade” programs) that favored the economic and patrimonial growth, and the creation of workers cooperatives by workers of traditional firms that suffered from inadequacies in their management (the Italian Recovery and Resilience Plans and other regional/local laws). I.E. expansion of the sector in managerial and technical figures, not only as farmers, but involved in the supply chains within the same organization.
- sizing: A significant scenario is the one whose objective is dimensional growth not at the farm level but as intermediate aggregation structures. It is on this driver that more attention must be paid since beyond some dimensional thresholds for which the distribution problem does not arise, the risk for the company is not to find interlocutors able to insert the service product in a network that allows the recognition of its value through an adequate positioning. In this sense, reference was made to the collaboration between small network operators and large players, seeing in this formula an evolutionary and mutually sustainable model. In this sense the cooperative approach substitutes a lack of entrepreneurial capacity to increase the farm size or to keep it at family level instead to begin a business model plan.
- the capacity of responding to economic crisis and to state withdrawal as sector or community instead as single farm. It also includes the lobbying capacity with institutions and markets.

...and **5 main endogenous factors**:

- the establishment of big cooperative groups or cooperative poles, i.e. groups of cooperative that could operate on a larger scale and have access to the stock and European funding; Cooperative poles can count on a twofold structure: sectorial, with the Associations, and territorial, with its own regional and provincial offices.



- presence of a leadership of founders and a cohesive team that has strong social foundation in addition to business drivers
- in-depth knowledge of the territory and its social, cultural, and economic background
- availability of (human) resources susceptible to exploitation
- possibility of partnership

Some aspects can be highlighted to the cooperative and consortia approaches that limits its effectiveness and reduces the potential benefits at business, economic and social level in the communities. The coexistence of big and small farms, especially in large cooperatives, have the tendency to favor the big farms for the policy roles. In this sense it creates biases in the managerial approach for the whole community (are favored the business oriented choices in respect to the average volunteers).

Otherwise the presence of a large number of unmotivated farmers that does not participate to the decision process. Many associates of cooperative often consider the processing plant exactly as private plant that has the only role to pay the primary product as much as possible (and they usually tend to switch from private to cooperative as the product price increase or decrease and vice versa). Other frequent problems are related to the fact that many associates have little awareness of the business processes that are required to manage a company in a given supply chain. It reduce the effectiveness of the decisions and the capacity to analyze the agricultural sector as an economic driven sector that requires business choices. It is common that cooperative food processing plants are driven by associate farmers that do not agree with the decision making process of the plant management, or with market strategies or with the human resource plan; it happens often without recognizing that there is a need of specific competence for each phase of the supply chain. In many cases the farmer board takes decision and condense in its role even managerial positions, such as director of production, sale and marketing responsible etc., with detrimental performances of the systems.

In this respect, those cooperative business models could be similar to private sector in terms of managerial quality and market strategies, and that should also reach high standards in terms of corporate sustainability and social benefits, or for reduction of inequality and richness distribution. But there is still a strong need of relevant actions of capacity building and education for cooperative approaches in business sectors to improve their effectiveness, efficiency and profitability.



## .2.1 Bringing different areas of economy together

A common theme in designing efficient business models for the Italian context was combining different areas of economy together. For example, in their study, Galardi et al. (2022)<sup>11</sup> showed that in rural areas near Turin sixteen small enterprises from different sectors collaborated to co-create innovative business models. All of the four created models presented in the paper incorporated all the dimensions of sustainability, not only in purely economic, but also environmental and social terms. The environmental challenges were a top priority though, because of the peculiarity of local ecosystems, which presented a high need for preservation and management. Therefore, proper consideration in this respect was given to the re-use of waste and a greater coherence among economic and environmental value creation, especially in the new businesses, equally in terms of products and services. The social aspects were particularly focused at in the “Civil Food” model that was created to engage farmers together with social/health actors in the provision of innovative services that would be beneficial for local communities, with particular attention given to the less-empowered members of it. All of the models gave consideration to providing the so-called “win-win” opportunities for all involved stakeholders, and benefit from concept of networks that could create more of such new, hybrid economic opportunities, new rural services and ultimately new job positions, that in the end would have positive overall outcomes on the areas involved. The lesson learned from the above study was that future effective and sustainable business ideas addressed to small enterprises may emerge when: the community is regarded as an actively engaged actor for the future enterprises; small, individual businesses are able to collaborate within larger network structures (both public and private); it exists a greater link in the provision of both public and private goods and between the firm and territorial prosperity; finally, the codesign of new business ideas and solutions should emerge as the outcome of a multi-stakeholder activity that is able to merge ideas, perception, and visions in coherent paths.

## 2.2.2 Rurality and Technology

Similarly to other European countries, Italy has also realized the potential of ICT and the related infrastructures to induce innovations for sustainable rural development, especially in farms and in new rural firms. The idea followed by such innovation is checking how digital infrastructures support and generate social innovation mechanisms, leading to consolidation of entrepreneurship and dissemination of ICT-based innovation in rural areas (Ievoli et al., 2019)<sup>12</sup>. Based on the analysis of three case studies, it was established that the main impact of new technologies regards the organizational innovation

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<sup>11</sup> Galardi, M., Moruzzo, R., Riccioli, F., Granai, G. & Di Iacovo, F. 2022. Small rural enterprises and innovative business models: a case study of the Turin area. *Sustainability*. 14(3): 1265.

<sup>12</sup> Ievoli, C., Belliggiano, A., Marandola, D., Milone, P. & Ventura, F. 2019. Information and communication infrastructures and new business models in rural areas: the case of Molise region in Italy. *European Countryside*. 11(4): 475-496.



reshaping all farm/firm relations. A strong point in organizational innovations is their capability of valorizing farm/firm products and processes, locally specific, and to reproduce in time natural resources from remote rural areas. The new business models (BMs) deriving from these organizational innovations overcome local physical boundaries by connecting rural with urban areas. According to the analysis, the introduction of ICT in rural areas is leading to the creation and development of new BMs areas, as it enables the introduction of different types of innovations to influence the four elements described above, which characterize the BM. At the same time, these innovations are closely interrelated to the dimensions of proximity and to their co-evolution, which in turn leads to an evolution of the productive activities and of the territories over time (Boschma 2004)<sup>13</sup>. It becomes apparent that also this aspect of rural development assigns great value to network aspects of development.

### 2.2.3 Rural Tourism

Considering the importance to preserve the local environment, enhanced by the demand for more sustainable and nature-based solutions that would contribute to territories' resilience is realized through rural tourism that shows great potential to fulfill those requirements. Research by Peira et al. (2021)<sup>14</sup> presents how rural tourism developed in hinterland, mountainous, and hilly areas of the province of Savona in Liguria. This study restated the central role of farmers and presented a mixed and iterative methodology for early involvement of this strategic stakeholder, that could be of inspiration for other rural areas at an early stage of development into rural tourism destinations. Enhancement of the hinterland heritage (natural and cultural), creation of stakeholders' networks, and digital transformation were the critical issues that emerged during the study. Specifically, farmers stressed the need to strengthen both collaboration among them and relations with other stakeholders in the Province of Savona, in order to improve the appeal of the Savona area as a rural tourist destination. At the same time, the results highlighted the central role respondents believe they have for local development and the need for an active role on the part of local public and private actors to implement a solid rural tourism policy. Although the results are comforting and define the start of a collaboration process at the local level, the current study can be considered a first step in a long path aimed at creating a tourist destination. Indeed, some limitations are evident, in terms of actors involved in the study. In this sense, the research is centered only on farmers' perspectives, their attitudes and opinions toward rural tourism, and their potential contributions in the development of the rural touristic destination

Another example of a functioning business model in Italy is the "Albergo diffuso"<sup>15</sup>. It is a unique concept of hospitality, made in Italy, different from popular ones, such as hotels or resorts. It was created to

<sup>13</sup> Boschma, R. 2004. Competitiveness of regions from an evolutionary perspective. *RePEc*. 38(9): 1001-1014.

<sup>14</sup> Peira, G., Longo, D., Pucciarelli, F. & Bonadonna, A. 2021. Rural tourism destination: the Ligurian farmers perspective. *Sustainability*. 13: 13684.

<sup>15</sup> <https://www.alberghidiffusi.it/?lang=en>



develop tourism in villages and historic centers without changing their characteristics. It does not require any building, but rather it just better organize what is already there. It is also translated as “scattered hotel”, meaning a facility that has a central reception and restaurant building, and a variety of physically distributed but centrally administered and serviced holiday rooms or apartments (located within repurposed traditional village buildings nearby). This solution has won the World Travel Market Global Award in 2010.

## 2.3 Identification of driving and limiting factors

In order to identify the enhancing and hampering factors that drive the development of the Italian rural business economy, we need to consider the ‘diversity’ characteristic of the Rural Areas and the processes of differentiation in consumer trends. Every Area has some kind of diversity to offer: lifestyle, air quality, food and human relations. Interventions for triggering development processes in Rural Areas have to focus on these ‘specificities’. Manufacturing facilities already operating with some degree of success in Rural Areas supplying global markets with industrial products unconnected with local know-how, form part of this Strategy as co-interested allies working to improve socio-environmental conditions within the territory and the wellbeing of its residents. Policies bolstering competition and the adaptive capabilities of these manufacturers within their own reference markets do not fall within the remit of the Rural Area Strategy, which relies on these establishments for the modernizing force they represent at local level. The significant number of industries operating in open competitive sectors can contribute to Rural Area development projects through some of their own resources, innovative human resources in particular, by taking cognizance of the territory playing host to them and taking on some of the responsibilities for actions needed to alter that territory. The dual nature of the Rural Area Strategy – which focuses on valorizing existing resources in these areas with a view to develop, while targeting territorial sustainability and protection – means that the focus may be on some of the following points and not others (self-selection):

- Food provisioning in an efficient and sustainable way (high production and low impact);
- Safeguard of local communities and territory;
- Valorizing natural, cultural and sustainable tourism resources;
- Agri-food systems and local development;
- Energy saving and local renewable energy networks;
- Know-how and crafts.

### 2.3.1 Safeguard of local communities and territory

Protection of the Rural Area territory is now inadequate. The term protection – along with the term conservation – has been widely used in a restrictive sense, rather than in the sense of ‘**care of territorial**



**resources**'. Moreover, we often forget that protection also encompasses 'territorial security', also a precondition – along with essential services – for combating land abandonment and demographic decline and relaunching development processes. Safeguarding can only become effective and possible when carried out, supported, or promoted by a **population resident in that territory**, capable of representing collective interests and becoming the 'guardian of the territory', adopting proactive behaviour and carrying out 'daily actions' rather than sporadic large-scale interventions. A population of this kind will possess the sort of knowledge needed for carrying out interventions, and have the incentives to take action, as well as reaping the benefits. In order to hand territorial protection back to local communities – and turn this protection into production processes capable of triggering development – the concept needs to be redefined by identifying some of the key words:

- *Maintenance* of natural capital, i.e. the natural resources present within the territory and the processes that generate them. These processes may be either 'natural' or a result of human action (social capital);
- *Prevention*. Preventing damage (hydrogeological, fire, loss of biodiversity). With regard to this, a non-intervention cost approach is particularly effective in flagging up two particular factors: non-intervention implies much higher costs – environmental, social and financial – than prevention; these costs will not just affect the local community but also those in 'downstream' areas, evidencing the close relationship between Inner Area<sup>16</sup> protection and the development of other areas.
- *Resilience*. Increasing the resilience of Inner Areas, especially as regards their relationship with 'non inner' areas. The environmental and economic crisis has shown that Rural Areas – with their considerable environmental, knowledge-based and production resources – are reservoirs of resilience ripe for future use, as relationships with less resilient areas evolve.
- *Adaptation*. Managing adaptation and mitigation in relation to global change and its inherent risks. This refers to climate change (but not only) and to the need to safeguard local resources by preserving the responsibilities that derive from natural capital.
- *Services*. Meaning protection in the fullest sense of the word, thus not just natural capital, but also the processes and responsibilities connected with it, and therefore the (ecosystemic) services provided to cover with provisioning, natural regulating and social roles of the rural population activities in the landscapes. There is a need to assess (safeguarding) investments in the capital in terms of services rendered.

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<sup>16</sup> Rural areas are characterized by their distance from the main service centers (education, health and mobility). Inner Areas make up 53% of Italian municipalities (4 261), are home to 23% of the Italian population (13 540 000 inhabitants) and cover 60 % of the national territory. Source: European Network Rural Development. 2020. Strategy for Inner Areas: Italy. European Network for Rural Development, Working document.



In order to bring together territorial protection, development and (living) labor – and ensure that territorial protection evolves from precondition to development process – swingeing change is needed. The following are therefore crucial:

- long-term investment in local Communities (sometimes even rebuilding them). Shared resources will deteriorate if insufficiently valorized and if they are disconnected from the energies and knowledge of people.
- investing in new energy, forest and food sector supply chains and eco-system services.
- handing back to these communities the management of and access to local resources (access to land, utilization of water resources, constraint management);
- championing co-production of innovative services and reconnecting different types of areas, consumer areas and producer areas (eco-services).

New forms of *governance* must be pursued:

- turning positive externalities (largely involuntary) into services (voluntary activities);
- finding new forms of allocation of public environmental and landscape responsibilities for subjects within the territory (agricultural businesses in particular);
- setting up new forms of public/private *co-governance* to ensure complementarity between the local production of public assets (health, environment, knowledge) and private ones (value creation, consumer choice);
- establishing new associated management models for municipal activities (including the environmental field): Municipal alliances and conventions.

