EU CAP Network Focus Group

'Competitive and resilient mountain areas'

Mini Paper 3
Agroecological approaches for sustainable agriculture and forestry for competitive and resilient EU mountain regions

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Introduction

The rapidly changing climate has severe impacts on global communities and contributes to making ecosystems such as mountain regions more vulnerable. Rapid global change negatively affects the ecology and economy of mountain social ecological systems (Brunner & Grêt-Regamey, 2016). Alongside climate change, socio-economic evolution has also resulted in negative impacts on mountain areas and their land-use and economy. In addition to this, there is a global biodiversity crisis. The landscapes and biodiversity of mountains have seen significant imbalances due to phenomena such as land abandonment and disruptive agricultural and forestry practices (Tofan & Niţă, 2021). As a result, there has been a reduction in the resilience of mountain economies and landscapes and the competitiveness in two of its most important sectors; the farming and forestry sectors.

Therefore, there's a need to stop unsustainable practices, and undertake sustainable forestry and agriculture in order to respond to the emerging policy and regulation needs required by the Green Deal initiatives (the climate and nature restoration laws), which in turn were designed to enhance and restore degraded ecosystems and improve landscape management, while maintaining a good standard of living for mountain-dwellers at the same time. Sustainable forestry and farming practices have the possibility to support this but many solutions (typologies) are not widely known or get lost in research and practice. Moreover, mountainous regions, with their unique landscapes and communities, present a complex set of challenges that demand innovative and sustainable solutions. In this report, we firstly deep-dive into these challenges and barriers, and then try to present some solutions through four thematic areas focusing on low-impact, sustainable agroecology-based approaches and their case studies; these approaches are as follows:

- Forestry ecosystem services
- Agroforestry systems
- Agroecology and the integration of conservation and production systems
- Technology for sustainability systems

Barriers to competitive and resilient mountain region economies

Mountain areas are highly vulnerable to climate change, which is exacerbating climatic disasters and resulting in extreme heat waves, droughts, floods, fires, and the upward shift of snowlines, causing biodiversity loss at alarming rates. Unfortunately, the adaptations of mountain ecosystems to these effects have been insufficient so far (MountResilience, 2023). Mountain agriculture is a complex field that is affected by various challenges, where its farmers' choices are shaped in reaction to political, economic, institutional, and biophysical parameters (Poetsch et al., 2014; Risbey et al., 1999; Wandel and Smit, 2000). Consequently, climate change is not the only challenge that mountain agriculture faces (Tompkins et al., 2010). In the EU, rural shrinkage due to rural out-migration of youth along with ageing populations has been escalating. Only about 30% of the European population lives in rural areas, and this number is projected to decrease in the coming decades[1]. One of the solutions adopted to address this problem in rural and mountain areas is migration, as seen in many Northern European countries (Aure et al., 2018). Another risk factor that has become more frequent in the last

[1] https://www.espon.eu/sites/default/files/attachments/ESPON%20Policy%20Brief%20on%20Shrinking%20Rural%20Regions.pdf

decades is windthrows, which are ecologically and economically devastating (Tofan & Niţă, 2021). A recent example of the latter is the Vaia storm that caused widespread windthrows in the North-East Alps of Italy in 2018, affecting around >50,000 ha of forests with around 9 million m^3 of windthrown woods (Chirici et al., 2019; Giannetti et al., 2021). The Vaia storm caused the loss of the equivalent amount of wood that would be harvested by the entire country in an entire year of silvicultural activity (EFI, 2018). Heavy rainfalls associated with climate fluctuations are triggering disturbances such as landslides. Landslides are a major hazard in many mountain areas and cause severe damage to agricultural lands, crops, and farm infrastructure due to soil erosion and flash floods they induce (ESDAC, 2018; Laing, 2003).[2]

Sustainability approaches as a solution through 4 thematic areas

Agroecology can play a crucial role in supporting competitive and resilient mountain areas in the EU by diversification of crops and use of appropriate livestock, soil conservation and management, water management, biodiversity conservation, community resilience, climate change adaptation and sustainable tourism. The following thematic areas show how applying agroecological approaches and systems can be considered solutions and viable options to responding to the challenges of competitive and resilient mountain areas.

Thematic area 1. Forest ecosystem services

Understanding how low-impact activities can leverage and enhance the ecosystem services provided by mountain environments is given with a case study in the Italian Apennines.

Forests cover approximately 43.5% of the EU, much of which existing in mountain areas (European Commission, 2021)[3]. Forests provide European society with a wide range of forest ecosystem services (FES), which include provisioning services (e.g., timber, and non-wood forest products such as mushrooms), regulating services (e.g., climate mitigation and hydrological regulation) and cultural services (e.g., recreational and health benefits). FES offer the possibility for agriculture and forestry landowners to improve their income through emerging markets related to the provision of these ES, including recreation and nature-based tourism (Tyrväinen et al., 2017a). *Forest-based products and services play a critical role in the envisaged transition towards a European circular bioeconomy* (Hetemäki et al., 2017). In addition, nature-based health and tourism is emerging as being much appreciated and their benefits more and more understood in upland and mountain areas.

Case study 1: The contribution of Fungo di Borgotaro to the community of Borgotaro.

