Rubizmo

Hot Spots for Rural Entrepreneurship

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Summary

The scope of this report is to provide examples of hot spots for rural entrepreneurship and entrepreneurship in rural areas across Europe. The report is intended to support policy makers, innovation intermediaries, investors, agricultural advisors, and other stakeholders interested in business development, entrepreneurship and, rural development.

Agriculture and food production is a key sector in the European economy and there are numerous examples of hot spots in this sector that encourage entrepreneurship and economic diversification. Examples provided in the report demonstrate how the valorisation of local resources can be undertaken in multiple ways to benefit local communities, and it has been demonstrated how local resources can be re-combined to lead to new ventures. This is entrepreneurship in its nature. The report has collected several examples of hot spots centred round entrepreneurship linked to agro-food value chains and bio-based value chains. In addition, examples of how the valorisation of ecosystem services can lead to the formation of hot spots for businesses are provided. To gain a deeper understanding of what factors that characterise a Hot Spot, six case studies have been elaborated. Table 1 summarises the six case studies and the how they match a range of five selected Key Factors for becoming hot spots.

Table 1. Summary of the six case studies of Hot Spots (Own elaboration, 2019)

Hot spot	Local resources	Policy / development strategy	What to build upon	Infrastructure and knowledge	Market access and prospects for development
Hauts-de-France and plant proteins	Large plant protein crop, processing companies, established supply chains, core region in France for peas and beans	Bio-economy strategies for France and Hauts-de-France	Established production chains, existing processing facilities, volumes, skills	Highly developed transport infrastructure, Innovation hub, research facilities	Global demand for plant proteins increasing; companies are investing in protein processing. GOOD prospects
Central Denmark and green biorefining	Grass is naturally embedded in agricultural production, farm machinery available	Bio-economy strategy of the Region; Focus on green proteins in Danish bio-economy; funding for innovation projects;	Large areas farmed with grass; skills for growing and using grass; livestock density high; patented technology for biorefining	Agricultural advisory services; university; companies in feed and farm machinery already active; pilot-plant for bio-refining	Growing demand for green protein; new business case; MEDIUM prospects because of challenges with economic feasibility
Hot spot	**Local resources**	**Policy / development strategy**	**What to build upon**	**Infrastructure and knowledge**	**Market access and prospects for development**
Ireland, DBFA Dunhill	Strong culture of social enterprise in	National strategies for supporting	25 years of experience in supporting	Business service center; Incubator;	Policy focus on social enterprise;

Community Enterprise	Ireland; rooted in local communities; UNESCO Geo-park and wetland parks	social enterprise and rural development	start-ups; strong community-drive; creative thinking of new business ideas	local initiatives	dynamic diversification of businesses and activities; GOOD prospects
The alpine region and car-free tourism	A large and coherent ecosystem; longstanding collaboration across borders; strong regional and cultural identity	EU Action Plan and Strategy for the Alpine Region; national and regional policies for developing the rural economies	Tourism important since the 1940s; tourist sector well developed; increasing awareness about sustainability	Excellent network for tourist mobility; yet 23 new car-free resorts	More customers are looking for sustainable tourism; world famous region; MEDIUM prospects; the Alpine Pearl is one association in a big ecosystem
Jämtland Härjedalen - food region	Food heritage; highest number of entrepreneurs in Swedish regions; region within EU with most organic producers	Support from Government Offices of Sweden and EU regional development funds, and the National food strategy	200 artisan businesses in food; entrepreneurs; diverse jobs; international recognition as food region	Good roads and frequent trains; association for skills and start-ups in artisan food;	Number of start-ups is growing; more jobs; diversified economic activities; good market access; GOOD prospects
Bio-economy Andalusia	Excellent location for production of biomass; tradition in olives and cooperatives; established oil processing sector	Support from the Andalusian Circular Bio-economy Strategy	Large community of farmers and SMEs in olives; Established processing and trade structures; experience in collaboration due to cooperatives	Infrastructure for transport and processing of biomass; universities and technical knowledge centers	Strong market access from olive oil trade; Skills for organizing new value chains; demonstrated capacity to ensure value generated stays in rural areas; GOOD prospects

The analysis has demonstrated that there are multiple ways of creating economic activities in rural areas through the valorisation of local resources. In this context, local resources are considered such as nature (or ecosystem), people and their skills, and the products and services derived from processing of raw materials from agriculture or other productions occurring in rural (or coastal) areas.

When an area is displaying a dynamic diversification of economic activities (i.e. production, trade and provision of services) achieved from the valorisation of local resources, and these activities are generating economic and social value that remain with the community in the rural area, and this leads to new businesses, then we **identify this area as a Hot Spot.** The report has provided six examples of areas where the characteristics of hot spots are evident.

Hot spots do not occur in a short-term perspective. It **takes time to develop into a hot spot** as the economic activities in such an area must demonstrate ability to create more business activities and to diversify. **Hot spots develop bottom-up**; that is from being rooted in local initiatives, resources and skills. Access to markets, availability of technology, ICT and infrastructure, and access to knowledge are central elements in this process. The **dynamics occurring** from having more diverse businesses in the area is an outcome of entrepreneurship. Therefore, the motivation, skills and access to resources of entrepreneurs is important to include in policies for areas if the aim is to develop into hot spots.

In the examples provided in the report, four out of six hot spots have been developing for many years: olive oils in Andalusia; vegetable crops in Hauts-de-France, artisan food in Jämtland, and more recently the DBFA Community Enterprise in Ireland. An essential and common feature of these four hot spots is that they have developed bottom-up, so a process evolving from local entrepreneurship of various formats. Policies have been drafted to support entrepreneurship in rural areas or development of sectors or regions but, not for particularly supporting these areas as hot spots. The remaining two hot spots are different as they are very young. The Alpine Pearl and car-free tourism is a bottom-up initiative that will need some time to gain more volume and mature. Leveraging green bio-refining as a cantilever for rural development has been motivated by the regional government of Central Denmark. This approach is in contrast to the other hot spots; yet the Danish example demonstrates that it is the **people and their abilities to collaborate for generating value that is the real turning point for moving towards a hot spot.**

Entrepreneurship is executed in multiple formats and scales in rural areas leading numerous business ideas and, in many cases also, viable businesses of all sizes. To **become a hot spot for rural entrepreneurship**, the **rural dimension is fundamental** to build upon and to incorporate in the business cases developing in the hot spots, thus for shaping the hot spots. The case of the Spanish biomass value chain illustrates this point. The examples of hot spots presented in this report show **dynamic development patterns with significant potential for creating income, jobs and better conditions in rural areas.** Policies and support measures that are targeted at rural development, entrepreneurship and social aspects will contribute to motivate the formation of more hot spots in rural areas for the overall benefit of the European society.

Description of Deliverable

This Deliverable D.1.1 (Map of Hot Spots for Rural Entrepreneurship) is the outcome of task 1.1. The aim is to identify regional hot spots for rural entrepreneurship across the European Union in order to support entrepreneurship and provide guidance to policy makers, investors and innovation intermediaries. A comparative analysis is performed based on a literature review focused on policies for regional development, bio-economy, entrepreneurship and innovation, and for valorisation of ecosystem services including tourism. This will be combined with data about rural development, rural-urban migration, and demographic changes. The analysis will result in the identification of regions which have a) clear potential for diversified economic development in rural areas and b) demonstrate entrepreneurship. The National Stakeholder Panels will be confronted with these findings for feedback and validation.

Disclaimer

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Chapter 1 Introduction

1.1 The report in the RUBIZMO context

This Deliverable aims at identifying **hot spots for rural entrepreneurship** across the European Union. The report is viewed as a guidance document targeted at investors, innovation intermediaries, and policy makers that operate in the sphere of promoting and encouraging a diversity of economic activities in rural areas.

An explorative and qualitative analysis has been performed to identify hot spots for rural entrepreneurship and to understand how patterns for entrepreneurship may relate to hot spots. The work builds on a literature review, examples of provided by the RUBIZMO partners, and a validation by the National Stakeholder Panels, as explained in Appendix 1 Methodology.

The outcome of the report is intended as support for RUBIZMO activities such as scaling-up and replication of innovative business models and capacity building. The report will identify examples of locations where rural entrepreneurship seems to have good prospects for developing and where there are opportunities for diversification of economic activities. The Deliverable complements RUBIZMO outcomes such as Modern Rural Economies (WP1); Virtual Library of Innovative Business Cases (WP2); Supportive Business Environments (WP4); and Report about clusters (WP5).

In the following chapter 2, we will explore two case studies within agro-food value chains. In chapter 3 we look into how valorisation of ecosystem services have contribute to form hot spots for business activities, and in chapter 4 we focus on bio-based value chains. Chapter 5 pulls the report together and looks at the key factors required for areas to develop into hot spots. This chapter also provides guidance to policy makers and other stakeholders.

1.2 Definitions

Rural entrepreneurship is defined as the entrepreneurial activities that recombine local resources to create economic and social value for the local area. Rural entrepreneurship is embedded in the local area as this kind of entrepreneurship builds on local resources, that being natural resources, skills, crops or otherwise. Rural entrepreneurship may address the needs of the local market but is not limited to the local market. The created ventures are less inclined to relocate to other places because of this embeddedness even if economic considerations would suggest so. Being naturally tied to a specific location and its resources, rural entrepreneurship can contribute to increase the resilience of an area (Korsgaard et al, 2015).

Entrepreneurship in rural areas is defined as entrepreneurial activities carried out in rural areas with a profit-oriented scope. Entrepreneurship in rural areas is not dependent on the local market and the rural location is determined because it benefits the venture. The outcomes of the venture primarily create value for the

entrepreneur, but additional value can be created in the local area (Korsgaard et al, 2015).

Entrepreneurship is defined as the process of doing something new and something different for the purpose of creating wealth for the individual and adding value to society (Kao 1993).

The utilisation of the local potential and qualities of a certain place to create new rural products and services, and add value to them in such a way that ultimately feeds back into the local place is a dynamic process. In a long term view, these dynamics will lead to the formation of a hot spot (Korsgaard et al, 2015). Based on this statement, the **Bottom-up approach for developing into a hot spot** refers to the economic activities and collaborations in the local community for creating economic diversification, and a process that is motivated by the local community. This is in contrast to the Top-down approach which refers to the policy-driven development strategies.

