



**TRANSFORMING APPROACHES
TO RURAL LAND MANAGEMENT**

Stimulating long-lasting improvements in the delivery of social, economic and environmental benefits from EU agricultural and

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Summary report on findings from the in-depth case studies



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1 Introduction

1.1 A note on this paper

A principal component of the PEGASUS project is a set of carefully selected sectoral, multi-sectoral and territorial case studies on different approaches to the provision of environmental and social benefits from agriculture and forestry. The case studies were carried out in four steps: Steps 1-2 aimed at a broader coverage and have been carried out in 34 case studies in 10 countries. The main results and insights gained from Steps 1-2 in these 34 case studies were presented in Deliverable 4.2.¹ Steps 3-4 focused on a more in-depth analysis of a subset of 12 case studies. The selection criteria for the in-depth case studies is provided in D4.2, Sections 2.2 and 4. Information relating to the overall approach and methods used, and a short profile and characterisation of the case studies is provided in sub-sections 1.2 and 1.3.

This discussion paper presents a very first indication of some key results from the 12 in-depth case studies. In a more advanced later version of this paper, we will also take the results of the 34 broad and shallow case studies into account. The presentation of elements of the case study analysis and their assessment in the form of bullet points are used to illustrate the general discussion and/or point to cases where a feature is more strongly expressed. A more advanced view of case study results will be developed jointly by all PEGASUS researchers working in mixed teams, in WP5. The work comprises joint analysis, preparation and submission of papers to peer-reviewed publications and, based on the scientific analysis and conclusions, the elaboration of policy and practice materials and recommendations. In further analysis, more attention will be paid to identifying and exploring challenges, costs, conflicts and failings in the different case studies. Further work will be supported by maps, that will support the interpretation and assessment of results in a European perspective. Such maps link land management practices (e.g. agriculture and/or forestry) with the provision of ESBOs. In addition to the analysis of specific cross-cutting questions, we are envisaging thematic clustering of case studies in respect of distinctive characteristics, systemic behaviours or procedural and institutional aspects, to deepen the analysis and development of the specific outputs of tasks within WP5.

Obviously, there is overlap and almost always a complex interplay of very varied factors within each case study, an observation which underlines the crucial role of assessing the interrelations of factors and their complementing or opposing functions. The main goal of this paper is to provide an entry-point into and orientation for further analyses. In this paper, attention is paid to illustrating the richness and broad spectrum of results obtained from the study of real-life cases.

¹ K Knickel, C Short, A Maréchal and S Sterly (2016) Innovative approaches for the provision of environmental and social benefits from agriculture and forestry – Step 1-2 case study results (D4.2), <http://pegasus.ieep.eu/resources-list>.

The structure of this paper is broadly based on the common reporting guidelines and template adopted for each of the 12 cases. These were provided to ensure a common structure in the approach of the investigation of case studies, coherent reporting and to facilitate comparative analyses. The guidelines encouraged authors of case study reports to, wherever possible, provide empirical evidence to support their narrative and to substantiate all judgements with explicit references to methods and sources of data. The most important sources of information in most cases were expert and stakeholder interviews, results from workshops and/or focus groups, and analysis of official statistics and other relevant secondary sources (e.g. scientific studies, policy documents, media and other reporting, etc.). Each case study report includes a dedicated section listing all references and data sources.

1.2 Approach taken in the in-depth case studies

The main idea of Steps 3-4 was to deepen our analysis of enhanced provision of socially and/or environmentally beneficial outcomes (ESBOs) from farming and forestry systems and to explore, together with practitioner partners and stakeholders, current impacts and future actions. The responses of the system to different drivers or initiatives in policy, markets or institutional changes were to be identified as well as the main challenges and the main limiting or enabling factors. Attention was paid to situations where the appreciation and/or provision of benefits is judged to be at risk.

The approach taken in the case studies was holistic and exploratory. Teams have tried to capture the social-ecological system (Ostrom, 2005; Folke, 2006; Ostrom and Cox, 2010; McGinniss and Ostrom, 2014). Attention was paid to understanding the inter-relations between different system components (e.g. actors, governance regimes, resources, drivers and action situations). Both, the holistic systems approach and the focus on inter-relations, were considered more important than an in-depth assessment of specific, partial issues. Gathering and collating quantitative data on levels of specific ESBO provision, for example, would have required considerable resource which would have distracted teams from building a good understanding of how systemic interlinkages function, given our relatively limited time and resource frame for this element of PEGASUS.

Particularly positive is the direct and indirect impact that the action-oriented PEGASUS case study work had in several cases. In the Slovenian and German case studies, the participatory in-depth work helped stakeholders to clarify limiting factors, opportunities and ways forward. Also, the Dutch grazing case picks up a major discussion in society and outlines ways forward with their pros and cons.

1.3 Overview of the 12 in-depth case studies in Steps 3-4

Case	Brief characterisation	Authors
Organic farming label in the mountain Murau region (AT1)	Focus is on a joint quality certification and marketing initiative for organic mountain haymilk. Haymilk is considered the highest premium milk product in Austria at present.	Thilo Nigmann, Gerhard Hovorka, Thomas Dax, BABF
Birds and amphibians support on wet meadows (CZ2)	The case study focusses on a project aiming to create appropriate conditions for the return of wetland birds and amphibians to the meadows in the floodplain of the river Metuje.	Jaroslav Prazan, Hana Sejnohova, Klara Camska, M Mrnustik-Konecna, UZEI
Traditional orchard supplier premium in Hessen/Baden-Württemberg (DE2)	The Regional Association for Traditional Orchard Cultivation is a supplier premium initiative. Its aim is to maintain the traditional orchards through a better price for producers and additional collective activities.	Kerstin Hüle Meyer, Christoph Mathias, Simone Sterly, IfLS
Grass-fed organic beef and a whole value chain approach (EE2)	The private <i>Liivimaa Lihaveis</i> initiative uses a whole chain approach to market high quality organic grass-fed beef, to offer a better price for producers and to maintain grasslands (incl. biodiversity-rich semi-natural grasslands).	Argo Peepson and Merit Mikk, CEET
Volvic water company, management agreements and agri-forestry (FR2)	Focus is on Danone's water catchment strategy that involves public stakeholders and land managers to protect the water catchment area and improve its brand reputation.	Christophe Déprès and Hai Vu Pham, INRA
Processed tomato supply chain in northern Italy (IT1)	Tomato production in northern Italy means 39,000 hectares under tomato, 2,000 producers in 15 producer organisations and 24 processing companies. The case study focuses on the processing tomato supply chain.	Barbara Forcina and Francesco Mantino, CREA
Bergamot, niche and organic products in Calabria (IT2)	More than 90% of the world production of Bergamot is coming from Reggio Calabria which is the study area. The case study focusses on the organisation of Bergamot production and the related multiple benefits.	Francesco Mantino, CREA
Payment for grazing systems in dairy production (NL1)	Focus is on so-called meadow farm milk; milk that originates from cattle with grazing, is processed into meadow dairy products, and distinguishes itself from farm milk and in-house production systems.	Floor Brouwer, Nico Polman and Martijn van der Heide, Wageningen Research
Skylark foundation: a farmers' association promoting sustainable arable farming (NL4)	The Skylark foundation is an organisation that unites arable farmers, food processors and stakeholders in the supply chain to stimulate joint efforts for improving the sustainability of arable farming.	Judith Westerink and Anne van Doorn, Alterra
Small scale farming and peri-urban mosaic in Montemor-o-Novo (PT2)	Focus is on small scale-farming and traditional farm high quality products marketed via short supply chains, and rural vitality, in a municipality in central Alentejo.	Rocío Juste, Teresa Pinto-Correia, Nuno Guiomar, U Évora
Agri-forestry in sub-alpine Slovenia (Upper Savinja Valley) (SI1)	Focus is on improving the market valorisation of traditional breeds and mountain wood through the establishment of local value chains, and thereby preserving forest habitats and increasing rural vitality.	Iлона Rac, Emil Erjavec, Luka Juvančič and Stane Kavčič, U Ljubljana
WILD river catchment management initiative (UK1)	WILD integrates the aims and objectives of strategic policy programmes relevant to water and land management using facilitation with local communities and farmer networks and connecting delivery programmes.	Chris Short, Katarina Kubinakova, Eloise Fresnay, Dan Marsh, CCRI

2 Brief indication of the key issues and mechanisms covered in the 12 case studies

2.1 Key issues addressed, key actors, spatial scale, ESBOs, benefits and synergies

There is only limited value in trying to summarise the key issues and ESBO addressed, key actors, spatial scale, benefits and synergies. Generally, we find that the changes in ESBO provision relate to market forces, structural changes and societal trends and aspirations as well as policy interventions. Key actors always include the land users and/or owners, often the related downstream businesses like processors or retailers, as well as civil society organisations, sometimes administrations, service providers and consumers. Multiple benefits and synergies tend to be a common phenomenon in the case studies, which sets them apart from the land around them. In the further analyses, we will need to ask how optimal approaches are, what we know about alternatives, and whether other approaches have failed.

Most often the close connections between social, environmental and economic factors that proved hard to disentangle and deal with separately. Spatial scales range from very local initiatives to countrywide actions.