### 2.3.2 Valorization of natural, cultural and sustainable tourism resources

Italy's Rural Areas enjoy a wealth of weather-related tourism resources and natural biodiversity, which in turn have helped the spread and survival of an extraordinarily diverse range of agricultural products, brought to Italy in successive centuries-old waves (from the pre-Roman era, and then from the Middle East and South America). The dual nature of this diversity, both natural and then man-made, merged with linguistic, cultural and traditional diversity in different locations. In a period experiencing a fresh wave of glocalisation, diversity of place and polycentrism play an increasing part in people's aspirations and development opportunities. Italy is particularly well placed: there is no need to strive for polycentrism – it just needs to be maintained.

The Inner Areas also appear to enjoy a wealth of natural and cultural resources. However, their valorization is not always conducted with a view to sustainability, which remains the fundamental challenge when trying to combine market orientation, job creation and maintenance/protection of original heritage. In the light of recent experience, one of the more interesting keystones could prove to



be **nature tourism**, which has seen a not entirely satisfied growth in demand, where there were less tourists than available capacity. Successful innovative planning methods have led to new and skilled forms of **youth employment**, recovery of the **artistic heritage** and **housing stock** of the innermost municipalities, the creation of alternative and integrative forms of income for local populations, and greater general awareness of territories that had formerly been completely off the tourist map. From this viewpoint, the promotion of extensive forms of hospitality (not necessarily linked to tourist or farm holiday facilities) in centers off the more common tourist routes has led to interesting forms of upkeep in villages, small towns etc. and to the preservation of the social fabric in these territories.

A second related local planning keystone concerns the cultural identity of the populations, an issue that has sparked various different interventions, particularly of an intangible nature, but often with extremely controversial results. **How best to tackle the issue of cultural identity?** Interventions that on one hand support local traditions and culture, and promote them among a wider public on the other should be considered.

In order to achieve social, cultural and economic vitality, the populations in these territories need to be kept at levels high enough to prevent 'implosion'. No less important are age structure and family structure, that is number and genders of its members. The population of Inner Areas already tends to be very elderly, with various and significant consequences:

- when the proportion of the elderly and very elderly population (over 65) accounts for over 30 percent of the population, it is said to be at a 'demographic point of no return', in the sense that it lacks the endogenous capacity to survive; it would take substantial immigration from outside the area to trigger a process of demographic vitality;
- with such high numbers of elderly and very elderly people, the provision of a widespread and appropriate care system becomes a priority;
- houses grow old along with their inhabitants, leading to the creation of housing *stock*, often larger than required, lacking any assurance of crucial upkeep, leading to significant deterioration in older properties.

Territories with elderly, sparse populations, hilltop and mountain populations in particular, are not always adequately taken care of, leading to the possible serious hydrogeological instability with which we are all so well acquainted. In these situations, the only means of demographic and economic revitalization are:

- retaining the young population in situ, valorizing them as repositories of territorial historic and cultural heritage, by giving them valid reasons to stay. Setting up local systems to improve daily life on one hand, and existing networks on the other, should constitute attractive preconditions for making young and adult populations want to stay;
- attracting a young foreign population eager for social and financial affirmation; the requisite process of integrating migrant populations should be carefully thought through and followed up on;





- encouraging the setting up of successful migrant *joint ventures* with relatives or friends back in their homelands. Naturally this sort of strategy calls for excellent mobility and strong human and trade exchanges in the Mediterranean;
- encouraging local young people to set up manufacturing and trade cooperatives, as well as care and treatment cooperatives.

### 2.3.3 Agri-food systems

The Inner Areas have a wealth of excellent area-specific agricultural production, and a strong market following. The typical nature of these types of production stems from the connections between territorial skills and production techniques, and is often accentuated by the fact that the agricultural products are processed in the areas in which they were produced. Foodstuffs from these areas thus become cultural assets and part of the local identity. This has informed the development of local markets and other financial activities, bolstering links with *extra*-local markets and with consumers in national and foreign urban areas. The combined effect has seen local economic and social operators taking on greater responsibility for managing natural and environmental resources, being resources common to several different activities (agriculture, tourism, trade etc.). This awareness has bolstered the mobilization and the protection of local resources, especially those connected with the agricultural and agri-food systems. Various, albeit limited, innovative forms of local planning have surfaced over the last few years, which have managed to blend increasing market-orientation, creating **new types of employment** and **maintaining the wealth of local biodiversity** that is the main source of these productions. Sourcing outlets beyond just the local market, with consumers in urban areas, has been one of the keystones of this process of innovation, led by some particularly shrewd engineers and entrepreneurs capable of spurring on other local businesses.

The opportunity to build up direct producer/consumer relationships (short supply chain) through new marketing channels and tools (ranging from producers to purchasing Groups, to *online* sales with delivery directly to the client) has enabled producers to recoup part of the loss of income caused by the falling prices and changing tastes dictated by the financial and economic crisis, and to take products traditionally limited to local markets or distributed via large-scale organisations (LRO) to new, more promising market segments. The market consolidation of these supply chains, especially on *extra*-local markets, has given a new and more robust slant to the preservation and protection of autochthonous animal and plant species. It has also shown that the market, in its various segmentations, can, if well exploited, provide a better outlook for the various forms of support *tout-court* provided for under Community policy over the last few years. A third keystone lies in the **organizational methods** needed to steer and support supply chains through the necessary innovation processes, partnerships in particular, that call for **close cooperation between the primary production, transformational and marketing stages**.



The cooperation should keep the objectives of sustainable intensification in terms of increase the food production (to increase food provisioning at global level) while reducing the intensity of impact per unit of product and per unit of resource used (Land, water, etc). In this sense should be pursued the decoupling of partial indicators trying to i) maximize the socioeconomic indicators to get economic and social outputs per unit of resource and product (euro/land, euro/kg of milk, etc) and ii) minimize the environmental indicators or impact intensities (CO<sub>2</sub>/kg of milk, meat, etc).

A key factor in safeguarding and developing agricultural and agri-industrial systems in Inner Areas is the way in which procedural and product innovations are introduced and contextualized. This includes the use of new and more sustainable production, conditioning, transformation and marketing technologies for agricultural and food products. Partnerships, in particular, call for close cooperation between the various economic operators and research institutions and bodies and services offering technical assistance, consulting and training.

Increasing consumer awareness of production techniques guaranteeing food safety, the reproduction and rationalization of the natural resources employed (*water footprint* and biodiversity), lower pollution (*carbon footprint*) and animal wellbeing now constitute competitive advantages for Inner Area productions and incentives to rehabilitate abandoned land, especially through extensive farming, and creating new employment opportunities for the highly-skilled.

### 2.3.4 Local renewable energy supply chains

The valorization of energy resources in Inner Areas is a promising but controversial development factor. This ambivalence also resides in some of the same distinctive qualities in inner territories. These are contexts<sup>17</sup> in which the use of renewable primary sources, sometimes available in great quantity, means impinging on vulnerable ecosystems and on context where satisfying local energy demand has to contend with a fragile built heritage, shaped by anthropic settlements, often of very ancient origin; in which climate impacts on thermal energy demand to a greater extent than on demand for electricity, and accentuates temporal variability.

The systemic nature of energy limits the degree of freedom in designing a development strategy for Inner Area energy. The three most salient contextual factors are: a) the role played by standard, predominantly sectoral policies; b) opportunities to exploit territorial potential using modern energy conversion technologies; c) basic energy sector trends with the greatest impact on Inner Areas. These variables represent both constraints and opportunities. A fundamental guide for standard policy in this field is the National Energy Strategy (SEN). The SEN identifies energy saving and renewable energies as two of the

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<sup>17</sup> see f.e.: Fabian, L. & Bertin, M. 2021. Italy is fragile: soil consumption and climate change combined effects on territorial heritage maintenance. *Sustainability*. 13: 6389; or : Dastgerdi et al. 2020. Climate change and sustaining heritage resources: a framework for boosting cultural and natural heritage conservation in central Italy. *Climate*. 8(2): 26.



seven key actions for pursuing the four strategic objectives of cutting energy costs, decarbonizing the economy, bolstering supply security and an upturn in growth by 2025. The primary requisite for energy sector projects for Inner Areas therefore has to have absolute consistency with the SEN. The lever for improving energy efficiency will mainly concern projects for upgrading the public and private built heritage that aim to optimize energy services; a major role could be played by interventions to transport systems, especially *extra*-urban vehicles – geared to engine upgrading/conversion – and to waste management, in terms of reuse and valorization, consistent with the guidelines set out in the new European directive on energy efficiency.

The most suitable types of **energy conversion** for valorizing the specific qualities of inner territories relate to agricultural and forest biomass. There is considerable unexpressed potential for thermal use, the exploitation of which is consistent with the national aim to satisfy 20% of national demand through renewable sources. Local biomass plants are well placed to supply dedicated, small scale thermal plants as they have the dual advantage of: (a) mitigating the logistical impact of transporting raw material between place of production and place of energy conversion; (b) being consistent with the ‘National Framework Programme for the Forestry Sector’, which provides for the active management of the woodland heritage and the recovery of marginal territories without credible alternatives for zootechnical or agricultural purposes. Energy recovery projects for animal waste and pruning residues and clippings, which yield the ‘double dividend’ of the post-production cycle being used to produce thermal or electric energy, will also be of interest.

Inner Area energy production projects need to show that they are forward thinking, innovative and credible, and capable of identifying **basic technological energy** system trends, increasingly characterized by decentralized architectures managed by ‘intelligent’ networks. As regards the development of so-called *smart grids*, some of the most promising solutions for Inner Areas consist of *decentralized energy storage* systems, small-scale ones in particular (with modest environmental impact and typically linked to low-voltage networks serving local communities) and so-called ‘short period’ energy systems. This refers to the incentives provided for under Italy’s so-called ‘Conto Termico’: government funding for efficient renewable heating sources.

Fluctuations in demand and short-term unbalanced loads lead to irregular supply, especially in rural areas and in Southern Italy. Changing to ‘intelligent’ modes of generating and distributing electric energy has the added benefit of encouraging steady digitization of control and management systems, with obvious knock-on effects on infrastructures and professional skills in the territories concerned. In order to avoid losing the systemic advantages, developing *smart grids*, most practicably in inner territories with relatively high housing density, should go hand-in-hand with the federated management of local generating hubs. There is one final consideration in regard to procedural governance. The systemic nature of energy calls for the involvement of interest-bearers in the energy and environmental fields in the operational definition of the Strategy for Inner Areas and the validation of the projects.



This obviously applies to local operators, who will undoubtedly have useful suggestions and past experience replicable on a much larger scale; but first and foremost it applies to those responsible for sectoral policy at national level: the relevant ministries, the sectoral regulator and national competence centers, such as the National Authority for New Technologies, Energy and the Environment (ENEA).

### 2.3.5 Know-how and crafts

The hidden territorial resources that can be called into play because of their ability to trigger development processes in Italy's Inner Areas, also include the so-called local skills, in terms of both their institutional and organizational development and the specific local traditional products with which these skills originated. Specifically, we mean those local artisanal abilities that for years have been the focus of institutional discussions as hidden territorial development factors. These are the characteristics that institutional, organizational and productive 'know-how' assume when decisions are made on whether or not a territory belongs on the list of 'fortunate' Inner Areas. These are areas which, despite being at some distance from development hubs, have been able to create opportunities for themselves over the years in terms of good living, economic growth and careful husbanding of resources, or those in which depopulation, the continuous drain of people, skills and economic activities, has produced and continues to produce feelings of loss and subordination in their inhabitants, along with a significant inability to imagine their future, that of their children and that of their own homes.

These trends are due both to the structural weakness of Inner Areas, in terms of distance, skills, and shortage of individual services, and to the extreme fragmentation of public policies implemented over the last few decades, that have failed to halt the decline of these territories. State intervention has often only favored some aspects of local skill protection and promotion, to the detriment of others, creating fresh and greater imbalances in production systems and actually fostering the very manifestations of structural dependency that they set out to combat. Interventions such as those geared toward preserving specific artisanal skills, which, owing to a lack of innovation/support measures in the same production segments, have completely failed to steer these in the direction of the market, for instance. Equally there have been interventions geared to local competences that have not been followed up by labor market support for these new actors, or by adjustments to institutional cultures put off by the enormity of open markets.

Equally it is undoubtedly true that the success of many Inner Areas rests on the 'production of local, culturally-based goods', where these are products of cultural traditions rooted in history, while being very much alive and capable of contending with evolving demand and evolving markets and of generating wealth. Examples are the municipality of Maniago, specializing in blades, the municipalities in the province of Arezzo, specializing in gold jewelry and industry and Caltagirone, specializing in ceramics. These areas are distinguished by the fact that they produce a category of goods founded on a specific local tradition and sell these goods not just to small and exclusive client niches, but also to major market sectors.



The close relationship between production and local culture means that the manufacturing (or material) culture inherent in these goods is rooted in a particular territory, from which they derive their identity and creative scope. In other words, it is the link between the environment and local society, its history, the production cycles within a community, and whatever makes the product a specialty that cannot be replicated elsewhere.

### 3. Case Study analysis

This section will briefly examine three business models developed in rural areas and identifies the main factors that led to their success in cooperation with other stakeholders as an association of many local enterprises. The three case studies are summarised in tab. 1, below they are briefly commented and a general synthesis is presented.

The first case of the REC/Agrivoltaic farmers referred to the agriculture and renewable energy sectors. It is the first Consortium of farmer specialized in cultivation in an agro-photovoltaic environment. The experience of the Consortium is consolidated in 2018 in Umbria and in 2019 in Sardinia, managing about 40 hectares of agrofotovoltaic owned by EF Solare Italia Spa, with an installed power of 32 MWp, 11 active agrofotovoltaic plants and 18,000 species of plants arboreal. In Italy, the birth and spread of community in the energy sector (RECs) dates to over 100 years ago, mainly affecting northern Italy and in particular the Alpine area. However, the spread of energy communities throughout the country could only develop thanks to the increased participation of citizens, public administrations and commercial activities operating in the area.