In literature, the term hot spot has been applied to areas with substantial concentration of certain activities or species, including the concentration of economic activities within a given sector. In the paper by Yenneti (2014), the region of Gujarat (West of India) was studied to identify factors explaining why this region is viewed as a hotspot for flourishing rural business development in solar energy. The three main factors in this case were: access to natural resources; available land to an accessible cost, and regulations that facilitated business development. Inspired by these factors, we will build our definition of hot spots on five key factors that combined frame a hot spot. These key factors are:

- Local resources and embeddedness;
- Policies and development strategies;
- What to build upon (i.e. the solid basis);
- Infrastructure, skills and knowledge; and
- Market access and prospects

Therefore, a **hot spot in this report is defined** as
A location where rural entrepreneurship is continuously leading to new products and services being developed and marketed and; where the economic activities are rooted in local resources and; where the prospects for diversification and growth of local economic activities are encouraging for the benefit of the local area. This way, a hot spot leads to the transformation of the rural area towards a widening and deepening of the economic activities.

Chapter 2 Agro-food hot spots

2.1 Analysis of selected agro-food hot spots

2.1.1 Artisan foods, Jämtland Härjedalen, Sweden

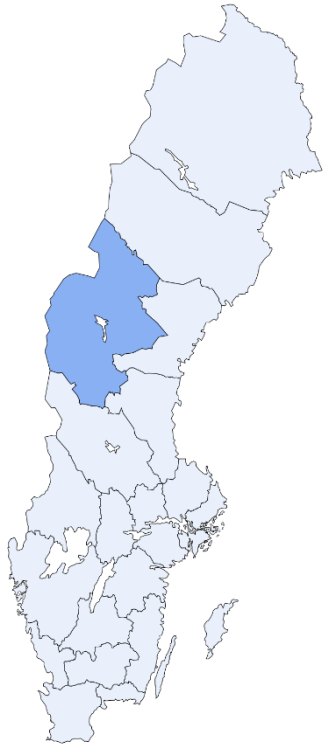

Figure 1. The region of Jämtland – Härjedalen in Sweden (https://en.wikipedia.org/wiki/J%C3%A4mtland)

Located in a sparsely populated region in the centre of Sweden, Östersund, UNESCO Creative city of Gastronomy, is widely appreciated for its gastronomic culture, based on local sustainable food inspired from longstanding culinary traditions (Figure 1). The city's culinary tradition is intimately linked to its natural surroundings and the region's efforts for sustainable development.

The management of the food sector in Östersund is shared between the city of Östersund and the Region of Jämtland Härjedalen, with 200 artisan food companies. The city is the main market for food products, while 98% of the producers can be found in the rural areas, thereby strengthening urban-rural connections (Creative cities of Gastronomy, UNESCO). The strong connection between urban consumption and rural production might play a part in the steady state population, as the population has not changed dramatically during the last 100 years (Regionfakta, Folkmängd 1805-2015). There is a need for even more competent employees in both production and elaboration of food, as well as within the restaurant sector. The status of the sector needs to be appreciated higher to attract more entrepreneurs and employees (Bärkraftigt företagande, 2018). This hot spot for gastronomy is leading the national development in food handicraft and receives support through the regional food strategy (Regional mat- och livsmedelsstrategi i Jämtland Härjedalen, 2018).

The number of persons working as entrepreneurs is 16% (2018) in the region, which is the second highest in the country. Most of the entrepreneurs are women. The number of young entrepreneurs is among the highest in the country (5.4%) (Svenskt Näringsliv, 2019). The trend is pointing towards more companies starting up and an increase in employees with increased diversity within the companies, and even more cooperation between the companies (Regional mat- och livsmedelsstrategi i Jämtland Härjedalen, 2018). Other organizations connected to the food, culture and tourism sector are also involved in these efforts. Winner of Sweden's best climate city award in 2010, Östersund is also using a heating system powered by biofuel and biogas. Tourism is a major part of the local economy and a strong financial driver in this food-oriented hotspot. Altogether there is about 2,000 companies and 4,500

employees in the region's creative industries, most of which are based in Östersund (Creative cities of Gastronomy, UNESCO).

The number of tourists enjoying the local food, nature and the generous hosts has been growing since the 1800-hundreds after the botanist Linneus made his well-documented inventories of the region. The railway played an important role in the access to the region (Andersson, 2017). The academy of food (Matakademien) was created by important partners from food companies, restaurants, sales and tourism in 1987. The group initiated the transformation towards the leading food region of Sweden. They started to organise promotion of the local food through Christmas markets, seminars and food tasting events. Eldrimner is an association that started up in the region in 1995 and also had great importance for the success in bringing together and supporting small entrepreneurs and farmers to facilitate the development of food handicraft. The association was assigned the responsibility as Swedish National Centre for Small Scale Artisan Food Processing in 2005, which has developed into a Nordic responsibility to provide guidance and supports training and product development demonstrating the importance of gastronomy (www.eldrimner.se). The focus is to support start-ups, as well as companies developing their business ideas through courses, advisory service, seminars, field trips and other types of knowledge exchange. Eldrimner has received financial support (10 million Swedish crones per year during 2016-2019) from the Government Offices of Sweden (Press release Swedish Government, 2016). Eldrimner continues to have strong support from the government and the EU financed national food strategy and, funding from the European regional development fonds (www.eldrimner.se).

This is the region within the European Union with the largest number of organic producers. The production is based on traditional processes and includes hundreds of manufacturers within all kinds of food processing. The best known is the cheese processing, often based on goat's milk. There are also various bakeries producing the traditional thin unleavened bread, charcuteries such as smoked, cured or in other ways preserved meat of reindeer, elk and other venison, fish and game (Food of Jämtland). There are many producers of jam, juices and other berry products. It is for example possible to buy locally produced and elaborated birch syrup (Naturens mästerverk), a wide range of local cheese (Skärvångens Bymejeri), wild mushrooms and exotic berries (cloud berry, lingonberry and crowberry) (Vallgården). The restaurant Fäviken Magasinet has two" Guide Michelin" stars for creating food that follows the season and has a strong cultural tradition, even though the restaurant is closing in December 2019 (http://favikenmagasinet.se/en/).

This hot spot shows how a region with a strong culinary heritage, artisan food production and a collaborative mind set, can continue to develop and attract new small-scale entrepreneurs to the sector. There is a domination of women and young entrepreneurs, which are groups that are not frequently active as entrepreneurs. The association Eldrimner has acted as an umbrella that encouraged long term synergies including markets and recognition between the countryside and the cities, which has been very important for artisan food companies. These factors indicate that the region is on a trajectory of artisan food production with good prospects for further economic diversification and dynamics to materialise.

2.1.2 Plant proteins, Hauts-de-France, France

The Hauts-de-France has a population of 6 million people (2015) that is 9 % of the French population. The Hauts-de-France is a new region, established in 2016 by the merger of the regions Nord-pas de Calais and Picardie, Figure 2. The merged region is very well equipped with infrastructure for transport, trade and international connections. The capital of the region is Lille with 230,000 inhabitants. The case study will illustrate how competences for growing and processing peas and beans can form the basis for developing a hot spot for plant proteins (Figure 3).

Figure 2. Hauts-de-France (https://en.wikipedia.org/wiki/Hauts-de-France, 2019)

Figure 3. Peas and beans

Hauts-de-France counted 27,300 agricultural holdings with an average size of 78 hectares (2016), farming in total 2.1 million hectares. Crops were farmed on 1.8 million hectares: 1.3 million ha cereals and oilseeds, 44,000 ha pulses[1], 185,000 ha sugar beets, 97,000 ha potatoes and, 34,000 ha vegetables (CCI Hauts-de-France, 2018). In comparison, data about the 2019-harvest shows that the area under pulses had been significantly reduced to 21,300 ha and the pulse crop had dropped to 96,800 tons, down from 118,700 tons in 2016 (Franceagrimer, 2017).

Hauts-de-France is the no. 1 region in France for producing dried beans, French beans and, peas. Data from 2016 showed that 33 % of the region's vegetable crop was for the canning industry, and hereof ¾ were peas and beans. Peas and beans for the canning industry are farmed on contract basis (Agriculture and Territoires, 2016). By 2016, 36,000 persons were employed in food processing, and the region's food processing industry is highly diversified. With special reference to the vegetable industry, major French and international companies, and local artisan producers have processing activities in the region. The largest processor of vegetables is Bonduelle with three canning factories and its corporate headquarters. Other large processors of peas and beans are the Belgian companies Ardo and Pinguin (both in frozen vegetables). The company Florette is a major player in fresh cut vegetables and salads, and the company Roquette Freres is among the global leaders in pea

[1] Pulses: Lentils, chickpeas, beans and peas, lupines and soybeans

proteins (Atlas, 2015). In addition, the region is homestead to a significant number of artisan food producers and producers of organic food. The region has its own quality label for food: Saveurs en'Or. By 2015, more than 300 local producers were certified, and several of these artisan companies produced vegetable-based products like soups and salads (Atlas, 2015).

In 2016, France launched a national strategy for the bio-economy and sustainable food production was mentioned as one of the key objectives (Min. Agriculture, 2016). The regional Council of Hauts-de-France introduced in 2018 their Master Plan for bio-economy in the region, and one of the four pillars in the plan was plant proteins derived from peas, wheat, rapeseed and linseed. The focus on plant proteins was motivated by the opportunities for valorising local crops to benefit from increasing demands for meat alternatives in the European food market, and to build further on local resources in agriculture and food processing. Pea protein is a key ingredient in meat alternatives.

One of the largest agri-business companies in the region is Tereos, a major player in the sugar sector, took the initiative to form an innovation platform targeted at plant proteins. The platform Improve was established in collaboration with other agribusiness companies and research facilities such as INRA, UPJV and Extractis. The latter is a demonstration facility offering technologies and knowhow within extraction of compounds from plant-based biomass (www.extractis.com). The partnership founding Improve has made it a leading innovation hub for extraction, transformation and valorisation of plant proteins. The annual European Plant Protein Summit is hosted every year, and in 2019 it took place in Lille. The Summit is the European key event for plant protein innovation and brings together research, industry and suppliers for business purposes and knowledge exchange. Also the French bio-economy cluster Pole Industrie Agro-Resources (Pole IAR) and the start-up environment in Hauts-de-France are actively supporting the development of the region as a leading hot spot in Europe for plant proteins.

The case study has illustrated how a region with core competences in cultivation and processing of vegetables and pulses can spur growth in production and investments by focusing on plant proteins. As the Bio-economy Master Plan and the Improve platform were only launched very few years ago, the full potential in agriculture and processing has not yet materialised. A central learning from the case study is that by combining local natural resources and skills with research and innovation, and collaboration with industry partners, a sound basis for growing and valorising crops in new ways can be created.

2.2 Characterising agro-food hot spots

2.2.1 Comparative analysis of the agro-food hot spots

Agriculture and food production are key sectors in the European economy and there are numerous examples of rural areas where entrepreneurship leads to economic diversification; thus areas that could be regarded as hot spots.