Five examples that illustrate the diversity and complexity of cases:

- AT1: Mountain farming has a key role in safeguarding sensitive ecosystems through the preservation of multifunctional landscapes and the general living environment, and is therefore fundamental to the tourism sector and to society at large. Given the relevance of both organic and mountain farming in the Austrian context, this case study focuses on the example of the successful implementation of the joint organic quality certification and marketing initiative on organic mountain haymilk production scheme in the region Murau. Haymilk is considered the highest premium milk product in Austria with several separate production regions and specific value-chains at present: *"By connecting the production of quality products to alpine landscapes, the organic mountain haymilk scheme creates synergies between the improvement of the income of mountain farmers (e.g. higher organic haymilk premium, premium guarantee) and those of other parties along the value chain, and maintenance of typical landscapes and high levels of biodiversity (e.g. through continuation of farming, and prevention of overgrowing and succession to forests)."*
- DE2: In Europe, large traditional orchard areas can be found for example in Northern Spain, France, Luxembourg, Germany, Switzerland, Austria and Slovenia. These characteristic elements of cultural landscapes show a decline in quality and quantity since the 1950s. The decline is also a reaction to policy incentives aimed at intensification of apple production. The case study is about one of the first initiatives in Germany, the Support Association for Regional Traditional Orchard Cultivation which uses a market based approach in the form of a supplier premium for traditional orchard producers and product labelling to preserve traditional orchard meadows. Because of demographic change and continuing market pressures, further aggravated by internal governance problems, the initiative is now exploring future options as the present ones are not working. The IfLS-PEGASUS team led this process and facilitated four scenario and strategy

workshops and summarised the results in terms of future activities. The process and the results were then analysed by the IfLS team to answer the main research questions in PEGASUS.

- EE2: The *Liivimaa Lihaveis* (Beef of Livonia) initiative in Estonia uses a whole value-chain approach in a private initiative to market organic grass-fed beef. The aim is to be independent from the mainstream processing and marketing system, to add value to the products, to offer better price for producers and to maintain grasslands (incl. biodiversity-rich semi-natural grasslands). The total area of the 43 farms in the state-certified quality scheme using the *Liivimaa Lihaveis* trademark is now about 16,000 hectares. This includes about 3,000 hectares of valuable semi-natural habitats located mainly in Natura 2000 areas representing about 10% of the total area of managed semi-natural habitats in Estonia. Around 50% of the produce is currently exported. *Liivimaa Lihaveis* is cooperating with more than 20 well-recognised Estonian, Latvian and Swedish chefs to boost domestic consumption.
- FR2: Since 2007, Danone has initiated a water catchment strategy that involves public stakeholders and land managers – farmers in particular – to secure both water supply and water quality as well as improving its brand reputation. The target area is the catchment of Volvic Waters, owned by Danone, which covers 3,800 hectares mostly covered with forest (53%) and agricultural land (41%). Local authorities pay much attention to the water quality and availability because they oversee water supply for local inhabitants and because Danone is the main local employer and taxpayer. Considering the risk of land use change in the water catchment area and its potential consequences on water quality, or availability, lead Danone to initiate significant changes in the local governance of land use.
- IT2: More than 90% of the world production of bergamot is coming from 14 municipalities in the Reggio Calabria province. The 14 municipalities represent the study area. The cultivation was introduced in this area in 1740 and since then it was rooted in the cultural identity of population living in the area. There are 623 farms specialized in bergamot, most of these are of small and very small size (2/3 of bergamot farms are below 1 hectare and 89% are below 3 hectares), and part-time farming is widespread. The lack of employment opportunities caused a continuous process of outmigration to North of Italy and other countries. The case study addresses the strong links between the bergamot market, the governance of the related chains, and the maintenance of the cultivation in the area with positive ESBOs effects. Key actors are: bergamot farms; three different Consortia of primary producers; a series of small processing industries; several local small artisanal firms producing typical food and non-food products using bergamot oil and juice; and four wholesalers dominating exports to Europe, USA, China, India, Japan and South Korea. The oligopolistic structure of the final demand by the perfume industry and the fragmented structure of the supply given by many small and very small producers are key issues.

2.2 The main mechanism(s) used and governance arrangements

A diverse range of mechanisms and governance arrangements are being deployed in the 12 cases. Relatively common mechanisms are:

- product and market differentiation, market development, and creation of higher value added (AT1, DE2, EE2, IT1, IT2, NL1, SI1);

- changes in land ownership and taking over of the management of the land by a civil society organisation (CZ2);
- the use of collective action mechanisms, which regulate the use of resources (in FR2 the Environment and Protection Committee of the Volvic water catchment, CEPIV);
- the joint action of a diverse group of actors that includes farmers, environmentalists, public authorities, local communities, advisors and food industry (DE2, NL4, PT2, UK1);
- and, closely related, management agreements with or without compensation.

In most cases, if not all, there are policy frameworks and regulations that reinforce or support, directly and indirectly, these more specific actions, mechanisms and governance arrangements (i.e. especially incentives but regulations as well) (IT1, IT2). Lack of coherence in policy frameworks and regulations, and conflicting signals and impacts are evident features from several cases (EE2, DE2).

The detailed investigations carried out in the in-depth case studies were considered essential to be able to link governance arrangements with land management practices and the provision of ESBOs. Governance frameworks and current arrangements tend to be very diverse, which reflects the fact that case studies represent very different historic backgrounds and institutional settings. The legacies of long-term discourses on establishing governance mechanisms to support provision of public goods might impact significantly the evolution of current governance structures, the policy approaches and networking and cooperation activities at regional and national levels. In analysing the place-specific arrangements, we must acknowledge the wide variety of social, cultural and institutional drivers for enhancing the provision of ESBOs (Mantino *et al.*, 2016)

Three examples are selected to illustrate the interplay between different mechanisms and governance arrangements:

- NL4: Skylark is a private collective initiative. The process for setting up the Skylark Foundation started in 2002 when the Heineken brewery approached a couple of its suppliers in Flevoland to see whether they could offer sustainable barley. Today, a range of food processors, suppliers and advisors is involved in Skylark. Skylark is funded by the companies in the chain as well as by the participating arable farmers. At times, public funding is acquired for specific projects, but the meetings of the regional groups and the elaboration of the farm plans is purely privately funded. In the case study area, a Skylark regional group of farmers seeks collaboration with the Water board on water quality and water quantity issues in the regional catchments, and thus for implementing the EU Water Framework Directive in their area. They are traditionally close to the agricultural sector because the water levels that they set, determine possibilities for production. Most Water boards have subsidy schemes for farmers to enhance water quality and to compensate farmers in designated areas for occasional flooding.
- SI1: The Slovenian case study explores, and contrasts, two main ways in which the delivery of ecological and social benefits from agriculture and forestry can be enhanced: The first is based on ensuring the consumption and demand for meat from the local breeds (including establishing local processing facilities), which should help to maintain farming and thereby to the preservation of grassland habitats, genetic resources and rural vitality. The second is through improving the market appreciation for the locally sourced wood; an important collateral benefit is the

contribution towards preserving forest habitats. The case study is important for illustrating key success and failure factors in relation to the feasibility of establishing these new value-chains among different actors.

- UK1: WILD seeks to integrate and deliver the strategic objectives of inter-related policy programmes that apply to the project area (26,000ha) using the Integrated Local Delivery approach. A key part of this approach is the preparation for each community of River Management Plans to help link the water environment to other issues like housing development. The project involves a partnership between the Environment Agency (the main funder) and the four delivery partners: The Farming and Wildlife Advisory Group South West, Gloucestershire Rural Community Council, Cotswolds Water Park Trust and the PEGASUS team from the Countryside and Community Research Institute. The wider partnership involved National Farmers Union, Thames Water, Wildlife Trusts, local councillors, agricultural advisors and key farmers and landowners. The joint goal is met Water Framework Directive (WFD) objectives and to bring relevant policy strategies together by linking them to administrative layers and by developing actions that focus on multiple benefits.

3 Social-ecological systems (SES), changes, drivers and ESBO provision

3.1 Levels of ESBO provision and determinants

All case studies cover several social and environmental benefits (or ESBOs). Often their delivery seems to be synergistic, e.g. an improvement in landscape structures may also lead to an improvement in biodiversity. Sometimes there are also trade-offs, and these merit further investigation.

The ambition for Steps 3-4 was to go beyond the identification of key ESBOs and relate, as much as this is possible, levels of their provision with types, scales and intensities of land use. In all case studies, it could be shown that agriculture and forestry and, often, particular land management practices or farming systems are directly connected with the provision of many ESBOs.

We also aimed at assessing appreciation and/or related demands, and the potential and incentives for their provision. Several case studies – AT1, DE2, EE2, IT1, IT2 and NL1 in particular – provide illustrative evidence that the ‘value’ of ESBOs can, at least partly, become part of the price of agricultural products (see also Section 3.2). Generally, more attention in the case studies was paid to the perceptions and values of relevant actors. Only some of them, like Danone (FR2), the Environment Agency (UK1) and some of the commercial interests (NL1, IT2) were concerned with measurable outcomes. Stakeholders tended to be more engaged by softer “common sense” goals and outcomes than more scientific ones.

The analysis also covered the conditions for successful ESBO provision and sustainability in the particular system as well as the changes required for these to be enhanced (Step 2). The description and analysis were based on local, regional or national data sets complemented by key person interviews as well as triangulation with local environmental and socio-economic data. Quantitative data collection on key ESBOs, which would then also need a different methodological framework,

was not possible with the given resources in this project. Frequently, reference is made to participant views rather than scientific data.

Some examples:

- EE2: No specific data is available to assess the quality and quantity and level of provision of ESBOs provided specifically by this case. The Agricultural Research Centre (ARC) has conducted a study (2015) to collect opinions of farmers receiving support from RDP Axis 2 measures, notably agri-environment measures, incl. support for the management of semi-natural habitats. Most of the producers who were responding to the survey (86%) considered livestock grazing important for the management of habitats. At the same time about 50% of farmers thought that the increase of biodiversity was not needed on their own agricultural land as it is high anyway, and only about 30% of farmers felt that biodiversity could be higher on their agricultural land while about 20% did not have an opinion on that issue.

The authors of AT1 argue that a quantitative approach for assessing the value of key ESBOs in monetary terms is not available and, what is more, methodically and conceptually not meaningful. Other case study authors tend to support this view.

Even without monetary valuation, in some case studies the tight connection between ESBO provision and land use appear, as said in the DE2 case study, obvious. The same case is also a good example of science and stakeholder views coinciding.

- DE2: ESBOs which are provided through this land use activity comprise sustainable and sufficient production of food, water quality, climate adaptation and mitigation, healthy functioning soils, biodiversity, maintaining and enhancing landscape character, public recreation and education, and rural vitality. The direct relation between traditional orchard cultivation and the provision of ESBOs is commonly known and accepted. Different authors and studies could show it. An orchard meadow may show, e.g. up to 5.000 animal and plant species, but how much the meadows in the case study provide would indeed require field work. Similarly, orchard meadows contribute to a better micro climate – but it depends on the actual, place-based situation how much.