The main driving factors in that case were:

- As many REC/agri-voltaic farmers, the consortium depicts social experiences from below pushed by companies, municipalities and groups of citizens who are slowly changing the energy system.
- Circular Rural economy: The additional income from photovoltaics allows the farmer to increase compatibility with the territory and environmental sustainability. The agro-fotovoltaic, therefore, fits fully into the multifunctionality of agricultural systems, increasing the possibility of using again and in a sustainable way a large part of the agricultural areas, now no longer cultivated due to their low profitability. This would certainly be an advantage both for the higher income generated and for the reduction of environmental problems caused by abandonment.

In second case Cooperativa ALICENOVA is a notable study of a Social Cooperative and Social Agriculture Cooperative that boasts nearly 33 years of experience in the social inclusion of disadvantaged people, with more than 153 members, 295 employees, a strong reputation among other social cooperatives and within the network of profit and non-profit associations. The main social mission of the cooperative is:

- promoting social inclusion.



- producing social and economic wealth.
- building shared and participatory work paths.
- promoting the working, professional and training growth of the members.
- participating in territorial development.
- practicing and encouraging a development welfare system.

More specifically ALICENOVA's core activities are:

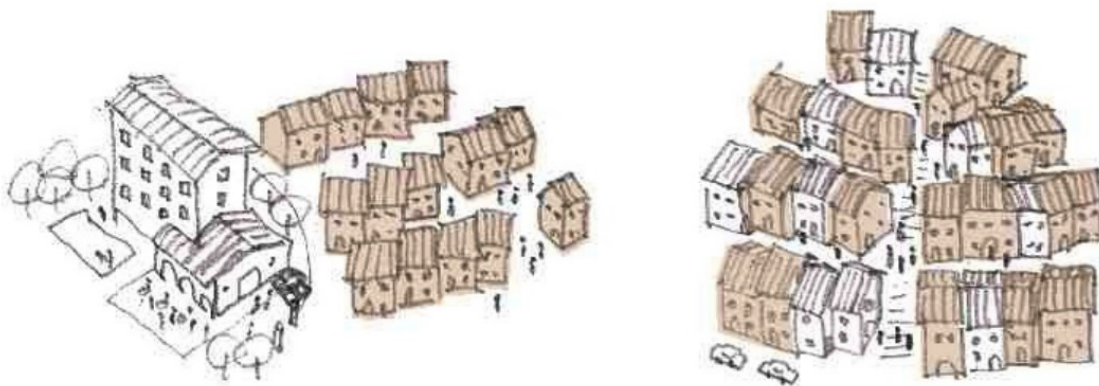
- social and work integration activities for disadvantaged people and minors of working age through social rehabilitation projects.
- social and service activities for local communities using agricultural resources to promote and implement actions that will develop skills and work inclusion and the recreation of useful services for daily life.
- socio-health activities, i.e., interventions that support medical and psychological therapies which aim to improve the health and emotional and cognitive functions of vulnerable individuals, through rehabilitation therapies.
- activities aimed at environmental and food education, as well as safeguarding biodiversity through regionally recognized social and educational farms.

In terms of the success factors, Cooperativa ALICENOVA has been able to substantially increase the productivity of "disabled workers" to reach levels comparable to those of conventional firms. Its success lies in the ability to leverage the surrounding social context to create mutual benefit within a network of reciprocity implemented by social agents such as volunteers, civil society organizations and public and private institutions.

The third case study of "Albergo Diffuso" is a model that has been recently developed for local tourism, that allows guests to experience a historic, usually urban, setting. Accommodation is provided in houses and rooms located a short distance away from the core of the hotel itself, the building in which reception, the bar/restaurant area, and the common spaces and services are located. The main driving factors are:

- The Albergo Diffuso is configured as a "horizontal" structure which means that it is not articulated vertically in one large individual building constructed ex novo, very often indifferent to relationships with the context from both the point of view of localization and of composition of the buildings. In contrast, the horizontal Albergo Diffuso is contained in preexisting individual housing units and architectural emergences diffused throughout the territory. This means it can be integrated into the territory using differentiated and flexible methods. It is a flexible structure whose variations all present an identical dominator, that is, more housing units become involved, easily recognized by their historic, cultural, and architectural identity, restored for tourism and equipped with innovative technologies albeit conform to "minimum intervention"

- The bedrooms and related services are located within the pre-existing housing units (fig. 1), and not more than 200/300 meters from the building that contains the communal areas and the service activities (reception, dining room, refreshments). In some cases new buildings have to be planned in order to guarantee the functioning of the new use of the nucleus so that, for example, they meet the regulations requiring that they are both compatible with the context and with the typological characteristics of the existing buildings.
- Working alongside local organizations such as the town mayor and the national park, they proposed special laws to prohibit any new construction. The aim was to bring the village back to life and to welcome tourists, but without sacrificing Santo Stefano's identity.
- To retain Santo Stefano's local character all modern technology is hidden. It is assured that original architectural materials, furniture and textiles are authentic items from the Abruzzo mountains.
- Since 1900 there has been a gradual but constant abandonment of the village due to crisis in mountain agriculture and migration from small to large urban centers for better employment opportunities but which has paradoxically maintained the integrity of the heritage in the natural landscape.



**Figure 3: Ordinary hotel and Albergo Diffuso** - (Source: *Proceeding of the 3rd International Conference with Exhibition S.ARCH "Next ARCHITECTURE" 25–27 May 2016, Hotel Splendid Conference & SPA Resort, Budva, Montenegro*)

Considering all of them together and bringing forth conclusions (tab. 1), it seems like Italy's rural business is largely focalised around the country's most popular, and hence strong, aspects, that is agriculture, food production and tourism, which are supported from the technological side by sustainable energy resources. Italy has mastered the concept of local collaboration in order to exploit the economy of scale (f.e. Albergo Diffuso) and to accumulate and distribute such obtained gains more fairly. Various stakeholders are involved and through mutual collaboration they



seek to exploit their local context, at the same time keeping in mind preservation of its unique setting. The whole process is supported by grounded scientific research, where through bottom-up approach and exchange of local experiences the business models are continuously improved, with support from both national and local governments. However, the government turns out also to be one of the greatest obstacles, where complex legislation and bureaucracy slow down growth, often adding significant operational costs that prohibit creative expansion. Another barriers were access to and general lack of capital, lack of new knowledge (as exchanging knowledge only locally may eventually runs off its capacity) – what has been signaled and cooperatives requested from government that it would produce a form of a database where such local communities could exchange information *between* one another, and also spacial capacity – where with time further growth is constraint by the requirement to keep things ‘local’, where further expansion could worsen perception of the unique “local atmosphere” of a place.

**Table 1: Summary tab of section 3.**

<b>Case study</b>	<b>Category</b>	<b>Main characteristics</b>	<b>Key driving factors</b>	<b>Main obstacles</b>
REC/Agrivoltaic farmer	Agriculture; Renewable energy.	Research for sustainable and innovative farming	Bottom-up approach; Circular Rural economy	Complexity; Lack of knowledge; Planning constraints
COOPERATIVA ALICENOVA	Tourism; Agriculture; Community based activities	Alliances with other civil society entities that promote well-being and health, equity, and social justice	The ability to leverage the surrounding social context to create mutual benefit within a network of reciprocity implemented by social agents.	Size does not allow large investments in research and development which are very often necessary to generate an innovative product or service; credit access
Albergo Diffuso	Tourism	Alternative structure and means of service delivery; the emphasis on authentic experiences and the involvement of all its participants.	Horizontal structure; Related services are located within the pre-existing, close-by housing units; Working alongside local organizations	Existing regulations; lack of government support; bureaucracy; heavy taxation; lack of databases on tourism; visa-related issues





## 4. Analysis of existing relevant programs

The first program was the OECD Trento Centre for Local Development that was established by the OECD, the Italian Government and the Autonomous Province of Trento (Italy) in 2003. It is an integral part of the OECD Centre for Entrepreneurship, SMEs, Regions and Cities. The OECD Trento Centre for Local Development, which uses a holistic “from data to practice” approach to policies for sustainable development to offer local policy analysis, advice and capacity building activities for improved policy implementation. It provides policy advice and develop capacities for the effective design and implementation of policies that are tailored to local needs and focused on the key drivers of local economic growth and well-being in OECD Member and non-Member countries.

Its analytical framework revolves around the implications of economic trends and policies for people, firms and places. This approach turned out to be very useful, because its main impacts were:

- To research organisations: Collaboration opportunities to conduct policy-relevant research on drivers of spatial productivity.
- To governments: Analysis of economic trends and their effects on productivity performance of regions; policy advice on the ways to boost growth and wellbeing.
- To civil society: Participation on the international dialogue on subnational productivity, growth, spatial inequality and other issues of utmost importance.
- Insights into emerging policy trends and challenges.
- Support to policy making through the analysis of local dynamics and comparison with international practices.
- Peer learning between practitioners and participation in high-level international policy for a.
- Trainings and tailored activities to strengthen the skills needed to develop, manage and evaluate local development strategies.
- Peer-to-peer learning opportunities to learn from an international network of local development professionals.
- Support for developing vibrant community of practices and learning enhancement tools.

Second program was the Interreg ALCOTRA which promotes innovation, a safer environment, the valorization of natural and cultural resources and social inclusion. At the same time, it addresses climate change issues, sustainable mobility and youth employment and education in the cross border area. Actions in these priority areas are complemented by efforts to foster closer co-operation of administrations contributing to creating an integrated and sustainable development of the border region. To achieve these strategic objectives, the programme aims at increasing the number of joint innovation projects, developing innovative models for sustainable public buildings, improving territorial planning and the prevention and resilience towards environmental risks, increasing sustainable tourism in the area, improving habitat management, increasing the number of strategic actions towards a sustainable



mobility, promoting the attractiveness of mountain and rural areas for families and young people increasing the education and training offer of the cross border area.

The ALCOTRA programme contributes to the Europe 2020 strategy in favor of “smart, sustainable and inclusive” growth that focus on employment, research and innovation, education, social inclusion and poverty reduction, climate change and energy. ALCOTRA is financed by the ERDF (European Regional Development Fund): Instrument for the implementation of the EU cohesion policy to finance the multi-annual regional development programmes, resulting from the negotiation between the European Commission, Member States and regions.

More specifically, ALCOTRA is part of the European Territorial Cooperation Programme, better known as INTERREG, which aims to promote the creation of a single market through cooperative actions aimed at reducing the development gap between different European regions.

Their impacts include:

- 20 new cross-border cooperation projects and innovation services created
  - 95 additional public institutions adopting strategies to tackle climate change
  - 226 municipalities involved in projects of preservation and valorization of the territory
  - 65 cross-border action plans for awareness and management of biodiversity
  - 400 training and "professionalizing" teaching path developed at cross-border level
  - 21 sustainable mobility strategy implemented.
- 
- Develop innovative approaches to sustainable construction in public buildings in order to improve the energy performance
  - Encourage the development of social and health services for the fight against the de-population of rural and mountain areas
  - Improve public institutions' land use planning in order to adapt to climate change
  - Improve the management of protected habitats and species in the cross border area
  - Increase innovation projects (especially clusters, poles and businesses) and develop innovative services across the borders
  - Increase sustainable tourism in the ALCOTRA area
  - Increase the resilience of ALCOTRA areas most at risk
  - Increase the strategic actions and plans for the most effective, diversified and environmentally friendly cross-border mobility
  - Increase the strategic actions and plans for the most effective, diversified and environmentally friendly cross-border mobility
  - Increasing the supply of education, training and skills in the cross border area

The third programme was the National Rural Development Programme (PSRN) 2014-2020. This programme is the tool through which the Ministry of Agricultural, Food and Forestry Policies aims to support and develop the potential of rural areas located and classified as such on the territory of the Republic of Italy.



This programme efforts the promotion of the overall competitiveness of small and medium-sized enterprises in the agricultural sector. Objectives laid down are to promote the organization of the agri-food chain, including the processing and marketing of agricultural products, animal welfare and risk management in the agricultural sector; to improve access to credit, business financing and risk management in agriculture; to support the prevention and management of corporate risks; to offer and use risk management tools in agriculture; to protect the environment and promote the efficient use of resources; to encourage the effective use of resources and the transition to a low carbon and climate resilient economy in the agri-food and forestry sector.

The National Rural Development Programme (PSRN 2014-2020), co-financed by the European Agricultural Fund for Rural Development (EAFRD) referred to in Regulation (EU) No 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005

Their impacts include:

- agricultural development
- policy/planning
- rural employment
- rural youth
- family farming
- farming
- genetic resources
- environmental impact assessment
- biodiversity
- risk assessment/management
- irrigation

Considering all of them together and bringing forth conclusions (tab. 2), in Italy there are programs and initiatives internally on both, local and national, levels and also on international one. Their activities are aimed at various targets, depending on the level, including individual people, companies, entire regions, or other legal bodies such as public administrations or universities and research centers. They assist with consultation, analyses available data, design for it policies and aim to build capacity for local practitioners. This can be achieved through applied innovations, having better understanding of practitioners' environment and further consultation and monitoring. In summary, those programs help to realize the shortcomings mentioned by case studies – namely the lack of data and knowledge, by gathering it nationally/internationally/globally and providing case-customized consultations.

**Table 2: Summary tab of section 4.**

Program	Target groups	Sectors	Main contents	Advantages / Disadvantages
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The OECD Trento Centre for Local Development	People; firms; places	Research organisations; governments; civil society	Data analysis and research; Place-based policy analysis and advice; Capacity building for local practitioners on a global scale	The OECD global network of subnational actors allows for a wider variety of practices and innovations to learn from.
Interreg ALCOTRA	Public administrations; SMEs; lifelong learning centers; universities and research centers; associations, natural parks; chambers of commerce innovation centers and business networks.	Tourism; agriculture	Applied innovation; better controlled environment; attractiveness of the territory social inclusion and European citizenship	Well-designed program with a wide range of activities. Its wide scope may be out of focus though at times.