The case studies about Jämtland and Hauts-de-France demonstrate how economic diversification can spur entrepreneurial activities that benefit rural areas. In Table 2 the two areas are compared to show the key factors that contribute to creating economic diversification and opportunities that can benefit rural areas. In the case of Jämtland, the dynamics evolve around artisan food production with the support of The Food Academy and the organisation Eldrimner promoting artisan food production. Eldrimner also provied training offered both to present and future food entrepreneurs. The Jämtland-case is a strong example of how local resources can be valorised for the benefit of the area by production of artisan food products and, the importance of including the provision of skills by entrepreneurs.

In the case of Hauts-de-France (Table 2) the dynamics is centred round the peas and beans crops, particularly the peas. The Hauts-de-France is the homestead of the French pea value chain, thus skills for growing; trading and processing of peas are long rooted in the area. With the newly inaugurated innovation hub Improve, the area has gained access to knowledge for developing new technologies and products that can meet the growing market demand for plant proteins. Favoured by very good infrastructure and established routes to market, the demands for e.g. vegetarian products can be fully exploited. The dynamics demonstrated in the Hauts-de-France case shows how market-pull dynamics provide new opportunities for valorising a traditional crop (peas) and contributes to underpin the local pea value chain links the rural community closer to the market.

Table 2: Comparative analysis of the Key Factors for development

Key factors	Jämtland-Härjedalen	Hauts-de-France
Local resources for valorisation	Agricultural production, region in the EU with most producers of organic food	Most important region in France for peas and beans crops (plant proteins) because of good conditions for this crop.
Skills and knowledge	Food Academy and Eldrimner providing training, area with the highest number of entrepreneurs in Sweden	Improve innovation hub for plant proteins, skills for growing, processing and trading of plant protein crops, development of new technologies and foods based on plant proteins
The basis to build upon	Long standing culinary tradition for artisan food production, international gastronomic reputation, 200 artisan food companies, number of start-ups is growing	Crop volumes, diversity of small and large companies for processing peas and beans, established and integrated supply chains from farm to fork, quality label for local food, long standing cultivation of peas
Infrastructure	Good roads and train connections, accessible area	Very well connected area with airports, ports, roads and trains.
Market access	Local market and national market	Very good access to local, regional and international markets and demand for peas, beans and plant protein is increasing.
Policies supporting development	Swedish National Strategy for Food; EU funding for regional development	Bio-economy strategies for France and Hauts-de-France emphasizing plant proteins as growth engine for the agro food sector
Prospects	GOOD prospects for economic diversification, value generated remains in the area, demand for artisan food increasing and this increases demand for quality agricultural production	GOOD prospects for economic diversification, value generated remains in the area, large processing companies contract farmers to grow peas and beans, entrepreneurship building on plant proteins

For both Jämtland-Härjedalen and Hauts-de-France, the economic activities have evolved from valorisation of local resources, demonstrating a bottom-up approach. Routes to market have been developed by local companies of all sizes, and these companies have engaged with local farmers for the provision of the raw materials for processing. The economic activities in the two areas have adapted to market demands and the demonstrated entrepreneurship plays an important role for continuous diversification of the economic activities. For example, the opportunities for using new processes for making artisan food products can lead to new entrepreneurs engaging in the local economy or demand for new crops from agriculture for processing.

2.2.2 The role of policy initiatives

The policy initiatives identified for plant proteins and Hauts-de-France are rooted in the bio-economy sector thus, aim to support the development of a green economy. These policies specially mention plant proteins as a topic for growth, and support in the policy is targeted at general innovation support including project funding and support to the innovation hub Improve. For the Swedish case, the policy framework is focused on developing the national food sector and promoting development through the provision of funding for projects. The policy framework covering the Jämtland-Härjedalen does not appear to support directly the development of an artisan food sector, but funding is provided to support the organisation Eldrimner. This organisation plays a central role for the artisan food production in the area. Table 3 provides examples from other locations of development strategies that are aimed at supporting the agro-food sector.

Table 3: Examples of regions or Member States with a strategy for developing the agro-food sectors (Examples provided by RUBIZMO partners, 2019).

Country and region	Main points in the sector development strategy
Greece, Epirus	The region of Epirus promotes food production and tourism, as these sectors are the most important ones for the region's economy. The strategy includes promotion of jobs, competitiveness and collaboration, and the region is active in rural development programs.
Romania, North-East, North West and South East regions.	Regional development strategies targeted at agriculture, health, ICT and tourism.
Spain, Navarra	Regional Smart Specialisation Strategy focusing on agro-food. The Specialisation is targeted at the region's competitive advantages in the food sector and implemented in collaboration with the funding agency SODENA targeted at the business community. The aim of the Specialisation strategy is to promote Navarra as a reference hub for health, high-quality and practical solutions and, to help local companies grow in international markets.
Ireland, rural areas	The Realising our Rural Potential – Action Plan for Rural Development has over 200 actions and 5 pillars including food. The ambition is to make rural areas a place where people want to live, can do business and participate in their local community. Government consultations for the next plan for 2020 will commence shortly
Ireland	The Food Wise 2025 is a ten-year plan for the agri-food sector and developed by the Department of Agriculture, Food and Marine.
France, Montpellier	Sustainable viticulture

A common denominator of policies targeted at the agro-food sector is the emphasis on **building further on already existing production structures, local and natural resources and, local skills and competences**. For example, Sud-Ouest of France has an excellent climate for viticulture and a long tradition for this production, and the regional development policy promotes sustainable wine production by motivating a reduced use of pesticides. In the case of Navarra (Spain), the policy is targeted at stimulating the dynamics rooted in the region's large agro-food sector and, to develop the area into a hub for food solutions and entrepreneurship.

In the Co. Leitrim in Ireland, government policies supported rural entrepreneurship, but the original initiative for the artisan food production came from a local community. This clearly demonstrates the importance of building on local resources, skilled and committed people as the key factors for the development and growth of the hot spot, Figure 4.

The area has a long history of food production, and in particular it was home to one of the major jam factories in Ireland in the 1980's. After the closure of the factory in 1998 and the loss of 100's of jobs, the factory premises lay idle for many years. A community group came together to establish a food hub with financial support from various funding programs. The hub is today home to a community kitchen which allows Artisan Food producers to use this facility and thereby reduce their costs. The hub also provides food sector training from 'Start your own Food Business' and all food safety training, branding and packaging etc. The establishment of the Food hub has allowed many artisan food brands and brewery's (especially Gin brewing) develop in the county but also into other areas in the region. The county and bordering counties are some of the most rural counties in Ireland and with ageing populations. The establishment of the Food Hub has allowed people begin their own business in the region but also allow people remain or return to these areas. The Leitrim food cluster is backed by government strategies and support for entrepreneurship.

Figure 4: Developing the artisan food cluster in county Leitrim - Ireland (Information provided by Irish Rural Link).

From the policies in Table 3 and from the case studies it comes clear that a policy for promoting economic growth and diversification in a rural area should provide incentives that motivate existing entrepreneurship in the area by building on local resources. But it takes more than entrepreneurship to develop into a hot spot. To create the dynamics, that characterises a hot spot it is essential to apply a holistic understanding of how entrepreneurship in the area can evolve and lead to diversified economic activities and, the key factors to build upon. Access to skills and knowledge, access to markets, and connectedness via infrastructure are such basic factors.

Chapter 3 Valorisation of ecosystem services for business hot spots

3.1 Analysis of selected business hot spots

3.1.1 DFBA Community Enterprise in Co. Waterford, Ireland

This case study is about how social enterprise can stimulate entrepreneurship and create jobs and, improve social cohesion across rural areas within a region. Social enterprise is defined as (Government of Ireland, 2019):

- An enterprise with the objective to achieve a social, societal or environmental impact, rather than maximising profit for its owners or shareholders;
- The enterprise trades on an on-going basis and by re-investing its surplus into achieving social objectives;
- The enterprise is governed in an accountable and transparent manner, and it is independent of the public sector. If dissolved, it should transfer its assets to an organisation with a similar mission.

The DFBA (Dunhill- Fenor- Boatstrand- Annestown) Community Enterprises CLG in Co. Waterford/ South East region of Ireland is a prime example of Social Enterprise and how the region has developed because of this, Figure 5. The DFBA Community Enterprises, established in 1993, is an umbrella organisation promoting integrated development in rural areas of the region. The DFBA has provided employment to more than 70 persons today (Social Finance Foundation et al, 2018). The DFBA generates its revenues from charging rent for space at the incubator Dunhill Ecopark Enterprise center (Figures 7-8); from the Dunhill Education Center that offers training courses and catering services; and from a Visitor Center at the Copper Coast Geopark (UNESCO Global Geopark), Figure 6. The case study demonstrates how a combined approach can lead to a highly diversified range of economic activities in an area and contribute to strengthening social cohesion.

Figures 5-6: County Waterford in Ireland; Copper Coast Geopark (Photos provided by Irish Rural Link).


Figures 7-8: The Dunhill Ecopark Enterprise Center (Photos provided by Irish Rural Link).

The DFBA provides support to 25 affiliated and associated groups mainly social enterprises covering social, enterprise, environment, heritage, voluntary housing, sports and recreation, geological, and tourism projects. It was set up in response to the loss of a teacher in each of the two local primary schools, a stagnating population, high unemployment, migration and emigration and difficulties faced by local Gaelic Athletic Association (GAA) clubs in maintaining its membership and teams for county championships. An impact measure of the work covering the period from 1993-2019 showed the following achievements:

- Population increased from 1,500 to 2,100
- Dunhill and Fenor Primary Schools – Staff numbers increased from 5 to 26
- Enterprise –Survey completed in 2014 identified 154 SMEs in Dunhill-Fenor Parish
- 250 jobs were accommodated in Enterprise Centre since its opening in 2000. Companies closed, relocated, and went into receivership during financial crisis in particular 2008-2014. Currently (April 2019) there are 32 enterprises and 70 jobs in enterprise centre.
- Social Enterprises – 22 social enterprises in DFBA/Copper Coast area
- Commercial Farmers – 108 including dairy, beef, sheep, deer, pigs, equine, horticulture and fishing.
- Environment – A network of 26 integrated wetlands have been constructed in Anne Valley area, farmers, village and eco-park.
- Fenor Fen Bog - 32 acres of conservation nature program
- Voluntary housing – 40 affordable houses were opened in 2004. There are 8 homes for the elderly currently at planning stage.
- Volunteers 220 and at very busy times much greater numbers engage.
- 52 projects, small and large were attempted /completed and a small number failed
- There are 22 new projects in the pipeline for 2019/2020.
- The IDA (Industrial Development Authority – the Government Agency with responsibility for attracting Foreign Direct Investment) in the region has shown interest in using the space. Currently working with Local Authority/Council to get Fibre Broadband into the building.