Almost all case study reports include information on possible relevant direct or indirect indicators for the provision of ESBOs and related demand (the Estonian case study is a nice example, EE2). Generally, however, causal linkages with the initiative and/or mechanism could only be established in qualitative terms. And yet, the Austrian case study on mountain haymilk and the Dutch case study on grazing (NL1) illustrate nicely how far-reaching the connections between the provision of multiple ESBOs and a particular land use system can be:

- AT1: The haymilk production and marketing is supported by a communication strategy that indicates the benefits of this management scheme in quantitative terms and in comparison with conventional milk production. Following from a dedicated study which was commissioned by the private company planning the whole concept of haymilk production and value chain organisation the findings on the benefits are printed as consumer information in the milk packages. According to this study, the following benefits can be achieved: Reduction of CO₂ (by 14.3%), reduction of quantity of water used (minus 14.8%), increase in biodiversity (plus 26%) and additional value Added for the region (plus 80%).

- NL1: The Beemster Polder is a UNESCO World Heritage Site in a region which was reclaimed from water during the 17th century. The region is seen *"as a masterpiece created by humans"*. Landscape features and product quality through grazing are used in the marketing of Beemster cheese. Farming practices that include grazing might also be beneficial for animal health. Ammonia emissions in outdoor-grazing are below those with in-house production systems: *"A cow grazing is part of the traditional Dutch landscape and highly appreciated by the people (this is reflected by the fact that a rural scenery with (a herd of) cows are characteristic of Dutch landscape paintings). So, the visibility of cows grazing has a positive effect on the appreciation of the Dutch countryside."* Healthy cows live longer, need less medication and have a more efficient milk production. Grazing can also be a crucial factor in maintaining balanced and diverse mineral resources in the soil. Although complex and dependent on farm management practices, having cows graze pasture might also be beneficial for nature, e.g. habitat for meadow birds.

That there is no effective direct market mechanism in support of ESBO provision is clear from most case studies and emphasised in the Dutch Skylark case study. However, the soil management interests of the farmers are quite linked to their commercial interests, so although the consumer doesn't pay directly for this, there is a commercial incentive for farmers to do this, particularly if they plan for the longer term:

- NL4: The case study focuses on soil and water because of the interests of this regional farmers group. Because of the sandy soils, drought is an issue in summer, but in lower parts peak water can be problematic. As a result, mainly of intensive farming practices, water quality is poor. Water quality and quantity are related to soil management and farmers acknowledge this relation. The Water board monitors water quality and levels, but not many ditches on farms are monitored. Farmers want a more precise monitoring system to be able to locate problems and match solutions such as buffer strips to sites where they make sense. Soil indicators are measured by a few individual farmers only. There is no well-functioning direct market for the ESBOs soil and water.

For many case studies, it is the short timescale that explains that there has been only limited progress towards enhanced ESBO provision. In further analyses of the case studies, the time dimension, and timescale, need more attention. An example is the WILD case (UK1), where the overall goal of good ecological status in priority water bodies, as defined by WFD, will take longer to achieve than a three-year project. Two main challenges arose. First, developing the governance and management foundations that will deliver the objectives beyond the life of the project. Second, projects such as WILD need to show that they have been effective when the data on ESBO provision results from many sources and linking this to one project is far from clear cut. These findings that it takes time to build effective collective action and then demonstrating the impact can be seen in many case studies. Other factors that affect the comparability between cases are the divergent phases in which the activities are, the historic background of the action(s), and the fact that previous activities might play an important role preparing the current initiative.

3.2 Drivers, and the appreciation and demand side of ESBO provision

Most case studies include clear references to the multitude of factors that drive land use change and thus ESBO provision. Most of them also include a broad, qualitative assessment of the appreciation of different ESBOs and how this varies between actors. There is no in-depth case study report that estimates in a quantitative way the monetary value of the ESBOs provided or linked measurements of value to diverse groups (e.g. producers, agri-business, tourism operators, community, users, wider society), but various sources of evidence are discussed including consumer demand, NGO support, farmer and agro-industry engagement and wider political discussion and debate. Appreciation tends to be covered in the case studies through indirect measures like the number of visitors in a region, the compensatory payments provided to the land managers, or an increased market value from niche products produced compared to mainstream products.

Markets for primary products and changes in markets can have a massive influence on land use changes and land management, and therefore also on the provision of ESBO (PT1, DE2). Market differentiation, and a demand for (certified) quality food products and/or for regional products can effectively contribute to enhancing ESBO provision indirectly (AT1, DE2, and EE2). The private sector can be an important driver and change agent which is apparent in several case studies (FR2, IT1, IT2, UK1, NL1 and NL4). That concentration in food retail is a major factor, is illustrated in the Austrian (AT1) and Estonian case studies (EE2) where farmers' and small processors' initiatives aim at dealing differently with the concentration in the retail sector:

- AT1: The three largest food retailers in Austria hold together 82.9% of the food sector's market share which is the highest market concentration of the EU countries. They act as gatekeepers and exert market power to both consumers and input suppliers. Considering that almost 70% of the organic food sector's turnover is generated via these large retail channels they are of strategic importance. Farmers have realized the opportunities for launching products that build on the specific attributes of mountain haymilk and establishing a value chain and communication strategy towards consumers. Key challenges for the organic haymilk initiative were to overcome the complex requirements for the transition of farms from conventional to organic, the costs of hay drying facilities, the generally declining milk prices, diverse bottlenecks in high quality products provision and restrictions in the value chain. On the positive side, more and more consumer associate higher environmental sustainability with organic haymilk production and acknowledge its impact on mountain cultural landscape, which in turn raises their willingness to pay higher prices.
- EE2: Among the three environmental areas needing the most attention, the most frequently mentioned by Estonians were purity of the inland waters and the sea, followed by protection of natural values, forest management and sustainable use of natural resources. Regarding agriculture and forestry, intensive farming, intensive forestry and overfishing are considered as very much threatening biodiversity by 33% respondents in Estonia. Central in improving the current system of production and processing according to Estonian beef producers is joint action, co-operation and own initiative: *"We wanted to be independent from manufacturing pricing decisions and provide more value-added and diversified production ... Grass-fed beef and organic production is our opportunity and speciality which in long-term provides the highest possible*

price". ... With the creation of the *Liivimaa Lihaveis*, farmers can control the whole chain and get a price for their products that is 20-25% higher than the market average price.

Another driver can be demographic change as land managers or volunteers who engage in the collective actions grow old and do not find successors for their work. This in some regions very critical aspect should be explored in further analyses. An example is the German orchards case:

- DE2: *"A limiting factor for initiatives clearly is demographic change, which means there are more old than young people who can engage potentially, while in addition, young people move to cities for educational and professional reasons."*

3.3 Ancillary economic and social benefits provided 'on the back' of ESBOs

The background for this question is the broad experience that rural amenities can be transformed in the rural economy thereby leading to new jobs and income sources. The same applies to social capital building and the enhancement of cultural resilience which go somewhat beyond the scope of the ESBO 'rural vitality'. Relations can be both ways round. In further comparative analyses, we should explore these two-way relations, also in respect of potential synergies and conflicts.

All case studies were to identify, and as far as possible quantify, ancillary economic and social benefits. Our interest related to the EU objectives of inclusive, smart and sustainable growth: creating employment, enhancing sustainability, strengthening innovative capacity. The ambition for Steps 3-4 was, again, to go beyond the mere identification of connections (in this case of ancillary economic and social benefits) and to relate them, as much as this is possible, to levels of ESBO provision and types, scales and intensities of land use. It was found that, similarly as for levels of ESBO provision, quantification is simply not possible with the comprehensive approach adopted in PEGASUS and with the given resource and time frame. Nevertheless, from the 12 in-depth case studies we can find some more far-reaching analyses which emphasise the significance of these ancillary factors arising from ESBO provision. For example:

- AT1: The production of organic mountain haymilk creates many cross-sector synergies building on an extensive experience in Austria of valorising ESBOs at national and regional level. This is paramount to the regional tourism sector in terms of maintaining alpine cultural landscapes, regional identity and public awareness. A thriving tourism sector contributes to the creation of quality job opportunities and thereby mitigates rural depopulation, to some degree.
- EE2: The need for the maintenance of rural vitality is commonly appreciated by wider society in Estonia. Rural vitality consists of provision of employment and income, but also maintaining local communities, knowledge and traditions. The *Liivimaa Lihaveis* initiative contributes with their activities to the provision of employment and income – in this case probably also to the creation of durable, sustainable jobs. Without the related marketing possibilities, many producers would have quit farming and moved to towns and cities. In the case study report, reference is made to a study by Kliimask and Sepp (2015) who have analysed socio-economic data for an assessment of the vitality of settlements using a *settlements vitality index*. A limitation of this study is the focus on population trends and the neglecting of other social characteristics like sense of community, social capital and trust as well as sense of place.