National Rural Development Programme (PSRN) 2014-2020.	Rural areas located and classified as such on the territory of the Republic of Italy.	Agriculture	Carrying out a verification of subjection; elaboration of the Environmental Report; consultation; evaluation of the Environmental Report and the results of the consultations; decision; information on the decision; monitoring	Well-designed program with a wide range of activities. Its wide scope may be out of focus though at times.
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## 5. Analysis of Questionnaires Results

The first version of the survey shared by the Oren group is being submitted on – line and by hand. 12 are the cooperatives in the Lazio Region which offered their support in answer the questionnaire, active in the agricultural field, mainly with social purposes. The analyzes drawn from the questionnaires are the result of both the answers collected and general and deductible considerations (territory morphology, structure of cooperatives, national statistical data, etc.), since many of the open questions did not receive the detailed reaction expected, in support of which we have tried to provide additional information, however realistic and scientifically proven.

According to a geographical distribution, it is the area around the province of Latina in southern Lazio, formerly Agro Pontino (an approximately quadrangular area of former marshland, extending along the coast southeast of Rome about 45 km) to significantly represent the main rural basin in which many respondents are residing and operating, whereas the whole territory is historically an agricultural area, largely used for highly specialized and intensive crops.

Latina is the second province to count the highest number of inhabitants (9.9%).

Terracina is at the first place for grouping the highest number of respondents.

Some flash additional flash information on the Agro Pontino which might be relevant for general consideration, and to frame and decipher some collateral phenomena to the questionnaire (such as the structure of the agricultural labor market made up of immigrant laborers)

1. Agro Pontino is one of the youngest areas in Europe and has the highest birth rate in Lazio.



2. Italian immigration has here strongly stabilized. There is also an increase in non-European immigration from Asian countries such as India, Pakistan, and Bangladesh, or from countries in North Africa and sub-Saharan Africa.
3. Agriculture, even if largely entrusted to family-run farms, is here very profitable and the phenomenon of abandonment of fields, typical of other realities, has not occurred, but, on the contrary, they are almost employed in this sector. 11% of workers (ISTAT data), one of the highest percentages in Italy.

- Leadership of cooperatives is generally entrusted to people with a **medium-high level of education** (middle-school 33%; high school: 35%) and with an experience mostly in the rural and agricultural context of over ten years (7 respondents =58,3 %). Especially the cooperatives of Agro Pontino have confirmed a long-lasting experience in the sector confirming the main role of the agriculture as social, economic, and occupational work capacity lever. In fact, 25% of respondents have an experience between 1 to 5 years, showing that agriculture still creates new job opportunities, generational and managerial change (question graph.n. 2, Annex 2 Online Questionnaire).
- In reference to the respondents' **areas of expertise**, most of them (58,3%) reported being specialized in the agro farming, and more in general in the field of agriculture (25%), while the rest of respondents answered as "other", without additional without any more specific reference to the sector of specialization (question graph. N. 3, Annex 2 Online Questionnaire).
- Regarding the future promising sectors of rural entrepreneurship, the half of respondents have identified renewable energy as the main one, followed by 30% which declared the farming as a further encouraging sector (question graph. N. 4, Annex 2 Online Questionnaire).
- In most cases, the respondents agree in **identifying the socio-economic context as the first challenge and obstacle to the growth of their business/activities and entrepreneurship** (66,7%), while it is the access to funds (45,5%) the obstacle which they believe to be the most alarming one to the establishing of rural businesses, followed by ex equo the workforce development (18,2%) and skill shortage (18,2).
- It is the innovation the main driving factors for achieving successful outcomes for rural businesses, and quite reliable, 25% the proper entrepreneurial skills. (question graph. N 6, Annex 2 Online Questionnaire).
- According to the answer, and in line with what is considered about the importance of innovation in the agricultural sector, respondents have indicated (question graph n. 9, Annex 2 Online Questionnaire).

1.skills needed to innovate (50%),



2. technical skills (50%) and
3. planning and Business Strategy skills (Developing and Evaluating a business strategy) as main competences that an entrepreneur should have.

## 6. Concluding Remarks & Recommendations

Based on results of the conducted survey and presented here case studies it can be concluded that the most relevant institutional factors for new venture performance in rural and/or urban settings are financial support, social networks and collaborations and technological support. With regard to financial support, bank funding seems to be more important for new ventures located in urban regions. Often banks want a positive track record and collateral, which new firms, particularly those in rural areas, generally do not have. Thus, other sources of funding (e.g., business angels and family and friends) emerge as an important alternative in rural settings.

Social networks and collaborations, namely obtaining advice from local institutions and the community to start and develop the company and joint activities with other companies/institutions to access new markets, have a significant impact on the firms' export performance. This confirms that rural entrepreneurs are able to improve venture performance by establishing links and participating in networking activities. This further emphasizes the idea of rural embeddedness. Indeed, because of fewer potential resource providers in rural settings in comparison to the urban ones, the new venture may be more dependent on engagement in a rural community. The positive influence of joint activities with other companies/institutions to develop R&D in rural settings underlines the concept of 'innovative milieu'. Therefore, like rural entrepreneurs, rural areas do not have to be stereotypical.

The absent or negative support of national and local policies for venture creation in rural settings might mean that they are still not adjusted to local conditions. Therefore, from a political point of view and for managerial implications, policy tools should be more sensitive and appropriate to the particular conditions of different rural areas. Moreover, rural authorities should follow strategies which include establishing an entrepreneurial culture within the municipality. This involves a growing and effective connection between rural entrepreneurs and a variety of actors from industry, academia and the public and private sectors in order to foster venture performance.

In the end, we have to say that collaboration, co-creation, and sharing are becoming pivotal words for processes able to start from the bottom and to find innovative solutions that go behind the usual sectoral and professional divides. The organization of new business, the sustainability of small firms in rural areas, and their ability to intercept emerging challenges should move hand-in-hand with the reorganization of



the set of rules, institutions, and shared visions able to facilitate the co-production of environmental and social public goods with economic viability. Such a process cannot be carried out by small entrepreneurs alone, but can only be achieved by facilitating the organization of a new decisional environment able to incorporate, besides the market, other institutions and principles, such as public policies in case of the ecosystem services, or ethical consumption beside policy integration and public support in the case of civil food.

In addition, a generalized framework of rural policies that could be applied on the specific sectors has been developed and integrated to this focus applying a group model building to produce a causal loop diagram from a System Thinking approach and explore insights for policy making in line with the SDGs. It consisted of the applications of Systems Thinking (ST) and System Dynamics (SD) approaches to systemically describe the agricultural sector and to support policy formulation mapping the information gathered in the whole project using secondary data from national databases and information sources, elaborate them under a systemic perspective and creating systemic maps.

Used approach:

ST and SD are interdisciplinary modeling methods specifically developed to enhance understanding of complex systems (Sterman, 2000)<sup>18</sup>. The methods provide a holistic understanding of the interdependent causality around a pre-specified problem, representing a qualitative level of analysis which synthesizes all relevant elements into an endogenous, feedback-based theory (Turner et al., 2016)<sup>19</sup>. Systemic maps or causal loop diagrams (CLD) consist of a series of main feedback loops connecting all relevant system elements and tracing causality of connections. This allowed to summarize the acquired knowledge and highlight the feedbacks among system elements able to foster policy formulation. In fact, the dynamic system is characterized by the presence of reinforcing or balancing feedback loops that dominate in the system structure, driving the future systems behavior (Sterman, 2000). The CLD were drawn to describe the general structure of the system to obtain insights and foster sector policies. The method followed examples of group model building already reported in the literature and experts from the project staff were involved in the qualitative modelling phase using the material and outcomes already presented in the previous sessions. In iterative steps, the insights from the group members lead to first CLDs and were then used basis to draw system connections and feedback. The CLDs aimed at depicting the complexity around the problem of GHG mitigation efforts and possible policy actions. A version of the elaborated CLDs is presented in figures 1. At the same time, the interconnectedness to the SDGs with proposed policy actions are presented to generically map the policy impact as shown in figure 2 and 3 and lately described. To facilitate the CLD reading, the CLD annotation was adopted according to the systems thinking method

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<sup>18</sup> Sterman, J. 2000. Business dynamics, systems thinking and modelling for a complex world. Mc Graw-Hill Higher Education.

<sup>19</sup> Turner, B.L., Menendez, H.M., Gates, R., Tedeschi, L.O. & Atzori, S.A. 2016. System dynamics modelling for agricultural and natural resources management issues: review of some past cases and forecasting future roles. *Resources*. 5(4)





(Sterman, 2000). The loops are generated by connecting the variables with arrows. The direction of each arrow indicates causality and is characterized by polarity: a positive (+) or negative (-) sign corresponds to a positive or negative correlation between the connected variables, respectively. A + sign means that if one variable increases, so does the subsequent one, whereas a - sign means that if one variable increases, the subsequent one decreases. These links combine to form feedback loops, where variable A may influence variable B, which in turn influences variable A at a later point. The multiplication of the polarity signs determines the loop labelling, based on the aggregated polarity (Sterman, 2000). There are two kinds of loops that are studied on the basis of their characteristics: (1) Reinforcing (R; from positive polarity): self-reinforcing loops (when multiplication of signs results equal to +), implying that when these loops are the only ones operating in the system or are the dominant ones, the system grows exponentially; (2) Balancing (B; from negative polarity): self-correcting loops which counteract change (Armendáriz et al. 2016)<sup>20</sup>.

Other studies have sought to integrate these methodologies for policy formulation (e.g., CLD group modeling, Laurenti et al., 2014<sup>21</sup>; Marandure et al., 2020<sup>22</sup>) highlighting advantages of the multidisciplinary approach for a systemic view. Researching the interactions between stakeholders and the product system with a systems thinking perspective and stakeholder involvement to holistically approach the system orientation. Exogenous dynamics and impacts should also be highlighted providing insights on the complexities surrounding ecological, economic and social sustainability in agricultural farming systems, including crop and livestock practices.

The core of the CLD captures the main dynamics, consisting of the relationship among policies and provisioning of ecosystem services from the rural communities and farms as described below.

### **Policy framework:**

The policy framework shows: - a first diagram to address the main policies for the more food provisioning role of agricultural sector (Figure 4); - a second more generic diagram that integrate the other ecosystemic roles of the agricultural farms in the socio-environmental ecosystem; - a third diagram for the relationship among policies and Sustainable development goals.

### ***Policy framework for the food provisioning role of agricultural farms:***

It aims to describe the main orientation given by PSRN to the food production. A main feedback loop defines the system structure and explain the farm information flow that could allow to improve

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<sup>20</sup> Armendariz, V., Armenia, S. & Atzori, A.S. 2016. Systemic analysis of food supply and distribution systems in city-region systems – an examination of FAO's policy guidelines towards sustainable agri-food systems. *Agriculture*. 6(4): 65.

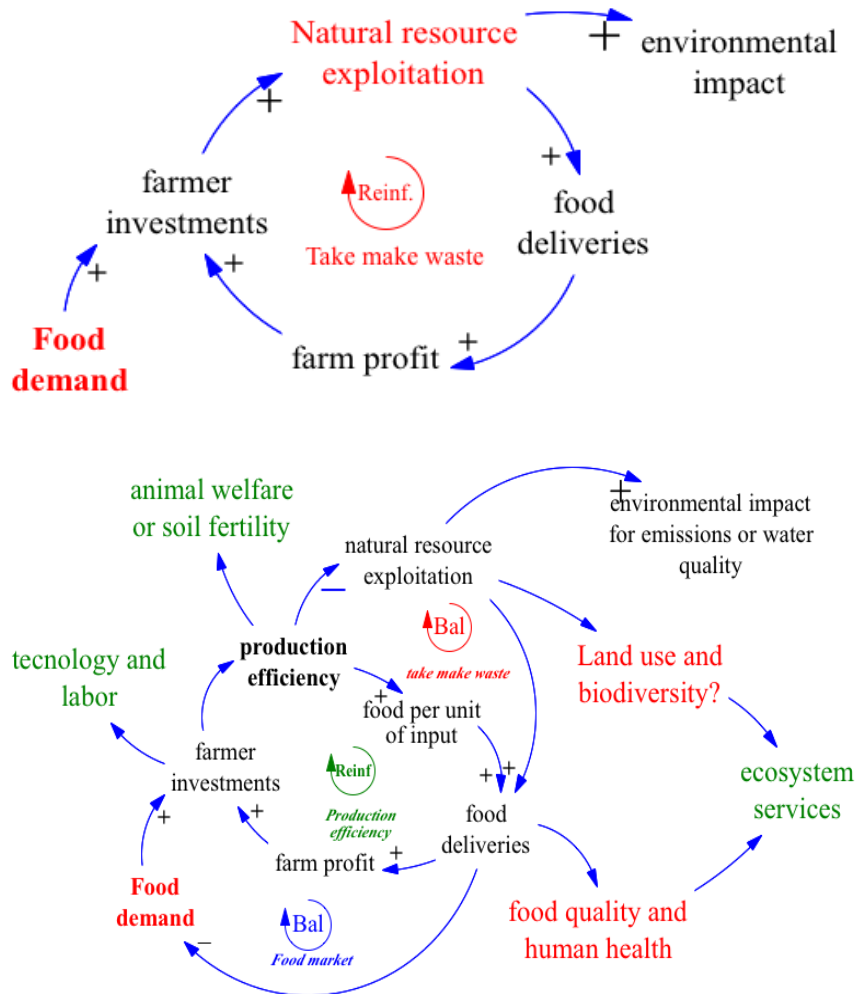
<sup>21</sup> Laurenti, R., Lazarevic, D., Poulidikou, S., Montrucchio, V., Bistagnino, L. & Frostell, B. 2014. Group model-building to identify potential sources of environmental impacts outside the scope of LCA studies. *Journal of Cleaner Production*. 72: 96-109.