A significant increase in social cohesion and prosperity has been achieved during the period under measurement; also demonstrating that social enterprise can encourage rural entrepreneurship in many dimensions.

In 2017, government assigned policy responsibility for social enterprise to the newly established Department of Rural and Community Development. The strategic objectives of the new Department include the advancement of the economic and social development of both rural and urban communities, and enabling communities disadvantaged by social issues or location to reach their full potential. In 2019, the government published a National Policy for Social Enterprise. The scope of the policy framework is to create an enabling environment for social enterprise in Ireland to contribute to the revitalization of local communities. This policy framework will be implemented alongside the Strategy to Support the Community and Voluntary Sectors in Ireland and the National Volunteering Strategy. Furthermore, social enterprise is mentioned in the government's Future Jobs Ireland strategy. It is clear that social enterprise is regarded as an impactful approach to spur development and job creation in rural areas, and that social enterprise is strongly encouraged in national policies. The DFBA Community Enterprise, as demonstrated in this case study, has provided the evidence of how social enterprise can create a diversity of economic activities and jobs in rural areas.

3.1.2 The Alpine region for sustainable tourism

The Alps are the highest and most extensive mountain range system that lies entirely in Europe, separating Southern from Central and Western Europe and stretching 1 200 kilometres across seven countries from west to east; France, Switzerland, Italy, Liechtenstein, Austria, Germany and Slovenia, Figure 9 (CIPRA, 2018). The Alpine region is composed of territories with contrasted demographic, social and economic trends and a great cultural and linguistic diversity. This diversity goes along with a great variety of governance systems and traditions. Both the common specificities of the Alpine area and its variety and diversity call for cooperation over national borders (EUSALP).

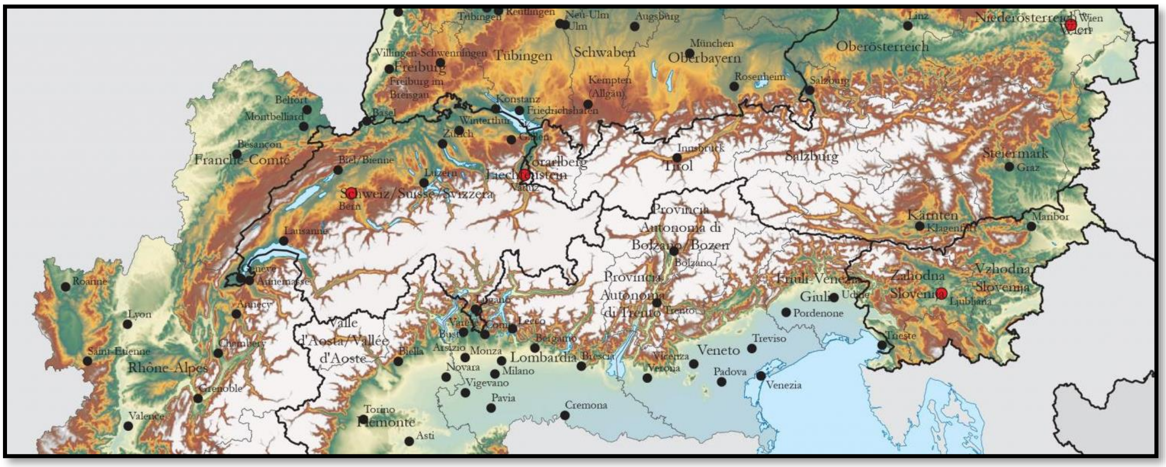

Figure 9: The Alps. Source: https://www.alpine-region.eu/node/276

The traditional culture of farming, cheese making, and woodworking still exists in Alpine villages, although the region began to grow as a hot spot for tourism in early in the 20th century and expanded greatly after World War II, to become the dominant industry by the end of the century (CIPRA, 2018).

In the European context, the Alps are ideally suited to serve as a model for a regional concept of a sustainable economy. The sustainable use of resources and protection of biodiversity have not only an intrinsic value in themselves but have also proven to be highly beneficial for local economies especially in sectors such as tourism and quality food production that are very important for the Alpine area (EUSALP). Innovative initiatives have emerged at the interface of agriculture and tourism, gastronomy, and the health sector. Cooperative, collective and citizen-driven actions like community supported agriculture and innovative crowd-funding schemes result in a higher added value along the whole regional supply chain. Social services like green care agriculture support the re-socialisation of people and provide therapeutic care taking. Finally, new business approaches such as holiday packages for farm stays and a major integration of agricultural products or services like tasting sessions by farmers in accommodation facilities increase local economic benefit (Streifeneder et al, 2015).

The EU Commission adopted a Communication and an Action Plan on the EU Strategy for the Alpine Region in 2015. The general objective with the macro-regional strategy is to promote sustainable economic and social prosperity of the Alpine Region through growth and job creation, by improving its attractiveness, competitiveness and connectivity, while at the same time preserving the environment and ensuring healthy and balanced ecosystems. The Alpine Region is one of the richest areas in the world and among the most economically dynamic, innovative and competitive areas in Europe. However, significant economic differences still exist within the territories (EUSALP).

There is one association that has been very important in addressing these questions and by gathering the eco-friendly entrepreneurs in the tourism sector: businesses that can offer car-free travel and mobility in the rural Alpine resorts, the Alpine Pearl. There are 23 destinations that live up to the standards today and they are located in Germany, Italy, Switzerland, Austria and Slovenia (https://www.alpine-pearls.com/en/). The focus on sustainable use of the natural resources in tourism might be one of the factors contributing to an increase of inhabitants in Werfenweng, which was the first village to be listed (Werfenweng population statistics, 2019).

The case study about the Alpine region and the Alpine Pearl has demonstrated that sharing entrepreneurship based on a common ecosystem can strengthen the cultural identity and pave way for new and innovative uses of natural resources. The challenge of climate change affecting the ecosystem of the Alpes has spurred the development of fossil-free resorts so tourists can enjoy the many creative adventures offered by the Alpine entrepreneurs in a manner that is not compromising the environment. Eco-friendly business ideas are an innovative approach for the entrepreneurs in the Alps but, eco-friendly tourism is already attracting media attention. With the organisation Alpine Pearl as front runner there has been established a platform to motivate the expansion of car-free tourism further, and this may have the potential to attract tourists, businesses and investors.

3.2 Analysis of hot spots for business

3.2.1 Comparative analysis of hot spots

The case studies about Ireland and the Alpine region show how creative thinking can be used to define new business ideas and at the same incorporate the valorisation of ecosystem services. The ideas illustrated in the two case studies are centred round how resources in the local environment can be used in a sustainable manner for generating an income. In the case of Ireland, the local environment counts the wetlands-park, the GEO park, and the enterprise centre. Concerning the Alps, the local environment is the unique ecosystem created by the massive mountain chain and the culture that has developed in the region. In Table 4 the two case studies are compared to identify how the Key Factors for development have materialised in each area.

The case two studies are strong examples of rural entrepreneurship. The value created remains within the community and is reinvested locally to further develop local economic activities. The example from Ireland (Table 4) shows how a diversity of economic activities have come together to generate a dynamic in the rural area. The income generating activities include rent from the business park, revenues from the businesses, income from the visitor centre in the GEO Park, and other activities. A transversal factor in the Irish example is the importance of the community for driving collaboration for voluntary work and for business.

Table 4: Comparative analysis of the Key Factors for development

Key factors	BFBA Community Enterprise, Co. Waterford, Ireland	Alpine region for sustainable tourism
Local resources for valorisation	Copper Coast GEO park, local wetlands turned into eco-park, community approach	A vast ecosystem with amazing nature, sceneries and wildlife, traditional agricultural production and crafts. Clean environment.
Skills and knowledge	Long history of social enterprise, experience in supporting start-ups, experience in promoting and organising business activities building on nature.	Long experience in agro-food production, tourism and recently in sustainable tourism
The basis to build upon	Business service centre, coherency in the community, creativity for new business ideas, proven record for success of start-ups, increasing population in the area, experience in voluntary work and economic diversification, local awareness of the importance of working together	Tourism has become increasingly important since the 1940s. Vast availability of tourism services (hotels, restaurants, viewpoints, resorts etc.). Regional identity is promoted. Variety and diversification of economic activities in all scales. Alpine Pearl association for entrepreneurs offering car-free travel.
Infrastructure	Roads, fibre broadband is yet to be introduced	Roads, trains and airports linking the Alpine regions together. Some villages have free public transport in combination with being car-free
Market access	Proximity to Waterford town; local area is focal for economic activities	Tourists come from all over the world to visit the Alps.

Policies supporting development	National policies on social enterprise and rural development	EU and national policies for supporting the development of economic activities in the Alpine region. Biodiversity and sustainability articulated in policies.
Prospects	GOOD prospects due to the experience with business development, the community approach, and the creativity of finding new ways to valorise local resources from nature, agriculture and in the community.	GOOD prospects for continuous development of the tourism sector in the Alpine region, sustainability will become more important for entrepreneurship. MEDIUM prospects for developing car-free resorts combined with free public transport as train infrastructure needs further development.

The Alpine Pearl is the driving force for uniting the entrepreneurs building a business around car-free resorts with free public transport. This type of tourism has the potential to cater to tourists from all over the world that are interested in environmental aspects, nature and sustainability. The case shows how an area where ecosystems and nature are high on the agenda can offer new opportunities for business to an already highly diversified economy. Collaboration among entrepreneurs adhering to the new business idea through the Alpine Pearl will form a central element of developing a new approach to sustainable tourism in the Alpine region.

3.2.2 Routes to hot spots for business activities

In this section, the focus is on understanding how hot spots for business activities have diversified. Figure 10 presents an example from Ireland of how a remote rural area has turned into a hot spot for tourism with an emphasis on how to valorise “sustainability”. In this example, sustainability refers to develop tourism activities. The example shows how valorisation of the area as a tourist destination has been combined with the use of modern technology (e.g. google maps), and how the tourist trade has contributed to income and employment in rural Ireland.

The origins of the sustainable tourism in County Clare are anchored around Shannon Airport since its being a strategic stop over for North Atlantic Flights between Ireland and the USA. The development of the Airport in the late 1930's and its potential as part of the tourism infrastructure spawned an interest in tourism in the immediate hinterland. The first manager of Shannon Airport had come from the hospitality background and actively nurtured the development of the tourism industry; this initiative stimulated the local ecosystem. Clare also combined its strong traditional Irish music culture, rugged coastline and rugged countryside to naturally develop what is now commonly known as "sustainable tourism". Over the last decades the tourism industry has been nurtured and developed in a sustainable manner, the ecosystem in County Clare and its strong cultural interests and rural landscape was a natural platform for sustainable tourism to develop. The sustainable tourism continues today with many areas combining sustainability through careful use of technology and its associated global connectedness. Google maps have been used on some Clare eco-trails and also eco-app development is prominent throughout the county. Tourism is a significant employer in the region, with direct tourism employment accounting for 13%[1] of all employment in the area. Between 2011 and 2016 there was a 13.5% increase in the numbers employed in the Accommodation & Food Service sector[1] in Co. Clare[1]

Figure 10: Communities in County Clare join forces to develop the tourism sector with a focus on sustainability (Information provided by Irish Rural Link).