- FR2: Local authorities pay much attention to water quality and availability because they oversee water supply for local inhabitants. Authorities also benefit from indirect benefits like an increased local tax revenue, local employment, and tourism development. The commune of Volvic receives about 2.5 million euros per year from Danone as a tax payment on mineral water. Besides, Danone is the main local employer with about 1,000 employees in the region, fulfilling one key aspect of one major political goals, economic development. In further analyses, we will need to explore more critically the added-value of an essentially commercial, profit-oriented operation in employment creation, and in this context, the actual role of an enhanced ESBO provision.
- IT2: The Italian bergamot case study provides an excellent illustration of the ancillary economic and social benefits provided 'on the back' of ESBOs. The bergamot production is highly intensive in terms of capital and labour resources. The bergamot chain, including also the processing of the primary products, has important second-order socio-economic impacts on the local economy. Bergamot farms need a series of technical services, and the processing of the bergamot fruits is in the study area. The organic producer organisation not only delivers rural vitality as an ESBO but generates growth in the sector leading to new jobs and income sources from product diversification, adding value and linking to sustainable tourism which is as much about culture as nature. In further analyses, we will need to examine how strong the relationship is between bergamot and the significant increase in nature tourism in the area since the second half of 1990s. Nature tourism has reactivated life in the mountain villages. This is representing an important source of additional income for the people who are still living there. It has also contributed to reduce the traditional strong concentration of tourism activities in coastal areas.
- SI1: Introducing a strong local brand for mountain wood is expected to increase employment and lead to a better economic outlook as well as increasing the visibility of the entire region, resulting in more tourist visits and further improving the livelihoods of those involved.
- UK1: A *Social Return on Investment* (SROI) analysis was carried out in connection with the WILD case study. One main aim of SROI is to quantify social benefits so they can be compared with environmental benefits. The WILD project is shown to provide social and networking benefits to communities through improved connection with and understanding of the local environment and communities enabled, inspired and more proactive. The project's combines the need for achieving sustainable growth, environmental delivery, and health and wellbeing outcomes. This was assessed through interviews with famers and landowners, as well as local government and agency staff and the delivery partners. One result was that local governance structures covering economic development and environmental management should align more clearly, to underpin long term sustainable economic growth. The SROI clearly showed the social and behavioral changes achieved by WILD and resulted in the development of a set of indicators that will underpin the follow work to WILD.

4 Shifting societal norms, collective learning and voluntary actions

This theme focuses particularly on the dynamic nature of case studies and the narratives in the reports – tracing how they have developed over time, and considering the processes that have shaped this development. Given the close relationship between ESBO appreciation, and demand, and the values and expectations of society as expressed through markets and/or public policy approaches, we could anticipate that in many cases, one enabling factor for enhanced ESBO provision should be some kind of shift in societal attitudes, values and behaviours. At the same time, it is evident that changes in behaviour among key actors have been essential elements in all our cases. Most of these changes have been facilitated by interesting mixes of collective learning – when a group of actors investigates, analyses, learns and plans together – and voluntary action, in which individuals or groups decide to act because they have been personally motivated so to do, without any obvious external economic or policy ‘lever’ being used to stimulate such action. All 12 cases provide rich examples of these processes and the often-iterative sequence of shifts and reflexive actions, through which they achieve enhanced outcomes. In further analyses, it will be important to also pay more attention to the observation that norms can shift in different directions, and at different speed. The Portuguese case (PT2) is interesting as here the diverse kinds of shifts in societal norms seem rather unclear.

4.1 Evidence of shifting societal ‘norms’

Most in-depth case studies included considerable evidence of shifting societal ‘norms’ in relation to expected environmental or social behaviour. The following examples suggest a gradient with some attitude changes at the national level, supporting the market for greener products, propelled also by regulation and the demands of retailers contrasting with a more endogenous set of changes at a local level. Others are motivated by market opportunity, and yet others by commitment to patrimony or nature. In further analyses, we will need to differentiate more between these different lines.

Some examples:

- CZ2: The representatives of the civil society organisation driving the initiative believe there is a shift in societal norms in the expected environmental or social behaviour from the farmers. The general reason is seen in the change of generations, but more because of pressure from the public, and even more the influence of environmental experts, environmental NGOs, and representatives of state institutions in nature protection.
- DE2: There is a tendency for young people to come back to rural areas when having a family with the intention to provide their children with a sense for nature. In addition, there is a trend towards a “hobby with purpose” and “meaning” etc., leading to a revitalisation for example of the honey-production sector (often with a related interest in orchards) or in the production of own food, juice, or cider etc. The use of social media for networking is supporting novel approaches to social engagement, e.g. more campaign-oriented, “fun” and web-based. The motivation of younger people tends to go more and more beyond environmental protection. Social aspects gain more relevance, like working together in a group and/or having a common

family hobby, doing something physically challenging outdoor as contrast to an office job and “mindfulness” concepts.

- EE2: Estonian consumers have become increasingly aware of what they are buying and appreciate the domestic quality products. The term “grass-fed beef” itself in Estonia is strongly linked with *Liivimaa Lihaveis* and the case study actors have been increasing consumer’s awareness and interest in environmental and animal welfare benefits a lot. However, the price is still one of the most important aspects when making buying choices. Overall, wider (global) trends of healthy living, interest in (local) food and increasing environmental concerns are recognised.
- FR2: When Danone started with Volvic to exploit the aquifer, the company imported the culture of nature protection from its previous experience. A local mayor said: *“Danone has brought the Evian enterprise culture to here”*. After that, people began to take care about environmental issues, and about nature protection. The close link between nature and job creation in the area is now very clear. Farmers pay much attention to their practices because they know that groundwater quality is vital for the existence of the territory, however they would like to be rewarded for this as they see themselves as “caretakers” of natural resources and thus as service providers.
- IT1: Decades of multi-actor cooperation in the tomato supply chain led to a success story of economic growth and attention to a new balance between agroindustry and environment, for the benefit of producers/processors, consumers, and natural resources. Profit margins are squeezed between competition that pushes world prices down and compliance with public safety and environmental requirements, both leading to increasing adaptation costs. The supply chain's focus on quality grants profitability and at the same time rewards producers and processors for safeguarding the environment. Behind organisational and technical innovation there is not only competitiveness but also ethic, sense of identity and a common aim: competitiveness based on reputation and high quality rather than on price erosion.
- NL1: Since a couple of years there is intense pressure from the public to promote dairy cattle being kept on pasture. As a result, initiatives have been introduced to make this compulsory by law. More specifically, the Lower House and some political parties want to make it mandatory for dairy cattle in the Netherlands. Tourists mostly appreciate the contribution to the landscape of grazing cows, whereas the wider society seems mainly interested in animal welfare. Farmers recognize the importance of grazing for visitors of the area, both for tourism and recreation from surrounding urban areas. Many dairy processors in the Netherlands are in favour of grazing systems. They argue that cows are part of the Dutch landscape and the general attaches a high value at grazing cows. To be able to work towards a future-proof and responsible dairy sector, the Sustainable Dairy Chain initiative (dairy processors and dairy farmers) has formulated a goal on retention of pasture grazing. CONO Kaasmakers is part of this initiative. They argue that *“grazing cows make the dairy farm industry visible and define the image that society has of the Dutch dairy sector and its products.”*
- PT2: The attractiveness of small farms to newcomers or to the new generations of families from the area, together with the proximity to the small town of Montemor-o-Novo and the interaction of new actors with the local ones, has created a revitalisation of the rural community, which

maintains its rural character while at the same time being renewed. Most important, the separation between social spaces which often has been described in literature as the process which takes place when new comers of diverse types settle in the rural scape, does not seem to take place here, where a new and mixed community is being shaped. The economic crisis has led to a higher social value attributed to farming, thus a collective awareness has been changing. Young qualified families have moved to the area in the last 8 years, to take care of family farms which were abandoned for one or two generations or were used extensively while they could have a more intensive use. This group represents the evidence of a real change in societal norms.

- UK1: Partners, farmers, land managers and parish representatives participated in workshops and interviews, providing some evidence of shifting societal 'norms' and improved community engagement. The approach taken in WILD was seen as preferable to the conventional regulatory and compliance-based approaches by land managers. This was due to the flexible approach taken by the WILD delivery partners and involving stakeholders at the start of the project. Discussions between WILD delivery partners and local communities suggests that improvements and new practices can emerge through shared problem solving, collective learning and voluntary action. Positive feedback from communities and from farmers suggests that the project enabled communities to take positive environmental action, increased the awareness of stakeholders and improved the communication between them.

4.2 The role of collective learning and voluntary action

Beyond shifts in societal norms, we also wanted to know to what extent the innovations in the case studies incorporate collective learning and voluntary action. Key questions were the exchange of knowledge and whether this improved the shared understanding of challenges, the kinds of shared learning that have taken place, the key actors in stimulating, perpetuating or hindering these learning processes, and the related barriers and how these were overcome.

Some key information obtained on these different questions is briefly presented from various in-depth case studies. Some of the practices are impressive:

- EE2: *Liivimaa Lihaveis* is providing training and information for its members and to other beef producers possibly interested in joining the grass-fed quality scheme. Study trips to USA, Argentina and Uruguay were organised for "widening the horizons". Consumer information is shared through the website of *Liivimaa Lihaveis*, video-clips about grass-fed beef production and semi-natural habitats as well as about recipes. In autumn 2017, a short TV-series will be launched in national public broadcast about grass-fed beef, its production on semi-natural grasslands and the cooking of beef. Co-operation with chefs includes also constant training about the quality and preparation of grass-fed beef, but also about its values and benefits. The initiative organises meetings and information exchanges with butchers and food bloggers from different countries around the world.

- IT2: Direct contacts with international buyers meant exposure to market information. Producers also learned that markets give value to credibility and reliability over time. Consortium members meet at least two to three times a year to discuss about contracts and joint initiatives. Collective learning was not only about markets and prices, but also about co-decision and self-government methods, which is a radical change of the traditional individualistic culture.
- NL4: 'Peer review' of sustainable arable farming practices during the group meetings and farm visits is a crucial element for the awareness raising and intrinsic motivation of farmers. All Skylark participants must compose a plan for each year, specifying their sustainability actions. In the Skylark regional groups, farmers discuss each other's sustainability plans and at the end of the year the actions and results. By meeting in small groups, farmers challenge each other in striving for sustainable practices. They meet regularly, visit each other's farm, learn from each other's experiences and set joint learning goals.
- PT2: Newcomers, urban people and collective actions are bringing with them new innovative ways of farming or they are aiming to recover traditional ways of farming, both cases being a great benefit. The increasing collective awareness is leading to new projects to connect farmers and the market.
- UK1: Surveys carried out in the WILD project indicated that the project improved environmental knowledge and awareness within the farming community and among land managers, and has broadened and expanded areas of existing knowledge. Overall, there was evidence of behaviour change and farmers were found to have embraced several techniques and approaches that can lead to improved environmental outcomes. Bringing multiple stakeholders together has developed a greater understanding amongst local communities, NGOs and environmental agencies of the benefits of an integrated approach to management at the catchment scale.