<sup>22</sup> Marandure, T., Dzama, K., Bennet, J.E., Makombe, G. & Mapiye, C. 2020. Application of system dynamics modeling in evaluating sustainability of low-input ruminant farming systems in Eastern Cape province, South Africa. *Ecological Modelling*. 438(2): 109294.



agricultural good practices and increase efficiency and productivity of the sector. A basic structure could represent the business-as-usual functioning of the system and follows the logic that to push farmer investments to increase natural resources exploitation, expecting increases in production deliveries and profit. Product deliveries increase farm profits and push farm investments towards increasing further natural resources depletion. The generated reinforcing loop, labeled “take make waste”, is expected to drive exponential growth of the system would also drive exponential growth of the environmental impact (Figure 4A). As observed by many authors exponential growth is not sustainable due a consequential increase in production costs. A counteracting function of the system is activated with a balancing loop with the offer-demand equilibrium. In fact, in the CLD a negative sign means negative correlation, thus opposite variation trend.

A sustainable solution suggested at technical level, also promoted by the PSRN actions, is the goal-orientation of farm investments in production efficiency which would allow maintaining or increasing in production deliveries without increase land use and resource depletion. This systems behavior foster “goal seeking”, a more sustainable pattern of behaviors. The balancing loop, called “production efficiency”, would lead to efficiency improvements and reduction of GHG emission intensities. Secondary impacts are higher quality products with higher market value. Efficiency gains would also lead to higher net income and hence higher hourly wage. The balancing loop would be particularly effective if we consider an almost constant food demand and the actual carrying capacity of the national agricultural sector and trade. Indeed, a constant increase in production efficiency would push a reduction of unnecessary land exploitation, leading to a positive reduction of environmental impact. To enhance sustainable production, the national production should be maintained to sustain the market whereas the link between farmer investments and natural resource exploitation should be weakened.



**Figure 4: Causal loop diagram of agricultural sector and relationship with food production and ecosystem services.**

*Generic holistic policy framework for both food provisioning and other ecosystemic roles:*

The policy recommendation proposed with this methodology is in line with ecodesign criteria and allowed to define few lines of public money use to foster mitigation plans (Figure 2). This effort is currently driven by the environmental and economic gaps experienced at global level in these decades, which are already addressing public money to production sectors with environmental goals. National agricultural sector has been receiving large amounts of public financial aids to meet the multiple objectives of the CAP and PSRN. This would allow maintaining the farm profit guarantying the income level of the farmer families together with high ecologic benefits. Figure 5 indicates some examples which have arisen in this analysis. For example, direct and indirect payments of CAP should be oriented to support farmer choices to overcome



technical and knowledge gaps, adopt effective ecoinnovation practices aimed to improve efficiency of resource use. It especially has to target sustainable economies and rural development able to promote ecosystem services. Two types of ecosystem services were focused: food provisioning in one side and on regulation and social services in the other. From our viewpoint, public policies should be oriented to improve production efficiency in those farms with highest food provisioning potential (more intensive and high input farms) and to drive enhancement of other ecosystem services in those farms with higher potential of nonmarketable good and ecological actions in addition to food production already expected from agricultural farming, especially in multifunctional farms (agroforestry, fire prevention, watershed regulation, typical productions, etc.). IT relies also with the roles highlighted in the case studies (agrovoltaic farms, energy farms, social cooperatives, albergo diffuso, etc.). Ecosystem services are called to cover the society gaps, food provisioning, especially to reduce the economic gap and the regulation support and social services to reduce environmental gaps by acting responsible production and resource exploitation. Both actions are aimed in the medium term to reduce in the future the demand for public money for in the sector. Four main lines of policy intervention were highlighted to enable the green balancing loop highlighted in Figure 5 and to foster the rural development: i) switching from payments per unit of resource (hectare, animal head) to payments based on eco-innovation design and indicators (capacity to improve production efficiency (boosting the food provisioning role). Direct payments should be avoided, since they increase the resource use (desertification, reduction of forest vs. cropping systems) and land use change without increase production or services; ii) indirect payments should stimulate investments on precision farming ICT equipment, innovative facilities and tools and application of good practices in resources management and land use. Increased use of environmental indicators implies the farm data collection or Life Cycle Assessments evaluations of farm performance; (iii) a large effort of capacity building should be made to increase knowledge and interaction among technicians, farmers and other stakeholders or expert of the domain. This would meet the farmers' and technicians' demands for increasing competence and knowledge to get better products, to increase profitability and awareness on resource uses; iv) applied research and extension should support sector capacity building to seek more general sustainable objectives (Figure 5).





and livestock farming (SDG 8). Capacity building measures to support worker skills promote education quality and training (SDG 4; Figure 3) and decent work SDG 8 (Idda et al. 2010)<sup>23</sup>. These actions could, when combined, result in enhancing adoption of good practices and improving the organizational quality of the entire supply chain. A reduction of stocking rates and an improvement in efficiency would have benefits on animal welfare, enhancing responsible production and consumption. This would imply that targets for an efficient production and for improvements in the supply and demand of animal products are met - aligning with life-cycle-assessed efficiency potential (SDG 12; Figure 6).

Moreover, expected co-benefits of the intended GHG emission reduction protects and increases the regulation of ecosystem services (Figure 6). The strengthening of this policy model of food production in remote areas contributes to the protection of ecosystems preserving suitable land use and biodiversity (due to variation in agricultural pressure on land resources) in pasture and cultivated areas, acting on SDG 15. Highly relevance for Made in Italy is the long-term limiting of desertification. 46% of South regions are declared at risk of desertification, and another 40% are deemed in a fragile state (Giordano & Marini, 2008)<sup>24</sup>. In intensively managed farming systems, the desertification process can be halted with improved feed crop cultivation management (acting on SDG 15) which prevents erosion and land degradation. Within these systems food production and quality could guarantee and enhance the safety and nutraceutical properties of human diets, even pursuing objectives of good health (SDG 3; Figure 6).

Facilitation of a scale up may only be realized through continuous actions, categorized under a large partnership for the goals (SDG 17; Figure 6). The engagement of the main national research institutions, farmers and stakeholders of the supply chain (e.g., consortia of Pecorino production) and regional policy makers, could lead to creation of reflexive governance structures. This mechanism could be used to continuously assess the implementation of proposed changes in the systems functioning. Additionally, the CLDs might be used for sharing the system description with people of different levels of knowledge (from farmers to policy makers), and for developing new innovative policies and strategies for precision livestock farming. Translating the bottom-up strategy for ecoinnovation to the Italian system variables (Stockholm Center for Resilience; Rockström & Sukhdev 2016)<sup>25</sup>, indicates that enabling policies on the production sector while pursuing the SDGs of efficient production, decent economic growth, education and training of the stakeholders, and sustainable production, has positive implications for food provisioning, health and nonmarketable goods of the production areas. Furthermore, it would enable direct effects on the carbon and water footprint and the general organizational quality of the supply chain and its socioeconomic context.

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<sup>23</sup> Idda, L., Furesi, R. & Pulina, P. 2010. L'allevamento ovino in Sardegna tra crisi di mercato e politiche per il rilancio. *Agriregionieuropa*. 23: 65–68.

<sup>24</sup> Giordano, F. & Marini, A. 2008. A landscape approach for detecting and assessing changes in an area prone to desertification in Sardinia (Italy). *International Journal of Navigation and Observation*.

<sup>25</sup> <https://www.stockholmresilience.org/research/research-news/2016-06-14-the-sdgs-wedding-cake.html>

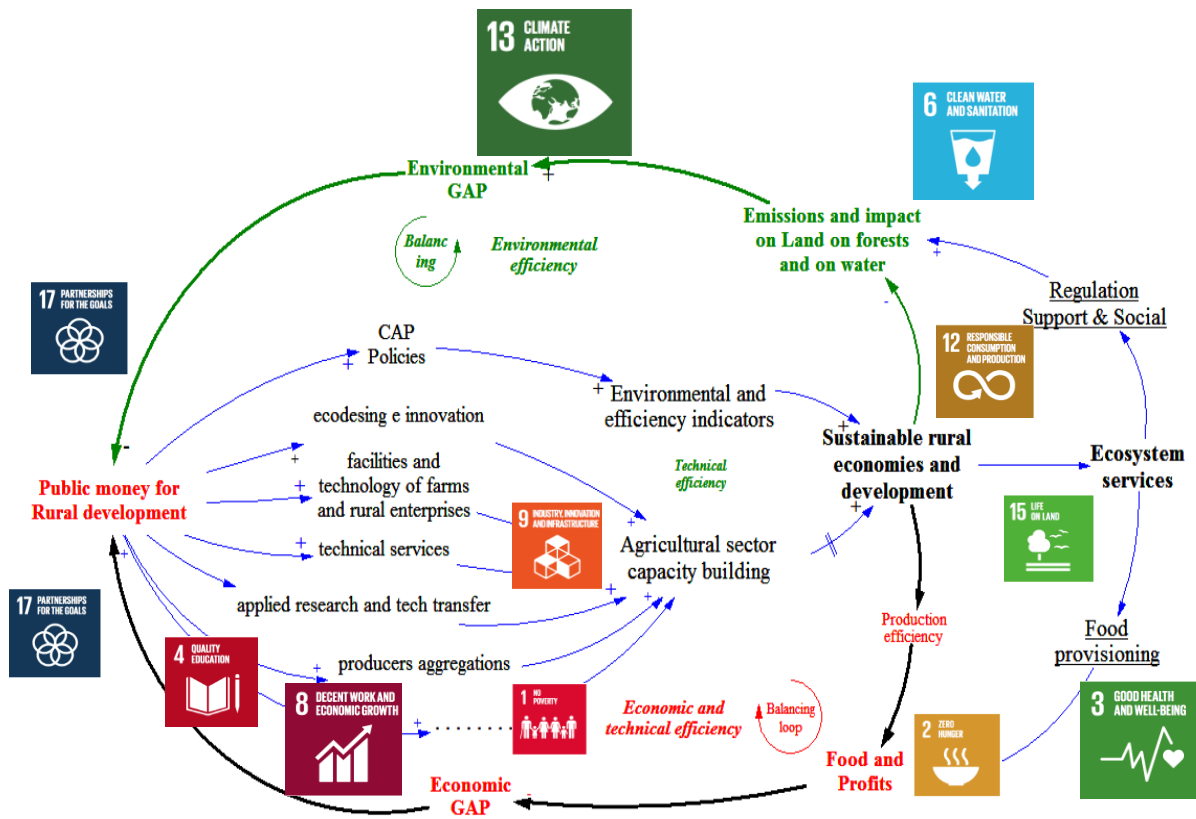


Figure 6: Relationship among Rural policies oriented to ecosystem services and SDGs of Agenda 2030.



# Annexes

## Annex 1: Case Study Identification

### 3.1 REC/Agrivoltaic farmer

Country: ITALY

Name of organization/business: **Società del Consorzio Le Greenhouse**

Contact person and contact info: Antonio Lancellotta – (+39)098584521, [info@legreenhouse.it](mailto:info@legreenhouse.it) , [antonio.lancellotta@legreenhouse.it](mailto:antonio.lancellotta@legreenhouse.it)

Website/link/more information: <https://www.legreenhouse.it>

Category: Please indicate:

- Agriculture
- Renewable energy.

#### 3.1.1 Short Description of business model:

Le Greenhouse is the first Consortium of farmer specialized in cultivation in an agro-photovoltaic environment. The experience of the Consortium is consolidated in 2018 in Umbria and in 2019 in Sardinia, managing about 40 hectares of agrofotovoltaic owned by EF Solare Italia Spa, with an installed power of 32 MWp, 11 active agrofotovoltaic plants and 18,000 species of plants arboreal.

The basic idea of agrivoltaic is to ensure that agricultural lands can be used to produce clean electricity, leaving room for agricultural crops. It maximizes the production of electricity from the solar source keeping the land available for agriculture and other purposes. Agricultural entrepreneurs (individually or as a company), agro-industrial companies, and agricultural cooperatives and cooperatives or their consortia can benefit of this energy system.

This case is particularly interesting for combining agricultural business with renewable energy production' opportunities in a single space, with the aim at renewing the agricultural process and restoring efficiency to production, long the entire cycle. The technologies installed in the agri area have made possible to obtain a product characterized by a very high quality standard, and to reduce energy and production costs at the same time. All the cultivation systems are completely computerized, allowing to regulate all the environmental and nutritional variables of the cultivation, regulating growth, to the point of being able to program it on a specific day of the year The innovations implemented have made it possible to obtain on average four crops for each calendar year. This experience is relevant for combining agricultural business





with renewable energy production in a single space, with the aim at renewing the agricultural process and restoring efficiency to production.

Recently the consortium promoted the establishment of energy communities together with the installation of agrovoltaic systems. Notably, a **Renewable Energy Community** (rec) is a legal entity involved in renewable energy production, which provides environmental, economic, or social community benefits for its shareholders or members or for the local areas where it operates, rather than financial profits. RECs are an innovative business' and energy management model already widespread in Northern Europe. In Italy, the new provisions will especially favor the spread of green and sustainable energy to create virtuous systems of production, self-consumption and sharing of energy through renewable energy communities – which will favorably impact the agriculture and rural challenges.