In the North of Sweden, in Lapland, a community-driven enterprise is the cornerstone in the development of sustainable tourism, Figure 11. This example shows characteristics similar to the example of the DFBA Community Enterprise in Ireland: A community-driven and bottom-up enterprise that offers charity services and profit-oriented activities. In both Sweden and Ireland, the examples show how the community approach can be used to create better living conditions in rural areas such as better schools or access to grocery stores. Such features are essential for making rural areas attractive for new settlers.

In Lapland, in Sweden, the community-driven enterprise Lapland Voullerim AB forms the cornerstone in the local economic development. The business includes activities such as eco-tourism, commerce and crafts, artisan food, hotel and lodgings, as well as general support to the community (postal service and school). A key element in the business activities is the strong link with the surrounding eco-system. The initiatives of the Lapland Voullerim AB are bottom-up driven and complemented by private funding obtained on a share-based system, securing the local school and necessary repairs. Additional funding has been achieved from Leader projects. (www.laplandvoullerim.se)

Figure 11: Community-driven enterprise with eco-tourism, gastronomy and crafts (Information provided by RISE and SLU).

Another example from Sweden shows how environmental awareness can trigger a diverse range of economic activities for the benefit of a rural area, Figure 12.

Orust is an island with inhabitants with a strong collaborative mind set around entrepreneurship valorising the ecosystem services. The academy of recycling in Orust (www.orustkretsloppsakademin.se) in Sweden was established by "grassroots" as an experimental knowledge centre for responsible and sustainable development in the region, where almost everything is reused or recycled. Renewable energy (windmills and solar panels) installations deliver energy to the island and sell a surplus to the municipality. A bio-economy pilot project has been initiated aiming at recycling waste from mussels as fertilizer in agriculture, and the project is carried out in collaboration with SLU and Gothenburg universities. There is an association promoting local food (www.orustmat.se), and a Leader funded pre-study has investigated the feasibility for a small-scale local dairy. The example from Orust shows how dedicated local initiatives can accelerate further initiatives that together foster entrepreneurship.

Figure 12: The Island of Orust, Sweden (Information provided by RISE)

Tourism is an economic activity that is very widespread in rural and coastal areas across Europe. Some locations are supported by development strategies defined by national or regional governments. For example, the region Emilia-Romagna is favoured by a development strategy that promotes sustainable tourism in the area (Information provided by UNIBO). The Center region in Romania is supported by the regional government that promotes agro-tourism, gastro-tourism and agriculture in the area. In addition, the county of Sibiu is acknowledged as European gastronomical region of 2019 (www.sibiugastronomia.ro) (Information provided by ARAD).

It seems clear from the examples provided that an approach that integrates more social groups, diversified income generating activities, and builds on the valorization of several local resources can be a route towards developing an area into a hot spot.

Chapter 4 Hot spots for bio-based value chains

4.1 Analysis of selected hot spots for bio-based value chains

4.1.1 Olives and bio-based value chains, Andalusia (Spain)

The bio-economy is developing in response to environmental and social challenges, as well as to ensure the supply and fair distribution of food. There is also an aim to mitigate the effects of climate change and reduce the use of fossil fuels. In addition, it allows generating opportunities for economic development and employment also in rural areas. The Andalusian Circular Bio-economy Strategy focuses on the areas of bio-economy activities that are less developed in the community. The relevant sectors include agriculture, forestry, fishing, food and paper production, as well as part of the chemical, biotechnology and energy industries. The time horizon of the strategy is 2030 and there is around 1.4 billion EUR set aside for specific actions. The main objective of Andalusian Strategy of the Circular Bio-economy is to contribute to sustainable growth and development in Andalusia by actions aimed towards the production of renewable and biological products and processes (www.bioeconomiaandalucia.es).

The Andalusian region is in southern Spain, Figure 13, and thus has up to 3,000 hours of sun per year which makes it an ideal place to produce biological resources. The region has some resources and capacity that have been very important for the development of the bio-economy:

- An abundant production of biomass that comes mainly from agriculture and agro-industry. Agriculture generates around 8 million tons of biomass annually in Andalusia, such as the olive grove (27%), horticulture (15%), wheat straw (14%) and corn straw (10%).
- The presence of a developed industrial sector. The agribusiness involves more than 5,000 companies, there are also chemical and biotechnological industries connected to the sector.
- An extensive knowledge network. The 10 public Universities, the Campus of International Excellence and the technological centres, all active within the bio-economy.

The primary sector constitutes an important source of employment and wealth in the territory and presents a strong link between the population and its environment. Even so, the rural areas with mountains and unirrigated agriculture are facing a loss of habitants, as people find better financial opportunities moving towards the coastal

areas, cities and areas with more intensive agriculture (Diario de Sevilla, 2019). As many as 17.3% of the Andalusian population still lives in rural areas and the bio-economy has the potential to generate wealth in this area.

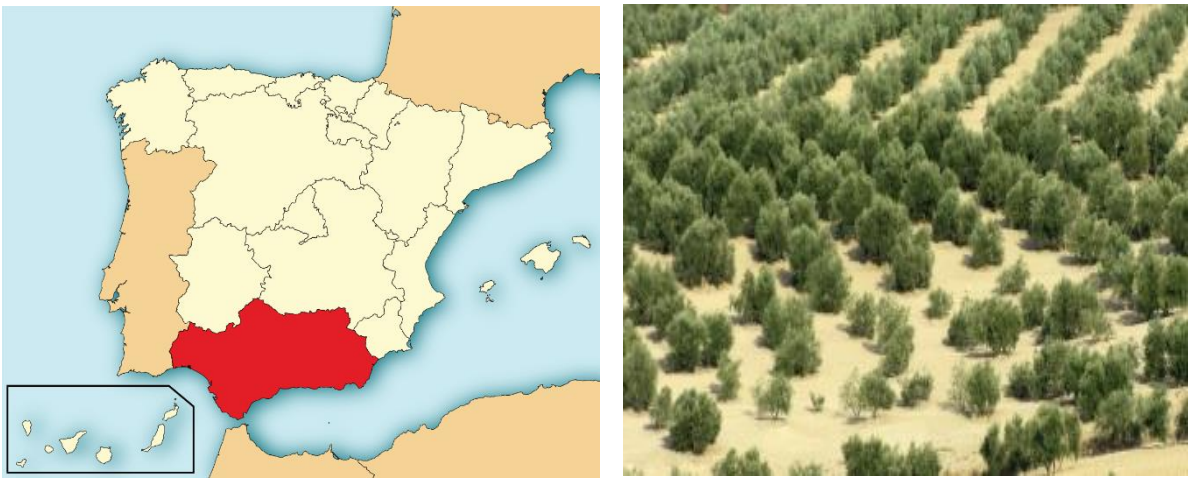

Figure 13: Map of Spain, showing the region of Andalusia and Olive groves. https://da.wikipedia.org/wiki/Andalusien#/media/Fil:Localizaci%C3%B3n_de_Andaluc%C3%ADa.svg) (Getty images)

Olives have been used as a source of food and oil for centuries, as well as in rituals and religion (Diez et al, 2015). Spain has about one-quarter of the world's cultivated area (2,42 million ha) of olive trees under cultivation and 36% of the oil production (≈800,000 t/year), which ranks it as the top producer (Vossen, 2007). Andalusia was, and remains, one of the main locations where olive trees are still extensively grown on 1.5 million hectares - from the time when the Hispania Baetica region used to supply olive oil to the Roman capital (The Olive Grove Landscapes of Andalusia). The olive sector in Andalucía accounts for as much as 35 % of agricultural employment (Programa del desarollo rural de Andalucía, 2015). The smaller companies in the fat and oil sector dominate, with between 1-9 employees (Informe sector grasas y aceites, 2017). There are around 844 oil mills in Andalusia, which represent around 46% of the Spanish oil mills, Figure 14. The development of the International Olive Oil Council has been very important to guarantee the quality and correct labelling of the produce (International Olive Oil Council, 2003).

There are many companies and cooperatives that work with the by-products, such as for example Oleícola El Tejar. It is an agro-industry cooperative of 248 associated companies located in Andalusia. The initial activity was extraction of olive pomace oil, and since the 1980s, the cooperative has built up experience in processing by-products from the olive value chain for bio-energy. In 2008, the cooperative began to develop a new bio-based value chain. The novelty was the use of olive tree pruning and leaves for bioenergy. The biomass is collected from ca. 80,000 olive farmers cultivating more than 400,000 hectares[2]. The total capacity of the power plants exceeds 47 MWe at the moment (2019). One of the members of the cooperative is in charge of all activities related to pre-treatment, supply, pre-chipping and chipping of pruning and the delivery of chipped material to the power plants. The cooperative

[2] Updated, October 2019

acquired two additional sites where chipping and screening of olive tree pruning and leaves can be done. There are three main success factors of this large biomass supply chain: the short distance from the fields to the power plants, the storage and management capacity of the OLEÍCOLA EL TEJAR and the establishment of clear rules for its members by clear definition of quality, reception conditions, reception centers and prices.

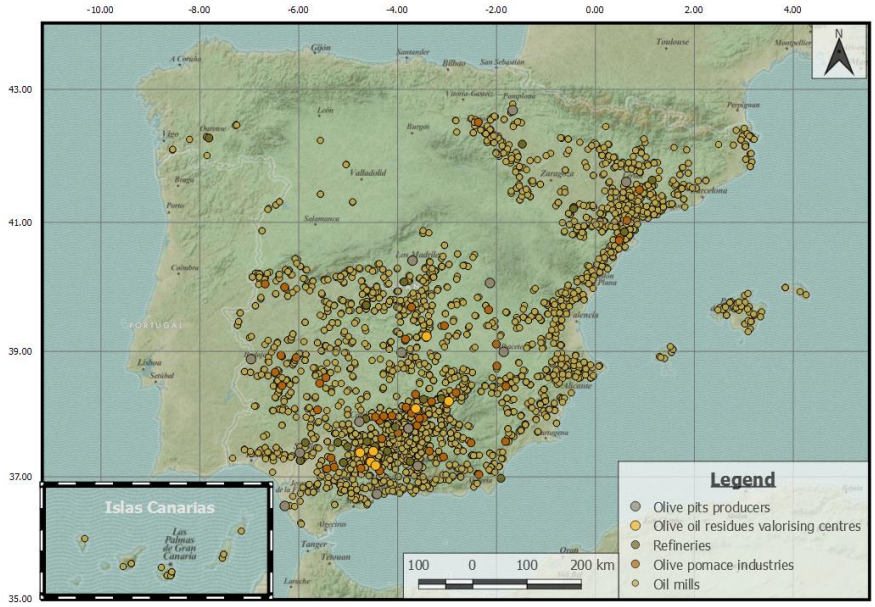

Figure 14: The map over Spain shows how important the olive sector is for the southern region of the country (Elaborated by Cooperativas Agro-alimentarias de España, 2019)

With regards to an alternative valorization of the by-products other than for bio-energy, the cooperative forged an alliance in 2011 with bio-tech company Natac and, together, founded another company: Innovaoleo S.L. Through this alliance, new innovative products targeted at the pharmaceutical, chemical, cosmetic and nutrition industries are derived from olive-based by-products, and some are even marketed (Oleicola El Tejar).