In further analyses, we may also be able to identify examples where collective learning didn't happen. This might include several cases at different points in time, so we might be able to shed light on limiting factors for collective learning as well. Overall, each of the cases provides interesting sequences which merit further analysis and comparison in Work package 5, as they have relevance for providing transferable methods and suggesting new policy approaches.

5 Mechanisms and governance arrangements to enhance ESBO provision

Across these different themes, and in further substantiation of early findings from the 34 case studies, three broad groups of limiting and enabling factors play a very important role:

- New business models, products and entrepreneurs
- Effective processes and management
- Integration and embeddedness

5.1 Organisational capacities, leadership, networking and communication

The questions raised under this broad heading related to the kind of social network and collective action, its origin, the key stakeholders that configure the collective action, formal and informal leadership, the functioning of the collective action, the positions of the different stakeholders, and the question of wider support for network activities. Attention was to be paid to the strengths of the network and collective action in respect of the provision of the ESBO, the weaknesses or limiting factors and the possibilities for overcoming the existing weaknesses. In the analysis, there had been interest in better understanding how public sector and private sector measures can be combined with a view to enhancing the provision of ESBOs.

These questions are important, and the case study reports contain relatively comprehensive information on most of them. We will in the following highlight only some particularly interesting features. In the further analysis of this theme, attention ought to be paid to the question how organisational capacities in the public and private sectors, leadership, networking and communication can be particularly effective in enhancing ESBO provision.

Some highlights from some of the case study reports:

- AT1: The agri-food chain is governed by vertical and horizontal cooperation of value chain actors. The resulting alliance is one example of applying a label for a high-quality standard and regional produce. Communication strategies are central in establishing (successfully) the value chain and linking regional production to consumer demand in agglomerations. Regulations reflect the rules elaborated for product marketing in the retail chain and are respected by participating mountain farmers, particularly as they allow substantial increase of added value that is guaranteed for a medium-term perspective (at least until 2020). The formalized set of rules respected by all partners in the value chain enhances trust among the various actors and is important for consumers.
- DE2: The initiative is organised as an association. The key stakeholders are reflecting its original structure until today: supporting members comprise individuals interested in the protection of the environment, NGOs from the field of environmental protection, but also a few towns and cities. Producers constitute the other group of members in the association. They benefit from the premium scheme. The processor has a contract with the association to buy the fruits from the producers. The chairman of the board and the executive manager are the most influential people in the initiative. Currently, however, a motivated and visionary leadership and a skilled, forward-oriented active management are lacking. The lack of leadership is limiting the ability of the association to adapt to changes in the external environment and the related challenges.

- EE2: The strength of this initiative lies in the existence of enthusiastic ringleaders who started the initiative and develop it further. At the same time, it is also the weakness, as in the case when the initiators do not want or are not able to continue, the whole initiative might be affected and its future might be at risk. There are no clear pathways for overcoming this problem as it is related to the abilities of personalities which cannot be easily transferred.
- IT1: All relevant upstream and downstream businesses of the supply chain are present in the study area (Parma and Piacenza). In 2007, the association “District of industrial tomato” between Producers Organisation, processing firms and their representative associations, local institutions and local research centres was set up. In 2011, it evolved into the present Interbranch Organisation (IO) of processing tomato on northern Italy. The present set-up of the supply chain of northern Italy is very comprehensive and is characterized by a complex system of functional, technological and organizational relationships between the various players. Through the coordination and supervision of the IO, different motivations and divergent interests of producers, processors and consumers find a balance as well as responses to the challenge of global competition and to environmental challenges.
- IT2: Two different consortia are covered in the case study. Unionberg represents the conventional value chain. The alternative value chain is represented by a small consortium of producers under Assobioberg. This consortium gathers a small part of the production (about 5%), but the high-quality is certified as organic and pure essence. This production is processed by a small local industry and it is sold directly to international buyers in the multinational cosmetic and perfumery industry. Assobioberg undertakes direct commercial relations with international buyers. This allows all farmers who are members of Assobioberg benefitting from the higher price for organic production as well as the commercial margin that is usually appropriated by exporters.
- NL1: Pasture grazing is branded by cheese makers and other dairy processors in the Netherlands. The current premium for outdoor grazing is governed by dairy processing companies. Milk processors have adopted diverse systems with respect to the level of payment and requirements. Pasture grazing is also promoted through the outdoor grazing covenant which is providing financial incentives for pasture grazing. As this is part of nature management programs, it is implemented through environmental cooperatives. The Netherlands has a long tradition of agri-environment co-operatives, securing the provision of public goods as a partner for farmers and the government.
- NL4: The Netherlands have a tradition of farmers’ cooperatives and study groups. Skylark fits into this tradition. Skylark at national level has a board with representatives of farmers, food chain companies and consultancies, a quality committee with farmers and food chain companies, and an advisory committee with representatives of research and educational institutes, civil society organisations and public administration. The national Skylark organisation has interactions with the NL Ministry of Economic Affairs, mainly about the greening of the CAP and the Skylark CAP certificate, as well as the European Initiative for Sustainable Agriculture. The Skylark group in Midden Brabant has very limited interaction with citizens and environmental groups.

- PT2: MINGA, Rede de Cidadania, Liga dos Pequenos e Médios Agricultores and MARCA, a local association for development, are important social networks/collective actions in terms of their contributions to rural vitality and sustainable food production. The leaders of some of these collective actions are closely related with local people. However, they are informal leaders that don't have an institutional position or influence to achieve changes in a short term. A limitation is the lack of involvement and support from the local administration. Most local and regional institutions do not see the relevance of small farmers for the future of the area.
- SI1: In the case of mountain wood, the initiative is growing quickly. With new participants joining, its functioning becomes more formalized, and leadership is likely to be transferred to a group of representatives from the different stakeholders. An important strength of the initiative is the expertise and experience of the participating actors. Its weaknesses are the possibilities of not reaching and maintaining a critical mass of forest owners and timber processors willing to participate, and the chance of the initiative losing momentum after the pilot project is concluded. The other initiative on the valorisation of traditional breeds is failing not only due to a lack of genuine private interest, but also due to a lack of strong leadership and coordination.
- UK1: The high-level leadership in WILD is provided by the Environment Agency, the agency responsible for meeting Water Framework Directive objectives and also behind the decision to allow local partners to integrate WFD with other funding opportunities. The senior facilitator from an environmental NGO provides project leadership and uses the Integrated Local Delivery (ILD) approach to promote collective action among local stakeholders. Through individual and local meetings there is a process by which farm businesses and communities can reconnect and engage with relevant national organisations. In this sense, the project connects the policy landscape through contact with local authorities, those with statutory responsibilities and farmers and communities across the catchment. The involvement of the CCRI, a research centre based in the local university, was a deliberate move to help the delivery of a complex project.

5.2 Innovative governance arrangements supporting ESBO provision

The identification of particularly innovative governance arrangements and mechanisms supporting ESBO provision is one of the main goals of the PEGASUS project. We are particularly interested in new forms of governance and/or new mechanisms that have been put in place to enhance the provision of ESBO. We want to better understand how the appreciation of ESBOs can be enhanced. Combined efforts of Civil Society Organisations (CSOs), local communities, agri-food chains and consumers seemed to be particularly effective. Related to this we are interested in identifying how these governance arrangements and/or mechanisms have been created and how they have changed over time.

Overall, no governance arrangements and/or mechanisms were found that can be seen as particularly novel. At the same time, there is little information on the question whether key actors had considered other governance arrangements and/or mechanisms, i.e. alternative approaches. In further analyses, more attention will be paid to investigating the gradation between those cases where there seems to be real collective energy and innovation e.g. Estonia, the rescue strategy for orchards in Germany, the strong commercially driven examples such as the two Dutch cases, and

those working closely with policy, for example the UK WILD and Italian bergamot cases. The Italian tomatoes case is essentially adjusting production to tighter legislative and market conditions within a strong corporate/cooperative frame supported by the state.

At the same time, there are many indications that voluntary collective and market-led actions can be as powerful as for example AES in incentivising ESBO provision (see the NL1 case study). The German orchards case (DE2) illustrates the point that sometimes collective action is needed to prevent the decline of ESBOs in a socio-ecological context which is ageing and losing vitality. And this in turn is a nice contrast with the market adaptation process in the Skylark case (NL4).

Some highlights on the question of innovative governance arrangements and new market chains from the case studies:

- AT1: The organic haymilk brand employs a value-added strategy to overcome challenges that come along with volatile milk markets driven by market liberalisation. The normative brand framework signals fair prices for primary producers in mountain areas, increased and unaltered product properties, transparency of the value chain, and positive externalities on the environment and animal welfare through organic and extensive agricultural practices. The value-added strategy in combination with the inter-branch cooperation between farmers and the retail sector generates higher farm incomes.
- DE2: More recent initiatives like the traditional “orchard meadows savers” (*Streuobstwiesenretter*) focus on shorter term project based involvement and awareness raising activities using new media. Both is appealing to especially younger people and compatible with their professional and private life. As a result, it is much easier to get them involved in preserving orchard meadows. The *Streuobstwiesenretter* apply a networking approach to preserve orchard meadows. They use their strong public profile to form new alliances and raise the awareness for social and ecological benefits of orchards. They connect various actors from entrepreneurs to volunteers who have ideas for projects or want to participate in activities. A mailing list is used to inform and invite people to specific activities, and the network as such serves as a platform for advice and contacts for specific projects. The platform is based on an extensive network of people who support or are directly involved in the management or preservation of orchard meadows. For long-term success, it is important to reduce the dependence of the network on its founding activists and establish sustainable structures.
- EE2: The governance arrangement builds on the combination of *Liivimaa Lihaveis* as the beef producers association with the private limited company Nordic Beef as the distributor in organising the entire process from production to marketing. Some of the producers recently became co-owners of the meat factory and can now influence directly decisions made. This step is further strengthening the control over the whole production-processing-marketing chain. Overall, it is very important that farmers feel that they can influence decision-making and that strategic developments are decided together. Wider development of the whole beef sector needs collective action and cooperation between all actors from farmers to policy makers.
- FR2: The enhanced provision of ESBO is based on economic incentives and awareness-raising. Indeed, the goal is not to impose its ideas, participation is voluntary, as the expected changes are

beyond legal standards, and there is therefore no legitimacy to impose rules. Two main approaches are distinguished: to compensate farmers for the individual extra costs associated with the implementation of improved practices; to support investment in equipment that allows improving the provision of ESBO. The public image of Danone is a crucial factor as the ecosystems and land-uses located in the water catchment must be perceived as healthy and well maintained. For the same reason, Danone agreed to engage in a sponsorship agreement for red kite conservation (the red kite is now displayed on the Volvic bottles). Danone's in parts innovative strategy is to improve institutional arrangements rather than using legal frameworks. Becoming land owners, for example, would give a good legal protection but will be very costly from an economic point of view.