The agri-voltaic model together with the idea of building a Renewable energy community, encouraged nowadays both by Europe and by the Italian government in implementing the 2030 agenda, suggests the ideal combination of energy consumption and production. The aim is to make the agricultural sector more competitive, reducing energy supply costs and improving environmental climatic performance.

### 3.1.2 Socioeconomic background

In Italy, the birth and spread of community in the energy sector (RECs) dates to over 100 years ago, mainly affecting northern Italy and in particular the Alpine area.

However, the spread of energy communities throughout the country could only develop thanks to the increased participation of citizens, public administrations and commercial activities operating in the area. The development of energy communities largely depends on the link they have with the context to which they are part, on the effectiveness of cooperation with local authorities and with territorial stakeholders, but also on the administrative capacities of the municipalities and the various public bodies that they are promoters. Last but not least, the availability of the technological infrastructures essential to favor the production and sharing of energy.

### 3.1.3 Main achievements

Energy costs reduction:

- to be a tool to create agricultural enterprise network
- empowerment of eco system : the key word is self-production of energy and autonomous consumption of what is being produced. From here, a community is able to emancipate itself from the traditional system of exploiting local energies. From here, the concept of “energy and eco-system empowerment” from traditional energy models of production and sources.



- energy poverty reduction

Among the results obtained by the Consortium, we include:

- the efficiency in the use of water resources, with a saving of 70% of water compared to the same crop in the open field.
- the dual use of agricultural land, with shared management of the fund between the agricultural part and energy production.
- the protection of crops from atmospheric events, which also guarantee the grower to reduce insurance costs

According Mr Antonio Lancellotta (Consortium spokesman) there is a boost to the agricultural sector and the creation of specialized and non-specialized jobs, in places with a strong tendency towards youth emigration, the improvement of the efficiency of the photovoltaic modules, thanks to the mitigation due to the microclimate in an agrofotovoltaic environment, the high aesthetic quality of agricultural products: all elements that give the community and the local labor market a new hope of recovery.

### 3.1.4 Main driving factors and criteria that play significant role for achievements

- As many REC/agri-voltaic farmers, the consortium depicts social experiences from below pushed by companies, municipalities and groups of citizens who are slowly changing the energy system.
- Circular Rural economy: The additional income from photovoltaics allows the farmer to increase compatibility with the territory and environmental sustainability. The agro-fotovoltaic, therefore, fits fully into the multifunctionality of agricultural systems, increasing the possibility of using again and in a sustainable way a large part of the agricultural areas, now no longer cultivated due to their low profitability. This would certainly be an advantage both for the higher income generated and for the reduction of environmental problems caused by abandonment.

### 3.1.5 Main challenges/obstacles limiting potential for success

- The establishment of energy communities is a complex project that needs on the one hand to develop specific managerial skills in the area and on the other hand to make greater technical and regulatory simplifications.
- The development of these first experiments is limited not only by a lack of knowledge, but also by a very binding regulation that set specific limits to the constitution of energy communities among which the possibility of owning and developing plants with a maximum power not exceeding at 200 kW, the perimeter of application, linked to the low voltage transformer substation and the audience of possible participants.



- Technical and urban planning constraints. Rather than identifying suitable areas, as the ministry of Environment has done so far, it is better to draw up a list of where agro-voltaic is not possible.

### 3.1.6 Level and way of local community's or other organizations engagement in business activities:

**RESEARCH:** In addition to the mentioned consolidated results, the Le Greenhouse Consortium has recently collaborated, among others, with the University of Tuscia, ENEA (National Agency for New Technologies, Energy and Sustainable Economic Development), EF Solare Italia and Confagricoltura, in the drafting of the guidelines for the new agrofotovoltaic, in order to provide a framework of reference to operators in the sector.

In particular, the consortium is actively involved alongside ENEA in the establishment of a first network of sustainable farms at national level, open to companies, institutions, universities, and trade associations to promote sustainable agriculture, which makes it possible to produce electricity from photovoltaics and, at the same time, to cultivate the land. The goal of the cooperation is to arrive at the definition of a methodological and regulatory framework, guidelines for the design and evaluation of plants, tools to support decision makers and to contribute to the dissemination of knowledge and promote Italian excellence in the sectors of new technologies for renewable energy, agriculture and landscape.

**DEVELOPMENT and CONSULTANCY:** The consortium design, build and manage agro-photovoltaic systems and offer agronomic advice. Lao Greenhouse collaborated in the construction of the agrofotovoltaic prototype owned by EF Solare Italia, presented at the photovoltaic greenhouses of Scalea, in the province of Cosenza, on the occasion of the annual conference organized by EF Solare Italia, held on 25 November 2021. Currently, it counts 11 active greenhouse plants for a total of about 40 cultivated hectares and 18,000 plants in full vegetative and productive structure.

The Consortium advises companies operating in the sector by providing a package of land improvement plans design and coordination of the construction of new agro-photovoltaic systems, with the supply of monitoring systems aimed at optimizing the production factors and any subsequent management

### 3.1.7 Role of the local community and other organizations in the advancement of business models:

Institutions intend to take an active role in the promotion of energy communities and develop targeted incentives for starting and supporting the construction of the works necessary for their operation. It is necessary to make citizens and entrepreneurs aware of this opportunity, providing the necessary support to



deal with the various steps, such as contact between possible users, the retrieval of information relating to users, the formal constitution of the association / cooperative, the installation of systems , the sharing of benefits among Community participants. To do this, many Italian regions are also entrusting it with the task of creating a monitoring system aimed at disseminating the best practices present in the area and collecting the knowledge elements for setting up further incentive and dissemination policies REC.

Despite the recent introduction, attention to energy communities has grown considerably not only for their environmental and social value, but, in light of the increase in electricity prices, also for their economic potential. Indeed, RECs have a dual potential. On the one hand, reducing the energy costs of community members who share the renewable energy produced and pursuing social objectives, such as those aimed at combating energy poverty. On the other hand, **to be a tool for implementing new territorial policies, as envisaged, for example, by the PNRR measures aimed at restocking the internal areas of the country.**

Energy communities are an alternative model for the production and use of energy from renewable sources that is based on the ability of **local actors to self-organize, to read energy, economic, environmental and social needs and to build collective responses in able to exploit the potential of the territory and the type of renewable energy that can be produced in the community.**

The value of RECs, however, goes beyond the energy sector. Their development, in fact, can represent an exemplary production model in which citizens organize themselves to achieve objectives of collective interest applicable to the management of local public services - such as, for example, the waste collection service or the management of water service - and more generally to the management of common goods.

The potential of energy communities, however, **risks being lost if only or above all REC models promoted, implemented and managed - following a top-down approach** - by large energy players, who see energy communities as a marketing tool, are established, or by themselves. companies interested in the incentives introduced by the Government. To avoid these risks and not waste the potential that energy communities can represent, it will be important to operate on two fronts simultaneously. On the one hand, to identify legal and organizational forms that facilitate the formation and bottom-up management of RECs (institutions' mission), given that the legislator has not clearly identified which legal form should be preferred. On the other hand, to stimulate and accompany the processes of establishing energy communities, with the aim of creating RECs that are truly capable of generating collective benefits linked to the territory.

The role of local community in the "energy" business model is not so far from the vocation for which RECs are being developed: energy saving, and sharing is the main principle and value at the bases of the own future growth. it must be admitted that the RECs, in allowing citizens, public administrations and SMEs to be in the energy policies of the country, are the protagonists of "networking" and collaborating. Being able to make different subjects cooperate is an aspect that, even if encouraged by motivations often mainly of an economic nature (saving on energy costs), should not be underestimated, especially in dispute by a high social fragmentation.



In this perspective, an important role of private and Institutions is the promotion of RECs.

### 3.1.8 Main characteristics that model good practices:

Le Greenhouse carries out research activities to generate a radical change in the way of farming by developing sustainable and innovative cultivation techniques and at the same time we promote the production of energy from renewable sources.

### 3.1.9 Who can access the benefits of the AGRo-energies:

- Agricultural entrepreneurs, individually or as a company
- Agro-industrial companies
- Regardless of their members, agricultural cooperatives and cooperatives or their consortia

## 3.2 A social cooperative in the Lazio region

Country: ITALY

Name of organization/business: COOPERATIVA ALICENOVA

Contact person and contact info:

Website/link/more information: <https://alicenova.it>

Category: Please indicate: Ngo/social cooperative

- Tourism
- Agriculture
- Community based activities

### 3.2.1 Short Description of business model:

Cooperativa ALICENOVA is a notable case study of a Social Cooperative (hereinafter SC) and Social Agriculture Cooperative that boasts nearly 33 years of experience in the social inclusion of disadvantaged people, with more than 153 members, 295 employees, a strong reputation among other social cooperatives and within the network of profit and non-profit associations.

According to the legislation in force in the Lazio Region, ALICENOVA is a social entity with multiple objects, both type A (caring activities such as the management of health and social care, and educational and social services ) and type B (training activities, for example, the introduction of marginalized people or disadvantaged people with physical or mental disabilities who are unable to access the employment opportunities offered by the regular labor market), in rural context.



In addition to producing agri-food goods, it carries out a social activity through the work placement in the company or the therapeutic recovery of socially weak and disadvantaged subjects.

The main social mission of the cooperative is:

- promoting social inclusion.
- producing social and economic wealth.
- building shared and participatory work paths.
- promoting the working, professional and training growth of the members.
- participating in territorial development.
- practicing and encouraging a development welfare system.

More specifically ALICENOVA's core activities are:

- social and work integration activities for disadvantaged people and minors of working age through social rehabilitation projects.
- social and service activities for local communities using agricultural resources to promote and implement actions that will develop skills and work inclusion and the recreation of useful services for daily life.
- socio-health activities, i.e., interventions that support medical and psychological therapies which aim to improve the health and emotional and cognitive functions of vulnerable individuals, through rehabilitation therapies.
- activities aimed at environmental and food education, as well as safeguarding biodiversity through regionally recognized social and educational farms.

Working, training and education are the tools that allow the cooperative to achieve the goals of enhancing and promoting the individual, identifying, and proposing an intervention aimed at overcoming the disadvantage. In gathering the values of cooperation, Cooperativa ALICENOVA is constantly looking for professionalism and for new collaborations. It participates in all those projects that tend to favor solidarity aggregation and the acquisition of new knowledge related to the world of youth, with particular attention to the training area.

The cooperative has identified farming as a foundation on which to develop “shared welfare” practices and social farming policies and experiences. Farming is therefore understood as a method that, while protecting the environment, protects everyone's health, starting from the most fragile categories.

It is a model conceived with a twofold objective since it looks at the rights of agricultural workers and of vulnerable categories.

### 3.2.2 Socioeconomic background:

Several years of economic crisis have re-shaped the role of the public and private sectors for socio-economic development. Austerity policies have decreased government interventions in markets and in public services and infrastructure. Between 2008–2018, Italian governments reduced public debt through



spending reviews and cuts, steadily decreasing local infrastructure investments by 4% each year (Visco, 2018)<sup>26</sup>. Simultaneously, the national budget for Italy's welfare system suffered a drastic reduction of 13%.<sup>27</sup>

Many social cooperatives and enterprises are being funded in responding to economic crisis and state withdrawal, where it should need a public governance to the creation of sustainable jobs and growth (also, in rural economies). The continuous decline of the State as leading center of the political economies, along with the reduction of public resources and the increasing number of nonprofit organizations, they all are reshaping social protection services. Strong cuts on expenditure on social protection (pensions, health, social policy etc.) have been made to meet the balanced budget requirements imposed by the European Union. This element, along with the reduction of taxes' incomes<sup>28</sup>, led States to give up many of its prerogatives to private benefit. This started a strong cooperation between public, private and Third Sector.

Multisectoral social cooperative and social enterprises are those that have suffered the least from the impact of the economic crisis linked to the pandemic. This reality emerges from different reports, including the *il IV Rapporto di Iris network, L'impresa sociale in Italia. Identità e sviluppo in un quadro di riforma*<sup>29</sup>. The data speak of over 22 thousand organizations with a significant increase in companies and employees compared to previous years. From the mentioned Iris Report it emerged that companies, faced with new needs and urgent changes, have been able to reinvent and transform themselves to carry out activities for their users and communities. Basically, in the pandemic, **social enterprises have shown that they are able to guarantee a large part of welfare services and at the same time employment, knowing how to innovate and adapt to new external conditions.**

Although Alicenova is in a particularly rich and dynamic territory, the general economic recession has accentuated a "historical" phenomenology that sees the relationship between public and private, the latter closer to the social needs of the territory itself.

Notably, what relevant is becoming even more, is in the renovation or regeneration of public assets, buildings, and spaces in urban and rural contexts that have been left in abandoned or dilapidated conditions due to austerity-led public sector spending reductions. These regeneration projects are

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<sup>26</sup> Visco, I. 2018. Investimenti Pubblici per lo Sviluppo dell'Economia. Intervento del Governatore della Banca d'Italia Ignazio Visco. 64° Convegno di Studi Amministrativi Sviluppo economico, vincoli finanziari e qualità dei servizi: strumenti e garanzie. Varenna

<sup>27</sup> Italian Community Co-operatives Responding to Economic Crisis and State Withdrawal. A New Model for Socio-Economic Development. A study by Michele Bianchi, University Carlo Bo - Urbino Italy

<sup>28</sup> Art. 7 of Law 381/1991 establishes that "social cooperatives enjoy a reduction to a quarter of land registry and mortgage taxes, due following the stipulation of loan, purchase or lease agreements, relating to properties intended for the exercise of the business social".

<sup>29</sup> IV Report of Iris Network: "Social enterprise in Italy. Identity and development in a reform framework". (2021) <https://irisnetwork.it/attivita/rapporto/>



increasingly seeing collaborations between residents and public authorities, opening up new local development opportunities centered on the co-operative model.