The extraction of the by-products has provided an extra income to the olive value chain. The example with the Andalusian bio-economy shows how innovation using the existing infrastructure, can add value to traditional olive production, which creates new rural job opportunities. The collaboration between local producers, universities and technology centres is central for creating this dynamic within the olive value chain. (Information provided by the Cooperativas Agro-alimentarias de España Spanish Co-ops, and RISE)

4.1.2 Green bio-refining in Denmark

This case study is about an emerging hot spot in the region Central Denmark: the emerging hot spot for green bio-refining, Figure 15. Green leaves can be processed into a variety of products spanning the range from biogas to high-value compounds. Green leaves as biomass encompasses in principle all kinds of greens that can be processed such as leaves from sugar beet tops, lettuce, green parts of crops and

grass. Grass is a crop that grows well in Northern European countries and farmers are used to manage this crop, Figure 16.

Figure 15: The region of Central Denmark Bio-refining (https://da.wikipedia.org/wiki/Region_Midtjylland, 2019)

Figure 16: Grass and green

Aarhus University, a major research facility located within the region and with core competencies in agriculture, food and bio-based processing established a pilot plant for green bio-refining at a test site located in Foulum. Together with the local incubator Agrobusiness Park, the University established the interdisciplinary Center for Circular Bio-economy (CBIO). The scope for CBIO was to promote collaboration with industry and encourage processing of green biomass. The regional government defined grass as the first green biomass to work on and provided funding for a demonstration program with the aim of establishing networks and initiate innovation projects. Another key partner for encouraging valorization of green biomass was the Agricultural Advisory Services, also located in the region Central Denmark.

Several activities have been initiated to encourage collaboration, technology improvement and for building relations among stakeholders. The overall aim is valorization of green biomass, particularly grass. Among the core initiatives are collaborative innovation projects involving research and knowledge providers, farmers, industry and end-users. This pattern of collaboration has been going on for nearly a decade, and it is still on-going.

The dynamic for creating this hot spot is rooted in developing new value chains and linking up with the market. The projects are funded by the regional government or the Danish government though innovation grants and private co-financing. The projects have centered round the development of a feasible bio-refining process technology, testing of the refined grass protein in real-life conditions on farms, and consumer testing of eggs, poultry meat and pork from livestock fed with grass protein concentrate (Hamann et al, 2019). The outcomes to date have demonstrated that it is possible to process grass into a feed concentrate that works in praxis; that grass protein concentrate matches the nutritional value of presently used feed protein sources; and if a proper and feasible value chain can be established there would be new opportunities for farmers and businesses for generating an income from growing and processing grass. Some of the challenges that have been identified during the last five years of work are related to:

- How to obtain a green biomass of sufficient volume and quality for the bio-refinery?
- What would be the optimal crop and harvest time for best protein yield in the bio-refinery?

- Would the feed industry take to the new protein product?
- How could the technology of the bio-refinery be improved to achieve a more feasible process?
- What is the business case for farmers providing the grass?

To solve the above-mentioned challenges, it required collaboration and knowledge sharing across stakeholder groups. For example, a company producing equipment for harvesting grass developed a new harvesting machine to improve the grass yield, and this machine is now in the market. A compound feed producer has tested the protein paste in existing compound feed and is interested in buying more of the paste on commercial terms. Furthermore, a survey (Hamann et al, 2018) carried out among farmers revealed that there is genuine interest in growing more grass for bio-refining, and that livestock producers are willing to use the protein paste in the feed.

The case study of the green bio-refining emerging hot spot in Central Denmark demonstrates that there is a motivation by diverse stakeholder groups to work towards developing the green bio-refining venture. The motivation comes from the production side (farmers and bio-refining process) and the market side (livestock farmers and feed producers, and technology providers), so in principle the gap between supply and demand could be bridged. Achieving economic feasibility from valorisation of grass is still posing challenges.

As a consequence of the strong stakeholder interest and a growing market demand for feed protein there is a need for scaling up of the pilot plant. In 2019, the regional government provided co-financing for a demonstration plant with a capacity of processing 100,000 tons of green biomass per year. This action would support the emerging hot spot to grow to the next level: commercial production.

4.2 Characterising hot spots for bio-based value chains

4.2.1 Comparative analysis of hot spots for bio-based value chains

The case studies about olives in Andalusia and grass in Central Denmark illustrate a range of challenges and opportunities for rural areas following from organising new bio-based value chains. In Table 5 the two case studies are compared to identify how the Key Factors for development have materialised for each of the bio-based value chains.

Table 5: Comparative analysis of the Key Factors for development

Key factors	Olives in Andalusia	Grass in Central Denmark
Local resources for valorisation	Olive trees	Grass
Skills and knowledge	Olive cultivation and processing, experience in organising supply chains, research and technology centres	Farming skills, university, farm advisory services
The basis to build upon	Long history of olive oil production, olive oil processing, Andalusia largest producer of olives in Spain, cooperative with diversified economic activities	Farming skills and livestock production, established supply chain for feed, volumes, land and machinery for grass cultivation available, patented and new technology for bio-refining of grass.
Infrastructure	Collection centres for biomass, power plants, transportation network	Good network of roads in rural areas, pilot plant and demo-plant for bio-refining
Market access	Spanish and export markets for olive oil, community market for power, established routes to market	Danish market through collaboration with feed companies. Potential for export of the protein product. Organic and conventional markets
Policies supporting development	Circular bio-economy strategy for Andalusia	Danish bio-economy strategy with an emphasis on green proteins, Regional bio-economy strategy.
Prospects	GOOD: Experience in organising supply chains, knowledge of the value of the biomass, new value chains generate income in the rural areas, opportunities for building new networks and value chains from olives and biomass	MEDIUM: Growing demand for feed protein but the feasibility of the production is still lagging behind. Necessary skills available. Potential for job creation, but depends on market up-take

The case of Central Denmark demonstrates the challenges of developing a hot spot for bio-based processing. The Danish case was, in contrast to the other examples in the report, motivated by the regional government before 2013. Since then, several projects have been carried out, and these projects have been driven by knowledge providers and involved farmers and feed companies. The case from Andalusia is rooted in a long tradition of olive oil production and demonstrates how a central company, here a major cooperative, can be a front runner for developing bio-based value chains. It is clear from the Spanish example that coordination of the value

chain and logistics are central features to realise new bio-based value chains. The coordination of the value chain in the Danish example was undertaken by the agricultural advisory service as this entity had the connections to the farmers, the feed companies, and access to the pilot-plant.

The overall aim of establishing new bio-based value chains involving rural actors is thought to be the generation of income in rural areas by valorising existing resources, here biomass from the olive trees and grass. The value generation has already materialised in the example from Andalusia as the biomass, infrastructure and market were present hence organisation of the supply chain was the most important action. The emerging hot spot in Central Denmark is still on its way to commercial scales.

The potential market for the grass-based protein could be quite big, and the business case is scalable. The most significant challenge for this business case is to achieve economic feasibility through the value chain. The **learnings** from the Danish and Spanish examples are, that coordination of the supply chain and logistics are essential for developing bio-based value chains, but the market uptake is what makes a bio-based value chain viable. Another learning is that it takes a **focal entity to motivate the development of the new bio-based value chain** and that this entity needs to link up with a diversity of rural and non-rural stakeholders.

4.2.2 Policies that shape hot spots for bio-based value chains

Bio-economy related research and innovation (R&I) is a priority for most of European countries and regions in the time period 2014-2020. Out of 210 analysed territorial units (EU regions and countries), 207 (98.6%) include bio-economy related aspects in their 2014- 2020 R&I priorities and plans. However, denominations of bio-economy aspects in the different territorial units are such as: low-carbon, green growth, sustainable agriculture, innovative food production, green chemistry, eco-innovation, circular economy and, blue growth. Following this, policies in European regions that will shape bio-based value chains must appear highly diverse and presenting a multitude of targeted measures and actions

Regions and countries with a thematic focus on “bio-based fuels and bioenergy” cover territories in Southern France, Southern Germany and Southern Poland, but also Southern and Central Finland, Scotland, Ireland and Galicia (Spain). Ireland is regarded to have a large potential for developing biogas production, yet it is an emerging sector in the country, Figure 17.

Gas Networks Ireland (GNI) has a strategic plan to achieve 20% Renewable Gas on the network by 2030 and 50% by 2050. It is forecast that up to 9.8 TWh per annum of renewable gas can be delivered from the agriculture sector through Anaerobic Digesters by 2030. The Mitchelstown/North Cork area of Ireland is an example of an area where focus is on biogas production. There are a large number of cattle and dairy farms as well as pig farms in the vicinity and surrounding areas making it huge potential for farm-based anaerobic digesters. This area is also close in proximity to Ireland's biggest gas pipeline, making it easier to make the transition to decarbonising gas heating to homes. Using, food waste, slurry and other farm wastes also will have additional benefit of reducing harmful emissions from Ireland's rapidly expanding beef and dairy industries.

Apart from a small number of projects, production of biogas is still relatively new in Ireland. Some of the bigger food manufacturers, such as Dairygold[1], have had anaerobic digester projects but this is generally used to fuel own plant and does not go to the public Gasline. Some of the new projects on this and the Bio-economy come from farms and communities working together through EIP-Agri projects, Leader projects or other programs.

Figure 17: Developing the Irish biogas sector (Information provided by Irish Rural Link)

Sectors in the bio-economy such as bio-refining, bio-chemicals and biopharmaceuticals, is prevalent in countries around the Baltic Sea, in Northern Europe, and in regions located mainly in France, Austria, England, Poland, Belgium and The Netherlands (EU Commission, 2017). The marine biodiversity is considered as a rich source of novel natural compounds and at the same, the marine environment offers the possibilities for implementing new business models in coastal and rural areas, Figure 18.