- IT1: The Inter-branch Organisation (IO) represents the supply chain by providing a common identity and voice. It defines and manages fair rules of conduct regarding the exchange of information and cooperation, and identifies common needs. Transformative practices are also promoted through collaboration with relevant institutions. Emilia Romagna region provided technical support relevant for ESBO provision. It also provided RDP resources to foster the adoption of integrated production, improve processing and commercialisation, promote new products, processes and technologies, and to increase agricultural production value added. Together with organisational innovation, the tomato supply chain has followed a 40-year-long technical innovation path involving producers, processing firms, institutions, universities and research centres. The basic premises are that innovation leads to input reduction and environmental benefits, that increases sustainability and improves quality, and that quality is the key determinant of supply chain competitiveness.
- NL1: In schemes that aim to create new markets, innovation is central. Voluntary choices, tailored to a farmer's own agricultural entrepreneurship, will tend to make a greater contribution to the provision of ESBO. Voluntary grazing is a well-understood, anticipating and proactive strategy, not only to guarantee a farm's long term continuity, but also to create a new competitive edge with meadow dairy products in anticipation of a further 'greening' of consumer preferences. Further analyses should explore more deeply the effectiveness of the approach in terms of ESBO provision as well as its efficiency in economic terms, and compare it with legislation that has the same goals.
- NL4: The approach of social learning in groups of farmers used in the Skylark initiative is a highly innovative governance arrangement. The Skylark sustainability indicators, list of over 200 sustainability actions, farm plans, monitoring and certificates is a highly innovative farmer-driven toolkit. The Skylark method of self-assessment with sustainability profiles has been acknowledged the silver level of SAI's Farm Sustainability Assessment. Another important feature is the use of land as an incentive to promote ESBO provision: The Skylark group tries to set up a collaboration with the Water board to develop buffer strips along shores as well as reed fields in lower areas to improve water quality, in return for land elsewhere. Instead of a subsidy, they would like to be able to lease land from the Water board to compensate for the production space. The idea could be extended with land that is owned by the province, municipalities, nature organisations and rural estates. However, the Water board is not willing to explore this alternative arrangement.

- SI1: The main innovation of the initiative is that it is transferring experience from agriculture and the food industry, i.e. establishing a quality certification scheme to improve valorisation in the forestry sector. Related innovations include: establishing an integrated value chain by communicating with and bringing together a variety of actors who have an economic or scientific interest; creating a certification scheme to improve the visibility and credibility of the products; and the use of a common and coherent marketing approach. The PEGASUS research showed that economic incentives are not enough for most locals to cooperate, and that there must be a well-defined, well-communicated and practically risk-free scheme with an initial business model and pilot projects for forest owners to join. The risk question is worth developing further asking for example in how far it might be a barrier to more market-based approaches.
- UK1: Three overarching principles for good practice in integrated catchment management are implemented in WILD: A) Integration – where common issues, objectives, types of information or stakeholders in a catchment are identified and involved so multiple goals can be achieved. B) Collaboration – where different stakeholders work together to agree actions and achieve goals. C) Adaptation – where the planning process can anticipate, accommodate and respond to change. Adaptation entails: using a problem-solving approach to challenges involving partners and stakeholders; using existing structures where appropriate and making links between them, and; disseminating latest data and making it relevant to local priorities. The 24 Farmer Guardians are key contacts in the discussions between farmers and the Environment Agency with a responsibility to cascade information concerning Catchment Sensitive Farming and other aspects as well as translating the latest data on water quality. WILD is characterised by a different way of working when compared to conventional catchment management: shared strategic vision, focused on outcomes integrating national and local drivers for improving the water environment; sharing of information in order to determine environmental priorities; understanding the activities and partnerships concerned with sustainable management of the natural environment; having regard for activities in adjacent catchments; and ensuring comprehensive representation of issues by working collaboratively with appropriate stakeholders.

The question how transferable the approaches might be is addressed in Chapter 7.

5.3 The role and impact of policy and regulation

Policies and regulation are a central object of the project analysis as they are considered crucial in terms of ESBOs provision. In the in-depth case studies focus was on identifying policies which have most effectively influenced (or hindered) the provision of ESBO, and on better understanding the ways they influence the underlying social-ecological system. Related to these questions, we examined the importance and effectiveness of relevant EU and national policy frameworks, the coherence of the policy mix, how policies interacted with private schemes and the extent to which policies are synergistic, conflicting or lacking. Where policies and/or policy mixes have worked, the research interest was to analyse the factors and driving forces that enabled the establishment and use of effective policies.

Agricultural policy, and here in particular the Common Agricultural Policy (CAP), and its interpretation and implementation at the level of Member States and regions plays a key role in our case studies,

affecting directly and/or indirectly ESBO provision. More recent policies and instruments focussing directly on ESBO, trying to encourage their provision or to mitigate their degradation are relatively important in a considerable number of case studies. The most classical of these measures are agri-environmental schemes. However, the wider policy framework with the broad support system of CAP measures and (partially) high levels of land management support should not be underestimated. Although the focus in most case studies was on direct policy linkages towards initiatives and ESBOs, the more indirect implications of this wider policy framework remains critically important.

Almost all case studies show that policies interact with other drivers, private schemes, legislation etc. The Estonian and Italian case studies show that a combination of public policies with private sector activities is an important way to safeguard the long-term provision of a wide spectrum of ESBO. Other evidence of the complementarity of policies and private initiatives can be found in the haymilk case where the CAP contributes significantly to farm income (AT1 and FR2), speeding up the processes (CZ1), and initiating new innovative initiatives (DE2, EE1, IT1). A key question in the further analysis of the data is how policy approaches can foster voluntary collective and market-led actions.

Overall, however, the cases focused on initiatives that are already in place and reflect cultural and institutional frameworks that are largely supportive to such initiatives. There are hence hardly any cases of particularly new innovative policy approaches or policy implementation. A notable exception is the Skylark case (NL4), where it was possible to negotiate that arable farmers with an additional Skylark-CAP certificate are eligible for several alternative packages in the CAP greening (equivalent practice).

Some more specific examples from the case studies:

- AT1: The significant income effect of the CAP contributes to the continuation of farming. The agri-environmental measures (AEM) contribute specifically to the provision of ESBO (esp. cultural landscape, levels of biodiversity). It is important to acknowledge the role of the AEM not just for the establishment but also the maintenance of a high environmental standard. For this reason, both broad and targeted measures are of equal importance. In this case, also other substantial CAP support measures, in particular ANC support, specific to the mountain farming situation in Austria, and a large share of diversification measures, including LEADER initiatives provide a further important incentive for farms in that region.
- CZ2: Management of nearly 80% of the grasslands is supported by the CAP, mainly through direct payments, and agri-environment-climatic measures. This is a major motivation for continuation of grassland management. Investments, for example in pools creation or a bird-watching facility, were supported under policies of Ministry of Environment. The project however, would happened also without policy support. Financial policy support played a significant role in speeding up the process. The Birds and Habitat Directives especially in Natura 2000 sites and the Czech Law on Nature Protection clearly contribute to the continuation of the extensive land uses. Further analyses should explore the role of site designation that seemed critical in several cases.
- DE2: Official numbers in Baden-Wuerttemberg show that only 1.67 Mio of the 9.3 Mio traditional orchard trees have been supported by the agri-environmental programme. ... *"I don't apply for funding, it takes too much time – and is too little money anyway. In my spare time, I want to work*

on the orchard meadows and not sit behind a desk again". Initiatives like the one examined in this case study can only benefit from policies, if the administrative burden is lowered to a level where the submission of applications and the documentation can be handled by non-professionals. Baden-Wuerttemberg, the state in Germany with most remaining traditional orchard meadows, presents its policy mix in a comprehensive Orchard Meadow Concept (*Streuobstkonzeption*), which serves as a synergistic policy guideline. The web-based publication of the concept is a simple and efficient tool to give interested persons a comprehensive introduction into relevant policies. Related to EU level policy frameworks organic certification plays a key role and changes in the seed regulation might lead to considerably higher costs if old varieties would have to be licensed. RDP and other policies are relevant for projects in the field of developing or marketing regional products. The PEGASUS-team provided a document listing funding opportunities for the preservation of orchard meadows, product development and marketing. What is also missing, is a scheme for professional coaching for existing initiatives, helping them to respond to the numerous market and social challenges. The case study example raises the question of funds and resources which should be explored more in further analyses.