What emerges is the regeneration of a community's material or immaterial assets, including natural, historical, or cultural resources via some revenue-generating activity used to maintain these resources and for generating new community projects. (Alicenova is a rural cooperative which produces local and seasonal food to sell in local market).

### 3.2.3 Main achievements:

Here is mentioned the project/course made and promoted by UNICREDIT Italia with the cooperation of Politecnico di Milano: "Road to Social Change".

The Covid crisis has highlighted even more the economic interdependence between the various public and private social actors and the importance of creating the conditions so that a virtuous contamination between companies is triggered finance, third sector and the state.

Road To Social Change has also included a Call addressed to non-profit organizations for the best community building projects. 7 projects were awarded that respond to as many economic challenges involving the Third sector: enhancing the cultural tourism and agri-food chains, generate new social infrastructures, regenerate places by involving the community, develop community welfare and cohesive economies, promote the circular economy through enterprising communities; promoting cities and new inclusive ecosystems.

In the framework of the project "Road to a Social Change", Cooperativa has been awarded with the initiative concerns the **Osteria38 in Acquapendente (<http://www.sosteria38.it>)**: hotel, restaurant, coworking and home to the info point of stage/km 38 of the Via Francigena. It is a project of social and work inclusion for three young people with disabilities and promotion of the sales point of agricultural products from solidarity farms and the slow food network of Tuscia. The structure is inspired by lean production concept.

### 3.2.4 Main driving factors and criteria that play significant role for achievements:

It is good to remember that the peculiarity of the Cooperativa ALICENOVA is that of "pursuing the general interest of the community in human promotion and the social integration of citizens", through a true form of enterprise. The latter, therefore, as such must also take into account the achievement of economic-financial equilibrium so that it can last over time. Cooperativa ALICENOVA has been able to substantially increase the productivity of "disabled workers" to reach levels comparable to those of conventional firms. Its success lies in the ability to leverage the surrounding social context to create mutual benefit within a network of reciprocity implemented by social agents such as volunteers, civil society organizations and public and private institutions.





### 3.2.5 Main challenges/obstacles limiting potential for success:

The growth dilemma: size does not allow large investments in research and development which are very often necessary to generate an innovative product or service. The enhancement of SC operations would certainly entail greater organizational complexity that could require managerial practices and professional skills and business management methods essential to operate in an increasingly competitive context. A crucial challenge for SC, therefore, is the need to manage the transition to a more complex operational scale without compromising their constitutive social vocations, their role as social connectors of the various stakeholders and their local legitimacy.

Social cooperatives have a high financial strength thanks to the constraint of distribution of profits and democratic governance. On other hands, they suffer the same problems of SMEs because the size: i.e., the credit access. Hence, they may have a low ability to generate value for the invested capital.

The pioneering and promotional phase of social agriculture is now definitively over. Farms and social cooperatives will face new challenges in the near future. The subjects involved in social agriculture practices are engaged in the building of new processes of social cohesion and experiment with new forms of community welfare. Farms that practice social agriculture must constantly innovate inclusive production processes and develop the marketing and distribution networks of ethically branded farming products. This is especially the case in light of the pandemic, which has inflicted a new conception of welfare in the face of an extraordinary condition of social crisis. It follows that cooperatives are called to become even more dynamic, versatile, and flexible subjects capable of responding to everchanging needs for inclusion and social support. The Ukrainian gas crisis also represents a worrying phenomenon on a social scale where energy poverty will also call cooperatives to reflect.

According Alicenova more agricultural training is needed to play a significant role toward change.

### 3.2.6 Level and way of local community's or other organizations engagement in business activities:

Social agriculture through initiatives promoted in the agricultural and food sectors encourages the therapeutic reintegration of disadvantaged people in the community and at the same time produces goods. Cooperativa ALICENOVA plays an important role in stabilizing and maintaining employment levels on the territory. This has always placed it in close contact with the community on the one hand, and the institutions, accelerating and mediating the dialogue between the parties involved. In Italy, Law 381/91 (see relevant programmes included: 'Regulation of Social Cooperatives') provides that the type B cooperative is made up of 30% of members with disabilities, under penalty of not being recognized as a cooperative of this type. therefore, it is the cooperative itself that acts as an employer by absorbing people



with disorders and difficulties in entering the world and the labor market in the area. Also in this mission, the cooperative joins a topic of normal interest to local authorities.

Alicenova is a "development laboratories" with the ability to undertake "generative processes" by developing their activities in areas that have to do with the supervision, care and development of the territory and its community.

Since it is a farm, it sells products to local marketer contributing to maintaining a local production and distribution.

### 3.2.7 Role of the local community and other organizations in the advancement of business models:

Considering the increasing relevance that the phenomenon of social agriculture is assuming and all the social and economic benefits it brings, it is very important that institutions enhance this new type of business.

This process demands the active management of several actors as part of the strategic renewal efforts. The cooperative business model includes not only the development and launch of a new social service but also intensive communication between the cooperative-firm and its target-market since the success depends on the synergy with institutions.

### 3.2.8 Main characteristics that model good practices:

Cooperativa ALICENOVA is a promoter of the social economy in the territory. Precisely for these reasons, alliances with other civil society entities that promote well-being and health, equity, and social justice (associations, social enterprises, public health, and education systems) are fundamental. The cooperative is part of a local network made by local marketers, families, and municipality: it arranges local agro-festivals, market with zero km products, contributing to broaden the field to the entire local community, to its economic logics, and to the marginalization of the most vulnerable subjects.

## 3.3 Santo Stefano di Sessanio (L'Aquila, Abruzzo)

Country: ITALY

Name of organization/business : Santo Stefano di Sessanio

Contact person and contact info:

Phone number: +39 0862 899112

Mail: santostefano@sextantio.it

Mob./WhatsApp: +39 348 2402967

Website/link/more information: <https://www.sextantio.it/santostefano/abruzzo/>



Category: Please indicate:

- Tourism.

### 3.3.1 Short description of business model:

The *albergo diffuso* (dispersed hotel) is a model that has been recently developed for local tourism, that allows guests to experience a historic, usually urban, setting. Accommodation is provided in houses and rooms located a short distance away from the core of the hotel itself, the building in which reception, the bar/restaurant area, and the common spaces and services are located.

### 3.3.2 Socioeconomic background:

The idea and name of *Albergo Diffuso* arose at the end of the 1970s in order to revitalize and develop historic town and village centers as well as hamlets affected by the earthquake in the Friuli region of north-eastern Italy. The idea slowly spread through the 1980s and various attempts at bringing it to fruition were made but this model did not find concrete activation until the 1990s and it was only in 1998 that it was regulated for the first time by a Regional Law passed by the Autonomous Region of Sardinia. Cultural tourism, which has spread since the 1970s, has changed considerably and particularly during the last twenty years. The tourism demand is differentiated by and noted for a requirement for authenticity and more and more engaging and preferably unique and valuable experiences, capable to intimately connect a tourist with cultural heritage of the *genius loci* and the tradition connected with it. In addition, these changes largely arise out of cultural concepts, and out of territory in terms of its landscape and environment, which according to the meaning of “cultural landscape” is moreover recognized as a visible witness to its history. “*Albergo diffuso*” is a reflection on the need to find new planning solutions that would be identified as a new model of tourism development, which would serve as an alternative to new high-density tourist settlements in contexts where above all they would impact strongly on the surrounding landscape.

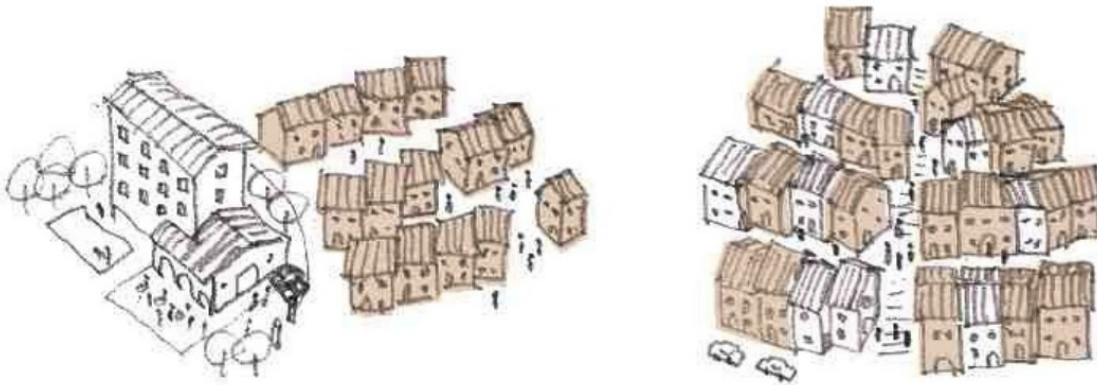
### 3.3.3 Main achievements:

- protection and safeguard of natural and landscape resources from uncontrolled development of tourism structures and infrastructure
- reduction of impact in contexts already compromised by previous economic growth strategies
- bringing local tourism business together
- preservation of traces of bygone countryside life in the fabric of the buildings – symbols of hardship which evoke the spirit of ancient rural life.



### 3.3.4 Main driving factors and criteria that play significant role for achievements:

- The Albergo Diffuso is configured as a “horizontal” structure which means that it is not articulated vertically in one large individual building constructed ex novo, very often indifferent to relationships with the context from both the point of view of localization and of composition of the buildings. In contrast, the horizontal Albergo Diffuso is contained in preexisting individual housing units and architectural emergences diffused throughout the territory. This means it can be integrated into the territory using differentiated and flexible methods. It is a flexible structure whose variations all present an identical dominator, that is, more housing units become involved, easily recognized by their historic, cultural, and architectural identity, restored for tourism and equipped with innovative technologies albeit conform to "minimum intervention"
- The bedrooms and related services are located within the pre-existing housing units (fig. 1), and not more than 200/300 meters from the building that contains the communal areas and the service activities (reception, dining room, refreshments). In some cases new buildings have to be planned in order to guarantee the functioning of the new use of the nucleus so that, for example, they meet the regulations requiring that they are both compatible with the context and with the typological characteristics of the existing buildings.
- Working alongside local organizations such as the town mayor and the national park, they proposed special laws to prohibit any new construction. The aim was to bring the village back to life and to welcome tourists, but without sacrificing Santo Stefano’s identity.
- To retain Santo Stefano’s local character all modern technology is hidden. It is assured that original architectural materials, furniture and textiles are authentic items from the Abruzzo mountains.
- Since 1900 there has been a gradual but constant abandonment of the village due to crisis in mountain agriculture and migration from small to large urban centers for better employment opportunities but which has paradoxically maintained the integrity of the heritage in the natural landscape.



**Figure 3: Ordinary hotel and Albergo Diffuso** - (Source: *Proceeding of the 3rd International Conference with Exhibition S.ARCH "Next ARCHITECTURE" 25–27 May 2016, Hotel Splendid Conference & SPA Resort, Budva, Montenegro*)

### 3.3.5 Main challenges/obstacles limiting potential for success:

- existing regulations are inadequate to deal with a proper development of local and national tourism
- the government has a poor record of taking action in favor of efficient and effective management of tourist flows
- the government lacks the initiative to encourage the development of tourism in outlying areas.
- insufficient coordination among authorities, such as Government, regions and association,
- high level of bureaucracy that causes impasse and discourages the development of new poles
- vacancy of a governing authority to coordinate the tourism business
- heavy taxation hindering progress and competitiveness
- omission of a solid database of the tourism sector
- difficulty and long waiting to get tourist visas to emerging countries

### 3.3.6 Level and way of local community's or other organizations engagement in business activities:

- the tourist-oriented activities are shared by the local population
- local population share in the social and economic benefits derived from tourism.
- it is the local decision makers' responsibility to promote actions aimed at the development of the territory.



They also have the responsibility to encourage the development of tourism systems, in order to increase the competitiveness of tourist destinations. This requires huge investments of human and economic resources and the involvement of the public sector.

### 3.3.7 Role of the local community and other organizations in the advancement of business models:

- recovery of the rural architectural heritage, both modern such as country houses, and historical such as villas, towers, dovecotes, farms, etc.,
- recovery of the landscape features of rural environment, such as farmyards, courtyards, rural trails leading to farms, walls, bushes, trees marking land borders, fences and historical gates, mills, etc.
- conservation of traditional food farming produce
- cuisine based on traditional local recipes
- whether required and possible, greater involvement of guests in the agrarian activities and in the farm's life
- sale of products, if possible on-line, so as to facilitate those who do not travel by car, e.g. by bicycle
- creation of educational farms, but also summer camps with the possibility of overnight accommodation for children and teenagers
- greater attention to the recovery of the territory's heritage: workshops on typical culinary and handmade activities, - organization of guided tours (possibly on foot, by bicycle, or by horse) to museums, villas, rural villages, etc.
- unlike in traditional hotels, the restaurant is considered an ancillary service and is usually absent; however, sometimes there are annexed farms, at times of considerable size; the restaurant business then plays an obvious role in the socio-cultural as well as the economic sphere.
- the information service to tourists is often supplied by small libraries, mini-museums, lessons on local cuisine, etc.
- during periods of increased tourist influx, some alberghi diffusi offer rented accommodation in houses owned or rented by residents, in addition to the homes owned by the hotel.

### 3.3.8 Main characteristics that model good practices:

- structure and means of service delivery
- the emphasis on authentic experiences and the involvement of all its participants.
- respect for and protection of the environment, especially of the ecosystem and biodiversity - the structures and tourist activities have minimum environmental impact
- respect for and protection of the traditional culture of the local population

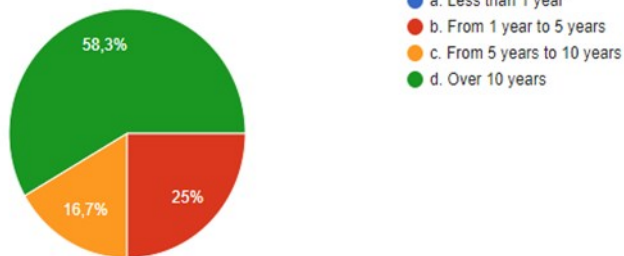


## Annex 2: Online Questionnaire

Below is a graphical and synthetic representation of the responses received from the questionnaire submitted to Italian interlocutors in the sector.