In North Denmark (northern part of Jutland) fisheries have always played an important role in the region's economy by providing jobs, income and wealth to fishermen as well as workers in the seafood industry and the adjacent businesses in the supply chain. The region is home to the National Research Institute for Fish and Aquatic Environments (DTU Aqua) and the North Sea Aquarium attracting many tourists every year. Hereto could be mentioned several large seafood processing and exporting companies and one of the largest companies in the global fish meal industry (Triple Nine). The latest developments within the blue economy include a new company for processing starfish to make feed protein (opened in May 2019), an entrepreneurial company that grows organic mussels on lines, a company producing microalgae (Aliga) and, new businesses being set up for land-based salmon farming. The innovative businesses mentioned have been established within the last 5 years.

Figure 18: The blue bio-economy in Region North Denmark (Information provided by IFAU)

The examples of hot spots for bio-based value chains show that diverse economic activities can be derived from establishing production, processing and marketing of biomass. It has also been demonstrated that the potential for creating new value chains or establishing new business models can be realized, and certainly in rural areas. Important aspects that would need consideration in policies for supporting the development of bio-based value chains in rural and coastal areas is the consideration about how the generated value can benefit the local community and how bio-based ventures can contribute to create opportunities for economic diversification for rural actors.

Chapter 5 Hot spots for rural entrepreneurship

5.1 Conditions for business in rural areas

In recent years, societal expectations of food safety and quality, and environmental and animal welfare standards have grown considerably. People are increasingly interested in food that offers broader benefits for society, such as organic produce, local specialities and innovative products and services. Raising awareness and educating farmers and, making use of new technologies are measures fundamental for driving development in the agro-food sector. New societal goals are taking centre stage: The increasing awareness of the environmental challenges facing the modern society such as potential loss of biodiversity and natural habitats, waste of resources and the impact from climate changes. The landowners including farmers are central actors for ensuring proper environmental stewardship to protect and preserve nature for future generations.

Attention to reducing waste, exploiting available resources better, and opportunities for rural employment and income are the motivating factors for turning to the bio-economy. The bio-economy not only relates to food and agriculture, but also to materials, chemicals and energy. By incorporating bio-economy principles into agricultural communities and businesses, the bio-economy can have significant economic, environmental and social benefits, and help Member States meet their climate change objectives (EU Commission, Feb. 2019). It is therefore relevant to focus on the potential of agriculture and other rural activities to fulfil the new societal goals, and through this, contribute to rural employment and improve the resilience of rural areas (Knickel & Kroger, 2008).

The comparative analysis in the previous chapters point to a range of key factors that need to be available if the area should develop into a hot spot. The analysis has demonstrated that the temporal aspect cannot be overlooked. Hot spots can be designed for a certain sector or area, but it is not until the economic activities start to generate dynamics that motivate to more activities and diversification, the real development of a hot spot occurs. A few general pre-conditions have been identified as crucial for an area to develop into a thriving hot spot as will be discussed in the following sections.

5.1.1 A supportive business environment

A business environment refers to the various external factors which affects, directly or indirectly, the operation of the businesses and entrepreneurship. Rural areas in the EU are characterised by diverse landscapes, geography, environment, land use, labour markets, infrastructure, demography and cultures as well as disparity in economic performance (Perpiña Castillo et al., 2018), hence a situation calling for diverse business environments adapted to the needs of the specific area. If this business environment favours the development of diversified economic activities in rural areas it could lead to the development of a hot spot.

Five Key Factors have been identified as essential for providing a favourable business environment that supports the development of an area to become a hot spot. These Factors are the following (adapted from Roos, 2016; World Bank, 2018; Naldi et al., 2015; DCED, 2008):

1) Local resources and a solid basis;
2) Policies and strategies that promote an adequate institutional and regulatory environment;
3) Infrastructure (ICT, transport) and Knowledge;
4) Market access
5) Access to further resources (funding, training, technologies)

One or a combination of these various factors could facilitate or hinder entrepreneurship or business development depending on the nature of the business and locality. For example, in the case of the green bio-refining emerging hot spot in Denmark, having the new protein product approved for the market is an essential issue for this venture to develop. The example of sustainable tourism in the Alpine region illustrates the importance of proper infrastructure to encourage car-free tourism.

It is therefore essential for policy makers to ensure that the business environment meets the requirement of the local area and the demonstrated economic activities. Government policies for e.g. developing the bio-economy of a region or for supporting an emerging hot spot are central for aligning the business environment with the local resources. Opportunities for growth and diversification need to be considered as well. In Sweden, the national strategy for food underpins the local artisan food production environment in Jämtland Härjedalen through support of the Eldrimner organisation in order to build competencies with rural entrepreneurs.

5.1.2 Access to market

Hauts-de-France has for many years been the leading region in France for the cultivation and processing of peas and beans. This position has been achieved because of favourable conditions for growing these crops, the food processors located in this area, and a highly developed infrastructure for transportation. Within a radius of 300 km businesses have access to markets of 78 million affluent consumers including 6 million in the region itself (Inosys et al, 2018). Market demand for peas and beans is increasing across the EU. This has spurred demand from European companies and consumers for vegetarian food, and pea protein is used in processed

foods and drinks (Hamann et al, 2019). With some of the most important companies in the European pea processing industry located in the region, it is clear that the dynamics occurring in the market has the potential to stimulate more and diversified economic activities in the rural area of this hot spot.

A trading platform that serves as a local and international meeting point can prove to be the fundamental element for valorising rural resources. The fur trading platform in Western Macedonia (Greece) illustrates this important dimension for maintaining production in rural areas. Actors including fur farmers, designers and traders depend on this trading platform, and this way, the trading platform brings local and international customers to the area. Access to trade promotes a coherent value chain based on fur and this contributes to maintain a traditional agricultural production in rural areas as viable and future-oriented. This is a good basis for motivating entrepreneurship. In this sense, the region of Western Macedonia could be regarded as a hot spot for the fur sector with obvious links to rural entrepreneurship and new business ideas related to fur (Information provided by Clube).

The bio-economy case from Andalusia demonstrates how available biomass can be turned into a diversified product portfolio including olive oil, biomass for energy and, latest, high-value compounds from olive oil by-products. The Andalusian case is rooted in the regional market for olive oil, but has over time developed to address the national market and many export markets for olive oil. The export of olive oil has for the last five years been approx. 1.9 million tons from Spain and Andalusia's share is ca. 50 % (Spanish Ministry of Agriculture and Fisheries, April 2017). The Andalusian bio-economy case also demonstrates that ability to develop a local market and that proper organisation of the supply chain are key factors for valorisation of local resources and for retaining the value generated within the rural area.

A market is a dynamic space that expands; declines or diversifies. These trends lead to new opportunities for some businesses, and for others, a need to reconsider the present business case. In Co. Carlow (Ireland), the agro-engineering hot spot was rooted in the need for technology for the sugar sector (agriculture and processing) back in the 1920's. Having engineering skills as its core competencies, the hot spot has continuously developed according to the market demand for engineering skills and this has led to the establishment of several businesses producing machinery and technology for agriculture. Today, digital skills are a central and highly embedded feature of engineering. The hot spot in Co. Carlow has demonstrated how changing from mechanical to digital skills has been fundamental for the area to keep up with demand for technologies. The change has led to many start-ups and contributed to create diversified economic activities in this hot spot (Information from Irish Rural Link).

5.1.3 Access to education, training and Internet

Several of the hot spots in this report have demonstrated the importance of having access to a knowledge platform like for example the Improve platform in Hauts-de-France and the Eldrimner organisation in Jämtland-Härjedalen (Sweden). The knowledge platforms provide technical insights; contributes to develop skills be value chain actors, and support the development of relevant networks. It has also been demonstrated that the skills by the actors in rural areas are the basis for developing an area into a hot spot. This was clear from the case of the DFBA Community Enterprise in Ireland.

With the intention of developing an area into a hot spot it is necessary to take the present skills base into account and consider how this skills base can be adapted to meet the future requirements. For example, mastering basic computer skills can mean that an emerging rural business can actually develop and become viable. Another example is the provision of farmers with skills to grow new crops for the bio-based value chains, or to strengthen the skills by the innovation intermediaries to have a better basis for working with rural entrepreneurs.

The central issue is that the skills base in a rural area, or a potential hot spot, needs to be considered in a broad approach including the present and future skills by the actors of the supply chains, the innovation support agencies, and other relevant organisations and educational facilities. The broad approach is needed to identify how skills can be provided by actors in rural communities. This includes basic education in schools but also a modern approach to continuous and life-long learning for actors involved in rural entrepreneurship.

With education as a precursor to access information, internet access to reach the customers of the products and services is essential for a successful rural business and for developing innovative business cases. The case of the Alpine Pearl shows how important collaboration over distance is for developing new business models in rural areas. Here, access to ICT is a crucial factor for success. Also the Irish example of how the skills base among the engineers in Co. Carlow has been adapted to the requirements of modern technologies clearly illustrate how important technology and ICT is for maintaining diversified economic activities in rural areas.

Access to Information and communication technology (ICTs) is considered as fundamental for improving both productivity levels and the competitiveness of regions. ICTs are credited with delivering greater flexibility in work environments (for example, permitting people to work from home or from other remote locations), while offering a broad range of options for staying in contact with colleagues, family and friends. These developments have created new dimensions of not only economic, but also social and political participation, which allow completely new ways of working, socialising and sharing information, irrespective of geographical location (Eurostat, 2018).

5.1.4 Government policies

Policies that aim at supporting development in an area or a sector seem to share a number of common goals: Create income and employment, attract investments, and underpin diverse dimensions of sustainability. For example, policies could be targeted at underpinning economic sustainability by providing funding for projects, or environmental sustainability (e.g. by defining policies about car-free zones or production of organic crops), or social sustainability by emphasising job creating, living conditions, human health and more.

From reviewing sector development policies, it seems that there is an embedded encouragement of entrepreneurship. It is, however, in most cases not possible to identify the origin (i.e. what encourages the entrepreneurship) or dimension (scale) of entrepreneurship resulting from the development strategies. Also the aspect of retaining the generated value in the rural area need to be further researched with particular emphasis on good practices for creating local economic diversification and dynamics. Finally, more research is needed to clarify how the rural dimension of entrepreneurship relates to the sector-oriented policies i.e. the importance of rural entrepreneurship, entrepreneurship in rural areas, or a combination, and how this dimension best can be motivated and supported.