- EE2: *Liivimaa Lihaveis* is using actively a wide range of policy support measures and is searching constantly for additional funding to be used for promotional activities. Overall agricultural production is obviously influenced by Pillar 1 and measures of the Estonian Rural Development Plan (ERDP) 2014–2020, e.g. Organic farming (M11), Co-operation (M16; support for short-supply chains), LEADER (M19) and Establishment of producer groups and -organisations (M09). Management of semi-natural habitats is supported by the ERDP measure Support for the maintenance of semi-natural habitats (*M10.1.7*). Marketing and promotion activities of the approach are supported by several other measures, including Market development support (national), EU information provision and promotion measures and ERDP measure Quality schemes (M03). *Liivimaa Lihaveis* was one of the organisations who established an innovation cluster on beef production to be able to apply RDP support for innovation activities under co-operation measure (M16). An important finding from the case study is that support does not work by itself, that adding value to production is equally important and that the different mechanisms should reinforce each other.
- FR2: The less favoured areas payments are of huge importance for maintaining farming systems in the Auvergne Region. The region is, by far, the leading region in terms of these payments with a total of 257 million € for the period 2014-20. Also for the full CAP 2nd pillar, the Auvergne is the French region benefiting the most with an estimated amount of 52.720 € per worker in agriculture. Other 2nd pillar measures like AEM, aid for conversion to organic farming, aid to develop quality value-chains exist but are not used much.
- IT1: Farmers and processing firms use a broad spectrum of policy instruments to support organisational and technical innovation to switch to more sustainable production and processing practices and means. The crucial impulse has not been given by the environmental regulatory framework, but by the reform of the Common Market Organisation (CMO) of the fruit and vegetables sector at the European level, which forced tomato farmer organisations and processing firms to cooperate more effectively. In the present RDP, attention is given to quality productions, to certification systems and to the promotion of strict relationship between quality

and environmental sustainability. In general terms, public funding represents a key support to change in the tomato supply chain attitude towards sustainability. The way policies are used in the tomato growing area is consistent and complementary with the strategies emerging from the collective action and the attitude change of the private sector towards safety, quality and reliability of production.

- IT2: Bergamot farms get a support payment of 300 €/hectare from agri-environmental measures for organic practices. In the present RDP, the support to organic methods for bergamot has been substantially increased (740 €/hectare). Overall, public support from regional policies to bergamot production was relevant in the last decade and contributed to accompany the reprise of this type of farming. Policies can be less or more effective depending on how they interact with: a) governance arrangements; and b) private schemes designed to valorise ESBO, including those based on market price mechanisms. ERDF, Leader programme and some other EU programmes (LIFE) have promoted partnership approaches and activated in this way collective actions, with important effects on rural vitality.
- NL4: As the agriculture in the region is one of the most intensive in Europe, the sector puts a large environmental pressure on natural resources. Driven by market and other forces, farmers tend to intensify and specialize their production, resulting in very high concentrations of livestock in the area. Clearly, both environmental regulation and agri-environmental policies are not sufficient to enhance the situation. The report contains a detailed overview of policies and regulations for the study area and ESBO by tiers of government, main instruments for agri-environmental issues, and impact at farm level. Related to the CAP greening (equivalent practice), Skylark aims for a status of 'green by definition'.
- PT2: The CAP's main impact is enhancing large-scale farming, thus disadvantaging smaller farmers and decreasing their relative competitiveness. Although Montemor-o-Novo hosts a mosaic landscape highly appreciated by local people and visitors, composed of diverse land uses, and shaped by many actors, this is hardly considered by authorities in policy implementation. Those responsible for the interpretation and implementation of the CAP and of national regulation at regional and local level do not really consider small farming as beneficial. Small farmers are not seen as particularly relevant for the local economy, rural dynamics and rural identities. Looking from a distance, the opposite is probably the case.
- SI1: Measures of public support have different effects on the behaviour of land managers and their interest in collective action. CAP measures, which are important in this area and have a significant effect on the farmers' economic situation, have contradictory effects. On the one hand, they directly contribute towards ESBO provision by stimulating it, but on the other, by improving the economic position of the most educated and entrepreneurial, they hamper collective action. Agricultural policy does offer support for the formation of value chains, including ESBO-based, through measures like Leader and Cooperation. However, in practice, these forms of public support are not yet developed in Slovenia (and probably in quite a few other Member States). The planners of Rural Development Policy (i.e. the Ministry of Agriculture, Forestry and Food) and the implementing authorities are inexperienced when it comes to such projects and were even open to exchanges of information and experience about the case study

work. Despite the demand for such measures, the Cooperation measure is still not used in Slovenia due to administrative hurdles and gaps in human capacity. Of the entire array of CAP measures, there is hardly any appropriate scheme available that offers comprehensive support to value chains. This should be addressed when programming CAP measures in the next period.

- UK1: The case study report includes a comprehensive overview and description of the different policies which influence the ESBO provision in one way or another. European policies play a key role in water quality and other environmental issues in the WILD project areas. Rules under cross-compliance and the opportunities under Agri-environment Schemes provide opportunities for the WILD project to enhance water quality, soil protection and enhancing biodiversity.

5.4 The role of the private sector

The role of the private sector in ESBO provision and the related enabling factors have been a key interest right from the start of the project. What might be the future potential of private sector initiatives? We were interested in the main motivations behind private sector initiatives and involvement, understand better how the different parties in the private sector come together (input suppliers, processors, traders, retail) with their often-differing motivations. We also wanted to explore the markets they operate in (regional-national-international, quality products, sustainability, public concerns like environment or animal welfare, human health) as well as the interplay between public policy and market mechanisms (including private schemes).

It was already an important finding from the 34 broad and shallow case studies that a combination of policy support with private sector and market mechanisms can be particularly effective. The same finding is underpinned in different in-depth case studies. In several cases, the role of the private sector is particularly pronounced: AT1, FR2, NL1, NL4, SI1 and UK1. The involvement of the private sector differs between the case studies. In most the cases, valorising ESBOs is an integral part of the agricultural value chain (e.g. AT1, NL1 and SI1) or the forestry value chain (SI1). In these cases, ESBOs are part of product (niche) marketing as attribute of a quality product (e.g. DE1), quality label (e.g. AT1 and NL1) or certification (IT2 and SI1). The ESBO provision is part of a production systems (cultivation technique). The private schemes are mostly handled by producer organisations or upstream value chain parties like processors and embedded in marketing strategies (AT1, NL1). In other cases, payment schemes for farmers are implemented to as a mechanism to guarantee quality of a water resource system of water companies (FR2 and UK1) to sustain production in the future.

Some more examples that illustrate the role of the private sector are:

- AT1: The case study report includes data that illustrate how the private quality marketing and sustainability scheme generates added value through the market and distributes this added value under better terms of trade along the value chain. The generated additional turnover for 150 participating farmers in the region is roughly around 1.57 Mio. €. Considering the higher variable cost, net value added is on average roughly 3,000 € per farm in comparison to conventional production. Establishing the quality label of the regional haymilk product includes a wide range of standard that are respected from all actors in the value chain. It is important to underline that the initiative was started and promoted primarily by a visionary private consultancy enterprise

that was convinced of the potential to communicate the “story” to consumers in agglomerations. The key role of the private sector can also be assessed by the high amount of the (private) premium paid for haymilk production: It exceeds the high public support for milk farming in the region (and in Austria, in general) assuming more than 50% of the producer price for conventional milk at the local dairy. The label is creating a viable alternative for small-structured alpine agriculture in Austria which conserves and maintains cultural landscapes and high levels of biodiversity. It has achieved a high consumer recognition value and enables the retail chain to improve its image and competition at industry level.

- DE2: The association offers a supplier premium, helps its members to get their orchard meadows certified to organic standards and organizes processing with a partnering press house. The press house is producing and selling the juice from the orchard meadows. It benefits from the partnership with the association because it enables the small, regional company to occupy a specific market niche. The history of nearly 30 successful years for the association and the growing demand for regionally produced organic products translates into a considerable potential for growth.
- FR2: Danone produces bottled water in the case study area and is important for ESBOs from agriculture with private schemes. The market for bottled mineral water is in total of huge economic importance in France. In France, this market represents in 2015 about 2 billion € and is a very profitable business with a high growth rate (+7.1% in 2015 announced by Danone for all its Water Brands in the world including Volvic and Evian). The market is also oligopolistic with two big private actors in Europe (Nestlé and Danone), and other smaller national or public-owned companies. Danone itself ranks second in the world. For the company, it is critically important to maintain a good public image (i.e. healthy watersheds) and to protect the mineral water license.
- IT1: Together with governance arrangements and policies, private schemes form an integral part of the competitive strategy of the supply chain. All actors involved have a common aim: to work for quality products and a strong position in markets. Promotion and implementation of private schemes involving individual farmers has been handled by producers’ and processing organisations. The supply chain is strictly controlled throughout the entire life cycle of the tomato from soil management, sowing, transplanting, harvesting, delivery, processing, and packaging. The report includes an extensive list of voluntary certifications and standards adopted in the tomato supply chain. The essential private sector drivers are safety, quality, reputation and trust: The official recognition of product, process and system quality ensures trustworthiness, reduces transaction costs, valorises the supply chain and acknowledges its differentiation in the market.
- IT2: In this case, the role of private sector is crucial in ESBO provision. All ESBO examined are provided only in conjunction with bergamot production. The international buyer looks for a product that embodies features of environmental sustainability. Organic certification is a proof of purity and quality of the essence in the non-conventional value chain. The formation of the producer associations was a reaction to the oligopolistic domination of a few exporters and aimed at gaining a greater share of the value added.