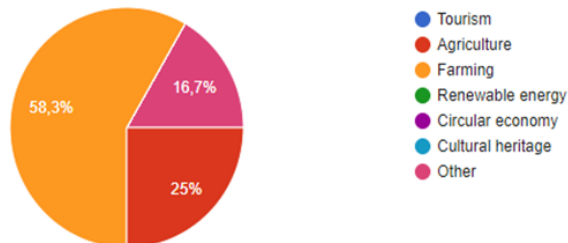
2. How many years of professional experience have you accumulated in the field of rural / agricultural entrepreneurship?

12 answers



3. Indicate your area of specialization / expertise

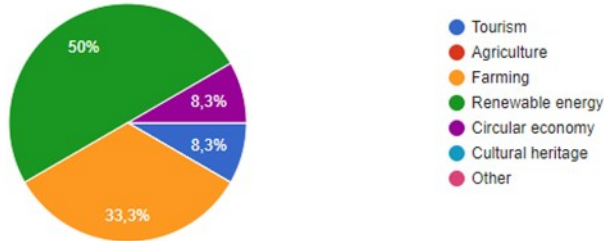
12 answers





4. In your opinion, which are the emerging and most promising sectors in the future of rural entrepreneurship?

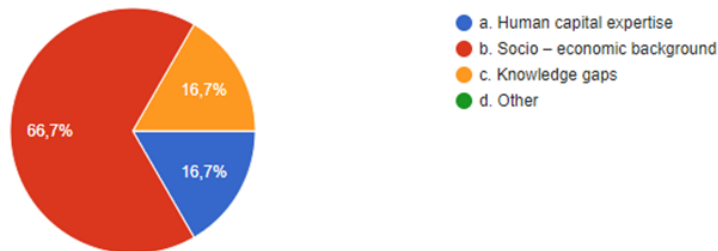
12 answers



5. What challenges and obstacles do you see as possible when it comes to entrepreneurial skills?



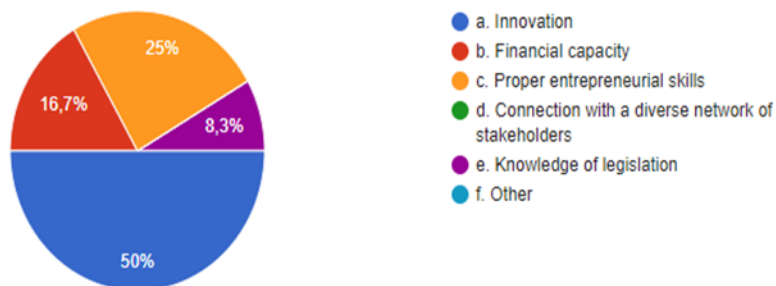
12 answers



6. What are the main drivers of business success?



12 answers



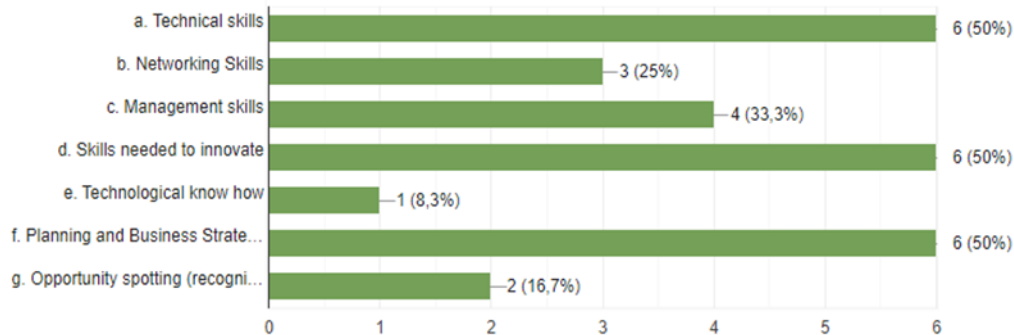




9. In your opinion, what are the most important skills that rural entrepreneurs should possess (select three):

 Copy

12 answers



## Annex 3: Identification of existing relevant programs

### 4.1 The OECD Trento Centre for Local Development

Country: Italy

Name of Program: The OECD Trento Centre for Local Development

Website/link/more information: <https://www.oecd.org/cfe/leed/trento-centre/> ;  
<https://www.oecd.org/cfe/leed/Trento-brochure-2021-web.pdf>

Category: All types of local businesses

#### 4.1.1 Short Description and objectives:

The OECD Trento Centre for Local Development uses a holistic “from data to practice” approach to policies for sustainable development to offer local policy analysis, advice and capacity building activities for improved policy implementation. They provide policy advice and develop capacities for the effective design and implementation of policies that are tailored to local needs and focused on the key drivers of local economic growth and well-being in OECD Member and non-Member countries.

#### 4.1.2 Target groups:

The analytical framework revolves around the implications of economic trends and policies for people, firms and places.



#### 4.1.3 Sector(s) that this program concerns:

- research organisations
- governments
- civil society

#### 4.1.4 Main Contents (Modules/Units):

- Data analysis and research (Spatial Productivity Lab)
- Place-based policy analysis and advice
- Capacity building for local practitioners on a global scale

#### 4.1.5 Type of involvement:

The OECD Trento Centre for Local Development was established by the OECD, the Italian Government and the Autonomous Province of Trento (Italy) in 2003. It is an integral part of the OECD Centre for Entrepreneurship, SMEs, Regions and Cities.

#### 4.1.6 Description of advantages and disadvantages:

the OECD global network of subnational actors allows for a wider variety of practices and innovations to learn from.

#### 4.1.7 Impact:

- To research organisations: Collaboration opportunities to conduct policy-relevant research on drivers of spatial productivity.
- To governments: Analysis of economic trends and their effects on productivity performance of regions; policy advice on the ways to boost growth and wellbeing.
- To civil society: Participation on the international dialogue on subnational productivity, growth, spatial inequality and other issues of utmost importance.
- Insights into emerging policy trends and challenges.
- Support to policy making through the analysis of local dynamics and comparison with international practices.
- Peer learning between practitioners and participation in high-level international policy for a.
- Trainings and tailored activities to strengthen the skills needed to develop, manage and evaluate local development strategies.



- Peer-to-peer learning opportunities to learn from an international network of local development professionals.
- Support for developing vibrant community of practices and learning enhancement tools.

## 4.2 Interreg ALCOTRA (France – Italy)

Country: Italy / France

Name of Program: Interreg ALCOTRA

Website/link/more information:

<https://www.interreg-alcotra.eu/it/>;

<https://interreg.eu/programme/interreg-alcotra/>;

[https://ec.europa.eu/regional\\_policy/en/atlas/programmes/2014-2020/france/2014tc16rfcb034](https://ec.europa.eu/regional_policy/en/atlas/programmes/2014-2020/france/2014tc16rfcb034)

Category: All types of local businesses

### 4.2.1 Short Description and objectives:

Strategically, the programme "Interreg V-A France-Italy (ALCOTRA)" will promote innovation, a safer environment, the valorization of natural and cultural resources and social inclusion. At the same time, it will address climate change issues, sustainable mobility and youth employment and education in the cross border area. Actions in these priorities area will be complemented by efforts to foster closer co-operation of administrations contributing to creating an integrated and sustainable development of the border region.

To achieve these strategic objectives, the programme aims at increasing the number of joint innovation projects, developing innovative models for sustainable public buildings, improving territorial planning and the prevention and resilience towards environmental risks, increasing sustainable tourism in the area, improving habitat management, increasing the number of strategic actions towards a sustainable mobility, promoting the attractiveness of mountain and rural areas for families and young people increasing the education and training offer of the cross border area.

### 4.2.2 Target groups:

- Public administrations
- SMEs
- lifelong learning centers
- universities and research centers
- associations, natural parks
- chambers of commerce
- innovation centers and business networks.



#### 4.2.3 Sector(s) that this program concerns:

- tourism
- agriculture

#### 4.2.4 Main Contents (Modules/Units):

- applied innovation
- better controlled environment
- attractiveness of the territory
- social inclusion and European citizenship

#### 4.2.5 Type of involvement:

The ALCOTRA programme contributes to the Europe 2020 strategy in favor of “smart, sustainable and inclusive” growth that focus on employment, research and innovation, education, social inclusion and poverty reduction, climate change and energy. ALCOTRA is financed by the ERDF (European Regional Development Fund): Instrument for the implementation of the EU cohesion policy to finance the multi-annual regional development programmes, resulting from the negotiation between the European Commission, Member States and regions.

More specifically, ALCOTRA is part of the European Territorial Cooperation Programme, better known as INTERREG, which aims to promote the creation of a single market through cooperative actions aimed at reducing the development gap between different European regions.

#### 4.2.6. Description of advantages and disadvantages:

Well designed programme with a wide range of activities. Its wide scope may be out of focus though at times.

#### 4.2.7. Impact:

- 20 new cross-border cooperation projects and innovation services created
- 95 additional public institutions adopting strategies to tackle climate change
- 226 municipalities involved in projects of preservation and valorization of the territory
- 65 cross-border action plans for awareness and management of biodiversity
- 400 training and "professionalizing" teaching path developed at cross-border level
- 21 sustainable mobility strategy implemented.



- Develop innovative approaches to sustainable construction in public buildings in order to improve the energy performance
- Encourage the development of social and health services for the fight against the de-population of rural and mountain areas
- Improve public institutions' land use planning in order to adapt to climate change
- Improve the management of protected habitats and species in the cross border area
- Increase innovation projects (especially clusters, poles and businesses) and develop innovative services across the borders
- Increase sustainable tourism in the ALCOTRA area
- Increase the resilience of ALCOTRA areas most at risk
- Increase the strategic actions and plans for the most effective, diversified and environmentally friendly cross-border mobility
- Increase the strategic actions and plans for the most effective, diversified and environmentally friendly cross-border mobility
- Increasing the supply of education, training and skills in the cross border area

### **4.3. National Rural Development Programme (PSRN) 2014-2020.**

Country: Italy

Name of Program: National Rural Development Programme (PSRN) 2014-2020.

Website/link/more information:

<https://www.fao.org/faolex/results/details/en/c/LEX-FAOC193188/>

<http://extwprlegs1.fao.org/docs/pdf/ita193188.pdf>

Category: Agriculture

#### **4.3.1 Short Description and objectives:**

This programme is the tool through which the Ministry of Agricultural, Food and Forestry Policies aims to support and develop the potential of rural areas located and classified as such on the territory of the Republic of Italy.

This programme efforts the promotion of the overall competitiveness of small and medium-sized enterprises in the agricultural sector. Objectives laid down are to promote the organization of the agri-food chain, including the processing and marketing of agricultural products, animal welfare and risk management in the agricultural sector; to improve access to credit, business financing and risk management in agriculture; to support the prevention and management of corporate risks; to offer and use risk management tools in agriculture; to protect the environment and promote the efficient use of resources; to encourage the effective use of resources and the transition to a low carbon and climate resilient economy in the agri-food and forestry sector.



#### 4.3.2 Target groups:

Rural areas located and classified as such on the territory of the Republic of Italy.

#### 4.3.3 Sector(s) that this program concerns:

- agriculture

#### 4.3.4 Main Contents (Modules/Units):

- carrying out a verification of subjection
- elaboration of the Environmental Report
- consultation
- evaluation of the Environmental Report and the results of the consultations
- decision
- information on the decision
- monitoring

These kind of assessments and evaluations highlighted the need to prepare the National Rural Development Programme (2014-2020) in order to implement some national level measures as regards the irrigation investments, risk management tools, and genetic improvement of livestock and animal biodiversity in general.

#### 4.3.5 Type of involvement:

The National Rural Development Programme (PSRN 2014-2020), co-financed by the European Agricultural Fund for Rural Development (EAFRD) referred to in Regulation (EU) No 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005

#### 4.3.6 Description of advantages and disadvantages:

Well designed programme with a wide range of activities. Its wide scope may be out of focus though at times.



#### 4.3.7 Impact:

- agricultural development
- policy/planning
- rural employment
- rural youth
- family farming
- farming
- genetic resources
- environmental impact assessment
- biodiversity
- risk assessment/management
- irrigation

This Plan further addresses the necessary issues aimed at maintenance and improvement of the food chain and food production to ensure food security. In particular PSRN stimulates the innovation technology to boost productivity and efficiency of farms in order to enhance economic growth of the sectors and ensure profitability of the farming sector and economic welfare of the rural populations. On the other hand the program is aiming at foster “Greening” measures and activities to maintain the ecosystem services provided by the agricultural systems to the global ecosystems. Specific relevance is given to the regulation activities embedded in forestry maintenance, fire prevention, carbon sequestration, biodiversity maintenance, relation with tourism and social roles etc. Among them particular role is devote to maintenance and regulation of acquirers and the quality of water bodies and efficient management of irrigation, in order to make the use of water more efficient in agriculture. Among that, related measures are aimed to improve the efficient use of water resources through irrigation infrastructure; to preserve, restore and enhance the ecosystems connected to agriculture and forestry; to contribute to the stop of the loss of terrestrial biodiversity, also linked to the rural landscape and to maintain and restore ecosystem services. These actions shall be implemented through a safeguarding, restoring and improving of biodiversity in general, by promoting the genetic improvement of livestock and animal biodiversity through an innovative integrated system of zootechnical assistance.