In Ireland, the new National Policy for Social Enterprise (2019) outlines the framework for enabling the development of social enterprise and recognition of social enterprise as routes for creating jobs, income generation and resilient rural communities. The case of DFBA Community Enterprises illustrate how people in the community have joined forces to establish more than 20 cases of social enterprise in the area for income generating activities as well as charitable activities for the overall benefit of the local communities. Here, also the Irish Government's Strategy to Support the Community and Voluntary Sectors and the National Volunteering Strategy are foreseen to encourage more social enterprise to be initiated in rural communities. The example from Ireland underlines the importance of aligning policies to spur development and job creation in rural areas (Information provided by Irish Rural Link).

Many Member States and regions across Europe have defined policies for developing the bio-economy and, in several of these policies, the rural context is emphasized. For example, the regional government of Central Denmark has defined bio-refining as a focal point for stimulating job creation in the region, and the Andalusian government has defined a circular bio-economy strategy. The case of the Spanish cooperative Oleicola El Tejar in the olive oil sector illustrates how circular bio-economy can be instigated to benefit rural communities.

Entrepreneurship and rural businesses are in many cases developing round agriculture and food production, and for many regions, this sector is the key sector for promoting rural development. A general characteristic of the policies is that they build on the local resources. There are many examples across Europe: The region of Thessaly has defined a strategy for promoting the dairy sector, and the government of Sud-Ouest France targets pesticide-free viticulture. In Romania, the regional development strategies for the agro-food sector include significant elements of

attracting investments, modernization of production, and promotion of local food and artisan crafts for tourism (Information provided by ARAD).

As essential finding from the analysis in this report is that policies must be designed to motivate economic activities that are derived from the valorization of local resources. It is also important to ensure that the skills base of the value chain actors can be adapted to meet future requirements for skills, thus considering how to provide the necessary skills and access to competencies for people in rural areas. A common and most important feature across the examples of hot spots is the community-approach, i.e. the ability of people to work together to create values that remains with the community and that these values can spur further economic activities. It would be relevant to look further into how the community approach impact on the choice of business organisation and business value as for example "sustainability" or "local". Having this information available would be helpful for rural support organisation and for policy making and, for making the development of business models for valorisation of ecosystem services more operational for rural actors, investors, and other stakeholders.

5.2 Concluding remarks

The content of this report has been collected through a qualitative and explorative analysis of selected hot spots within agro-food value chains, bio-based value chains, and hot spots for business activities. The analysis of entrepreneurship, its dimensions and origin, and its context leads to a set of conclusions.

The most important conclusion is that entrepreneurship is taking place in rural areas all over Europe, and that entrepreneurship must be recognized in a multitude of formats and scales.

Entrepreneurship is a strong driver for creating economic activities in rural areas. In many rural areas across the EU, the best prospects for generating economic activities for income and jobs is closely linked to the valorisation of local resources for the local market and beyond. There needs to be an inflow of income to the rural area to stimulate economic activities and growth. Access to trade is pivotal for hot spots.

Creating jobs and income in rural areas can be stimulated by investments as is the approach of entrepreneurship in rural areas. The essence in this approach is that the investment (or establishment of the business) is undertaken because the location is favourable to the venture, but it is not given that the value generated will remain within this location or benefit the rural community. Ventures that aim at establishing processing facilities or other types of infrastructure ARE needed to facilitate development in rural areas. When aiming for resilient rural communities it is necessary to find ways to connect investments and ventures with local economic activities to create an inclusive dynamics in the rural areas of Europe.

New business ideas and new value chains are fundamental for creating a dynamic development in a sector or an area, including rural areas across Europe. But, without access to a market, no venture or business will remain ongoing. Entrepreneurship is about exploiting opportunities for generating revenues from selling goods and services. This requires access to resources including skills and technologies. It is

therefore important that the business environment is aligned to the requirements of businesses in rural areas, and that it can support and encourage entrepreneurship. To fully leverage the potential for creating employment, income and better conditions in rural areas, the business environment and the government policies must he aligned.

From reviewing development policies, it seems that there is an embedded encouragement of entrepreneurship but, it is often not possible to identify the origin or dimension of entrepreneurship resulting from such policies. Further research is needed to clarify how to best capture the rural dimension of entrepreneurship to fully leverage its potential for creating economic diversification and dynamics in an area. This will underpin more rural areas to become hot spots.

There is still much untapped potential for European rural entrepreneurship as well as entrepreneurship in rural areas. Opportunities for engaging with new markets, valorising local resources, establishing new business models, or using new technologies are huge. A joint effort that builds upon development policies, business activities rooted in local resources, a supportive business environment and, the entrepreneurial drive can form the basis for more and diversified economic activities in rural Europe.

People need to be at the centre stage as it is the relations between people that are fundamental for business relations and for displaying creative thinking. People take action and make new ventures happen. Rooted in local resources and developing from creative valorisation and marketing of products and services, the dynamics of economic diversification evolves. This is what we call a **Hot Spot for rural entrepreneurship.**

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Appendix 1 Methodology

The report builds on an explorative and qualitative approach that combines desk research with stakeholder consultations. The report is mainly elaborated by Karen Hamann (IFAU) and Tora Råberg (RISE), but all partners of the RUBIZMO project have contributed by providing examples and validation of findings.

The United Nations has suggested an iterative methodology framework for hotspot analysis and this framework has shaped the explorative approach (Figure 19).

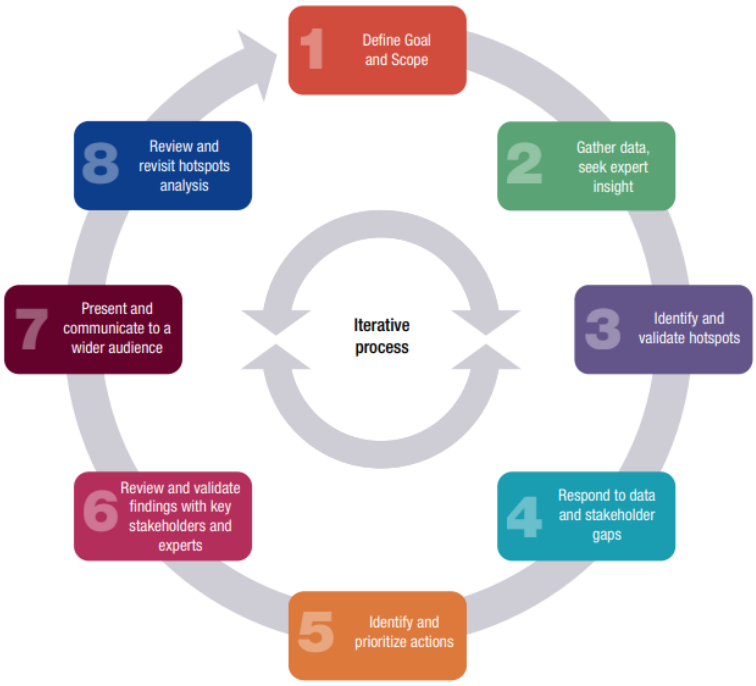

Figure 19. Eight key steps in Hotspots Analysis suggested by the United Nations Environmental Programme, Source: Hotspots Analysis (2017) Available at: https://www.lifecycleinitiative.org/new-hotspots-analysis-methodological-framework-and-guidance/

Explaining the explorative approach:

Step 1: Define the goal of the report

The goal of the report is to provide an explorative and qualitative analysis of hot spots for entrepreneurship in rural areas as well as for rural entrepreneurship. This way, the report provides support to the work planned in WP 6 (Coaching and training) and WP 7 (Exploitation of results and replication). Furthermore, the findings can be incorporated into the RUBIZMO tools. It is not intended to produce a complete list of hot spots for entrepreneurship in rural areas in the EU but, to **provide an understanding of how to conceptualise this kind of hot spot**, and how it could relate to rural entrepreneurship.

Step 2: Gather data
First, it has been a priority to get the definitions rights, i.e. in what way are the concepts of "entrepreneurship in rural areas" and "rural entrepreneurship" defined and how are they related. For this, we build on the definitions provided in the paper by Korsgaard et al, 2015.

Secondly, empirical data about entrepreneurship in general terms, rural entrepreneurship, entrepreneurship in rural areas, as well as hot spots and regional/rural development are gathered. Main sources include policies and strategies, business reports, statistics, academic papers, and more. All references are provided in the List of References. Having established a first baseline for various kinds of entrepreneurship, the next step is to find examples from Europe for the analysis.

Step 3: Identify entrepreneurship and validate the concept of "hot spots"
RUBIZMO partners have been asked to provide a) their understanding of "hot spot"; b) examples of hot spots for entrepreneurship and, c) examples related to agro-food value chains, bio-based value chains, and of hot spots for business in rural areas. This work brought forward more than 50 examples representing all the 11 RUBIZMO countries.

To select the examples best suited for the analysis in the report, the National Stakeholder Panels were consulted. The consultation process has involved approx. 75-100 stakeholders with interests in rural development, investments, innovation and entrepreneurship, and representing 11 countries. Each consultation has included a presentation of the project and its context and scope, presentation of the identified hot spots in the country, and discussions. The consultations have pointed to the most complete examples of hot spots from the RUBIZMO countries.

Step 4-5: Respond to data and validated findings through analysis
From the starting points of rural entrepreneurship and entrepreneurship in rural areas, the aim of the case studies was to identify what factors that had facilitated the evolvement of the areas and specific value chains to become a dynamic rural location. **This would be regarded as a hot spot.**

To obtain this understanding, we chose to elaborate two case studies of hot spots from each of the three sectors (agro-food, bio-based and business activities). It was ensured that the selection of case studies represented six different countries / regions. The case studies were developed from quantitative and qualitative data about the local context and embeddedness, the value chains and business models in focus, policies and strategies for the area, the business environment and, infrastructure, skills and market access. Information from national RUBIZMO partners supported the development of the case studies. The case studies were elaborated with a descriptive approach to understand how the areas had developed, the most important factors for stimulating / hampering economic diversification, the connectedness with the rural area, and outlook.

For each of the six case studies, we assessed (indicatively) the prospects for further economic diversification, entrepreneurship and development based on the gathered

information. This assessment could be articulated as **"Medium" or "Good"** and, is considered only as an indication of the potential for further development of entrepreneurship and economic diversification in the rural area.

Step 6: Validate preliminary findings

The six case studies shed light on rural entrepreneurship and entrepreneurship in rural areas, and demonstrated how particularly rural entrepreneurship contributed to driving local business development. Findings about entrepreneurship in rural areas contributed with insights about how government strategies shape and promote entrepreneurship. The preliminary findings have been shared with the RUBIZMO partnership at the interim meetings in Sweden (May 2019) and in Brussels (October 2019).

Step 7-8: Finalisation of hot spot report and publishing

Based on the feedback from the RUBIMZO partnership, the report is finalised and made available for publishing. The report is foreseen to be of value for policy makers, innovation intermediaries, agricultural advisors, investors, and others with an interest in entrepreneurship and economic diversification and growth in rural areas.