- NL1: The quality premium is a particularly clear example as it acknowledges the value of outdoor grazing through product quality and price. Branding outdoor grazing enables dairy farmers to maintain landscape management, together with other environmental and social benefits from dairy farming. Outdoor-grazing is appreciated by consumers and perceived as a notification of quality of the final products (mainly cheese). Cheese from CONO Kaasmakers (*Beemsterkaas*) is produced from 100% grazing milk, 120 days a year at least six hours a day. The grazing premium acknowledges that the final products (e.g. cheese) are based on cows grazing for a considerable part of the year. It reflects the appreciation by consumers and is part of a business strategy towards the national and international market.
- NL4: The case study report provides an overview of the impressive number of food chain companies participating in Skylark Foundation. Because such a large number of farmers and a wide range of chain companies participate, the Skylark initiative is seen as robust. By enabling all willing arable farmers to move towards more sustainability, the initiative has the potential for a great reach and a substantial change. However, the sustainability ambitions with their focus on sustainable intensification are not clear in the sense of verifiable targets for the sustainability criteria. Also, the stake that suppliers of chemicals have in Skylark may slow down a real transition of the sector.
- SI1: the final aim of the mountain wood initiative is to establish a working private certification scheme with economic incentives for forest owners and other actors to cooperate. Some actors in the area, especially timber processors, have already received and acknowledged signals from the market that it is ready to accommodate products with this kind of value added, i.e. products that meet the demands of environmentally conscious consumers who seek quality wood products from forests that are managed sustainably and are durable. This case, especially when compared to the Traditional breeds case (which is much more supported by policy), shows that a strong local initiative, preferably a private one, will tend to add much more momentum. Key actors must be willing to build a story based on a common, private interest. A modern, integrated approach is therefore needed: as we have seen, these elements came together in the Mountain wood case; in the Traditional breeds case, the main actors are still relying too strongly on others and staying in their past patterns of behaviour. However, though public support is not a sufficient condition for success, it is a necessary one if there is no private investor with sufficient interest and private capital capable of funding such a project.
- UK1: The water company Thames Water has helped develop a payment for environmental services on some of the water bodies in the Upper Thames. From a marketing perspective, the involvement of the water company is positive and they see the benefit of joining a project with strong stakeholder engagement. This type of catchment management is a new initiative for them and they are investing in this to explore whether the certainty that they require in terms of providing drinking water to millions of customers can benefit from the type of stakeholder engagement and catchment approaches that the WILD project is developing. After 2 winters, the early signs are promising but not perfect and the different approaches will be reviewed from both Thames Water and the farmers' perspective.

6 Contributions to EU strategic objectives

An obvious interest for PEGASUS was to explore and describe how the initiatives and the related provision of ESBO through agriculture and forestry contribute to the EU objectives of inclusive, smart and sustainable growth. We wanted research teams to explore whether initiatives were creating employment (*inclusive growth*), enhancing sustainability (*sustainable growth*) and/or strengthening innovative capacity (*smart growth*).

Overall, we are getting some indications of positive effects in several case studies. What is largely missing is concrete data/evidence that can be related to the initiative and resulting changes. Even if a direct linkage of evidence or quantification is missing, there clearly are strong signs of the importance of the CAP (see also Section 5.3). In many cases, enhancement of rural employment and value-added as well as raising attractiveness of the regions are referred to. The case study reports IT1 and UK1 include some evidence:

- IT1: Reference in the Italian tomato case study is made to the fact that tomato production requires highly intensive use of capital, labour and natural resources. Employment generated is of crucial importance: 60% of the processing phase of the whole tomato supply chain is concentrated in Parma and Piacenza area and provides employment for thousands of people (permanent and seasonal). Thousands more are employed in the upstream and downstream phases of the supply chain. Competitiveness and environmental concerns are interlinked and reinforce each other. Equally important for the whole supply chain is corporate social responsibility and social footprint certification which is becoming an increasingly common practice. Worthy of further discussion is the question whether such a concentration of production in a small area really reflects EU goals.
- UK1: Reference is made to a research paper that covers the issue of creating employment with a focus on the green economy and sustainable growth. The benefit to agriculture of an improved water environment is clear and well made through the WILD project and initiatives such as CSF. One of the challenges for WILD is providing concrete evidence of the positive changes. One area that the PEGASUS project is helping in is the development of indicators so that the Phase 2 of the project can collect the right information to develop the case that projects such as WILD have a wider and significant positive impact.

7 How about the transferability of the approaches/mechanisms used?

Finally, for a concluding assessment of the lessons learned from the case studies the issue of transferability of the approach/mechanism used, or of specific elements, is of core interest. Project partners were asked to investigate and reflect, together with key actors and stakeholders in each case study, about the context-specificity of their case study findings and to identify if possible elements, procedures and organisational aspects that might be applicable for other products, regions and actors.

Generally, the experiences in the case studies are largely reflecting the discourses and approaches towards ESBO provision in the different countries and regions. Historical development and

institutional development has an important impact on the highly divergent perspectives. Cases of countries with few (or short) involvement in this type of discussion (e.g. new member states, some remote regions) face problems of achieving collaborative settings and establishing effective initiatives. Further analyses should pay attention to the question of fostering collective action.

Another aspect, which was emphasised already through the case study design, is the recognition that the social, actor, agency and governance dimension is an important part of social-ecological systems. The SES framework (McGinnis and Ostrom 2014) used in all case studies is well suited to ‘action-orientated’ research as it allows an understanding to develop in an iterative way. It is essentially a way of seeing things and allows the analysis of inter- and intra-relationships between different stakeholders. As a result, it helps in determining the quantity and quality of ESBO provision. This is reflected in a need for participation in all stages of establishing and implementing initiatives to foster ESBOs if these are to become effective and sustainable, and responsive to needs and demands.

Subsequently some first indications on the transferability of the approach/mechanism used:

- AT1: The case is based on a widely applied and intensive CAP support for mountain farming in Austria that has its origin in (national) support schemes elaborated since the 1970s. The specific (private) premium paid for haymilk as a top-up to the producer price reinforces public support. It provides a strong incentive for high-quality products with a higher value in the market; in this case based on mountain origin, organic production and the use of traditional and environmentally beneficial management methods. The linkage to specific requirements in land management and its close relationship to traditional systems of mountain areas could be applicable for similar areas of natural constraint (ANC). The logic of quality production and value chain creation are already widely used across Europe. In this case, it should be highlighted that a private company took the initiative and, referring to the public good aspect of the “traditional” land management system, elaborated a regional cooperation and national distribution of a high-quality product. From the very outset of the initiative the related product marketing concept included the issue of maintenance of mountain landscape and biodiversity.
- DE2: A supplier premium scheme is transferable if suppliers are interested in implementing specific standards and a consumer demand exists (or can be created through awareness raising activities). Organic certification as a means to receive a higher price for apples from orchard meadows because of its certified sustainable production is of course transferable as well. The *Streuobstwiesenretter* initiative provides a notable example for the importance of a networking approach. Joining forces means more activities with less work for one initiative.
- EE2: The approach examined in Estonia is fully transferable to other contexts and countries, but has a high potential to expand also in Estonia. There are some context-dependent aspects – Estonian market is relatively small, there is much higher share of semi-natural grasslands compared to most of Western European countries and consumer’s habits and awareness about beef are lower – but the approach as such is transferable. The basis is the presence and motivation of leaders who are able and willing to start and develop similar approaches, finding the best development strategies and actions within a given situation: it is crucial to understand thoroughly the planned field of action, trends, needs and expectations of all participants. At the

same time, it is extremely important that people acknowledge innovative ways of thinking and are willing and able to find innovative ways of doing things.

- IT1: The key driver of the socio-economic and environmental sustainability approach used by the processing tomato supply chain of northern Italy is innovation, both organisational and technological. The solutions adopted and the cooperative interactions between industry and agriculture are deeply grounded in the historical local context and convergence on agreed rules. It is rather difficult to imagine a simple transfer of knowledge or best practice as the creation of a climate of trust between the key parties involved is another key requirement.
- IT2: The approach used to provide ESBO can be applied in other areas with peculiar/niche supply chains. Especially the approach implemented by the organic bergamot consortium seems appropriate to overcome oligopolistic barriers created by few wholesalers and many small and medium producers.
- NL1: Grazing is on the decline throughout Europe, and some northern European countries (e.g. Sweden) have introduced mandatory regimes for grazing. Other countries (e.g. Austria) have established markets for the delivery of milk from organic production and fully making use of hay to feed the animals. There are at least three factors critical for the successful transfer of mechanisms towards other regions and approaches: a) the business premium is linked to the story of grazing; b) skills of grazing and grassland management might need to be improved; and c) the dairy market (i.e. processing and retail) is transforming and increasingly targeted towards grazing.
- NL4: In the Netherlands, as early as the nineteen nineties, farmers started to self-organise to manage environmental issues and to collaborate in landscape management. In many ways, agri-environmental cooperatives have been instrumental in the implementation of agri-environmental policies. As of 2016, the revised AES is mostly implemented by agri-environmental cooperatives, which now cover the whole territory of the Netherlands. The larger cooperatives compose a management plan for their area to apply for agri-environmental subsidies with the province. They recruit farmers in their area to participate in the management and take care of the contracting, control and payment. Individual farmers can no longer apply for agri-environmental subsidies with the province: they need to negotiate with the collective.
- SI1: The mountain wood case is innovative in terms of bringing together market actors and public institutions to create public measures that focus on meeting societal needs and enhancing ESBO provision. This is especially important for countries emerging from former communist regimes. Transition has brought about neoliberal approaches based on individualism, while market subjects are generally unconnected. The approach examined in this case study is transferable especially for regions facing the consequences of transition. In countries that still exhibit elements of transition, with somewhat less developed market and government systems in place, creating functioning value chains and efficient support through existing support schemes is critical. The approach can support actors in weaker market positions and with products whose full value is not acknowledged yet by consumers.

- UK1: The transferability of the WILD project lies in the Integrated Local Delivery framework and the use of facilitation to underpin any area-orientated project. The approach closely mirrors other approaches such as community-based conservation, co-management and adaptive management. These start from the premise that conservation and community development can be simultaneously achieved. This in turn requires a shift in ecological thinking that recognises the social as part of the ecosystem and the need for participatory approaches to identify and integrate goals and activities. The type of approach implemented by WILD reflects the principles and process of co-management, implying that it is very much a process rather than a pre-determined destination.

This last example is worth exploring further as it is about the role of institutions which have the mission to advance ESBOs and how they can engage partners effectively. More generally, we will need to pay attention to the plurality in approaches – voluntary collective, market-led, policy and hybrid – and the question how different mechanisms and tools can be enabled and how they can reinforce each other.

8 References

This discussion paper is based on a first assessment of the 12 in-depth case reports. All further analyses will be pursued in WP5. Full case study reports are available at the project website and each report contains a large amount of additional references and links to relevant material that can be accessed online at: <http://pegasus.ieep.eu/resources-list>.

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