The Borgotaro mushroom PGI (Protected Geographical Indication; "Fungo di Borgotaro" IGP in Italian), promoted through two EC-funded projects (Incredible and Ecostar), was launched in 1993 to promote myco-silvicultural activities in a 63,000 ha area. It aims at "linking wild mushroom production in forest areas to recreational wild mushroom collection. Thanks to the introduction of picking permits, the local forest owners covered the additional management costs for myco-silviculture, while local commercial pickers had higher availability of wild mushrooms". Mushrooms sourced in the area earn a label that testifies its traceability procedure and eventually leads to the obtention of the EU PGI label. The project resulted for the forest owners an annual revenue between 0.5 M€ of added value from approximately 5-10 tonnes of mushrooms sold. It also reinforced social links in the area, with a variety of actors involved in the mushroom picking network such as hotels, B&Bs, restaurants, tourist agencies, local shops and public transportation. A website was developed for presenting the local

[2] https://esdac.jrc.ec.europa.eu/themes/landslides

[3] https://www.sciencedirect.com/science/article/pii/S1389934122001629?via%3Dihub

mushroom business network (including restaurants and shops). The project resulted in the creation of new seasonal job opportunities, coordination among stakeholders and increment of forest added value. The project has potential for future developments as "the improvement of myco-silviculture techniques and further development of additional marketing/promotional tools. For example, the "Happy ticket" initiative has been recently introduced: visitors staying within the valley overnight are awarded a free picking permit (where 60% is paid by the public administration, 30% by the hotel or B&B and 10% by a local association). Moreover, the Borgotaro Mushroom Consortium is working to improve the offer for the tourists entering the region, in order to commercialise daily "wild mushroom packages" during the harvesting season".

Barriers and challenges - One of the main challenges associated with this solution and its scale up are with awareness raising and capacity-building for land and forest owners on the potential benefits for implementation and diversification of such approaches. And access to starter support and funding.

Thematic area 2. Agroforestry systems

Agroforestry practices, in Europe, include silvopasture, silvoarable and homegarden practices and it is estimated to occupy 19.77 million hectares (85.6% dedicated to Silvopasture, 8.3% are homegardens and 1.1% of silvoarable practices (combination of an arable crops with a woody component) and about 5% of multipurpose silvoarable and silvopasture (Mosquera et al., 2018)). The importance of preserving existing (traditional) agroforestry systems as well as creating new ones through the new CAP is further highlighted in a recent publication by ENOP (Tsiakiris et al. 2023). Agroforestry can play a significant role in diversifying agriculture and forestry practices in EU mountain areas through: i) Diversification of crops: agroforestry integrates trees or shrubs with agricultural crops or livestock production; ii) Soil conservation and erosion control: mountain areas are often prone to soil erosion due to steep slopes and heavy rainfall. Agroforestry systems help to stabilise soil through the roots and foliage of trees and shrubs, reducing erosion and preserving soil fertility; iii) Water management: trees and other perennial vegetation in agroforestry systems help regulate water flow by reducing runoff and enhancing infiltration; iv) Biodiversity conservation: agroforestry systems provide habitat and resources for a diverse range of plant and animal species, enhancing biodiversity compared to conventional monoculture agriculture or single-species forestry provided they are not on peatlands or replacing high nature value habitats ; v) Climate change mitigation and adaptation: trees sequester carbon dioxide from the atmosphere, helping to mitigate climate change. Agroforestry practices that incorporate trees can therefore contribute to reducing greenhouse gas emissions and make landscapes more resilient to climate change impacts such as extreme weather events; vi) Traditional knowledge preservation: in many mountain areas, agroforestry practices have been used for generations and are deeply rooted in local traditions and knowledge systems; vii) Economic opportunities: agroforestry can create new economic opportunities for farmers in mountain areas by diversifying their sources of income. For example, agroforestry products such as timber, fruits, nuts, and medicinal plants can be harvested alongside agricultural crops.

Case study 2: Contribution of diversification to agriculture and forestry through agroforestry systems in Portugal and Spain.

The 'Dehesa' in Spain or the 'Montado' in Portugal (oak trees with a max. cover of 40% with livestock grazing underneath) and 'Streuobst' in central Europe (the tall fruit trees under which crops are grown or livestock graze) are considered high-value natural systems and providers of several environmental (biodiversity protection, better soil quality, regulation of run-off and erosion, water conservation, etc) and economic benefits (integrating forestry with agriculture

and/or animal production, with increased productivity levels) within a bioeconomy and circular economy framework. Located in steppe high plains (800 – 2.400 metres above sea level) in Southeast Spain (provinces of Albacete and Jaén), the AlVelAl association groups farmers, teachers, researchers, municipalities, universities and research institutes, and it is focused in mountain areas abandonment, finding solutions to mitigate and adapt to climate change and restore the social, economic, environmental and cultural capital of mountain landscapes. It is a grassroot association that aims to create the opportunity for capacity building and empowering local communities, and it is committed to maintain and enhance the conservation of mountain ecosystems to preserve their value. This region is known for their traditional agroforestry system, where almond trees, with very little need for irrigation, are cultivated together with a sought-after local lamb breed and farmers are adopting regenerative and organic farming concepts. Among several projects, the AlVelAl association has implemented an Operational Group '4 Retornos', with several objectives: improve the economic performance of almond farms, promote innovation, cooperation and knowledge, create a network of almond producers, restore biodiversity and landscape, improve water, soil and waste by-products use, increase carbon sequestration and develop new opportunities. With this goal, the association is promoting a production system model focused on organic rainfed almond trees integrated with other native elements (aromatic herbs, honey and Segureño lamb), increasing productivity, diversifying the family economy, restoring biodiversity and dignifying life in the countryside, while generating a healthy and inspiring landscape.

Barriers and challenges - The major challenges are related with the abandonment of this region, together with the water scarcity that compromises the agricultural and livestock production. Using regenerative practices in the described agroforestry system, extensive and non-irrigated almond or olive systems are maintained together with animal production and other vegetable crops (like aromatic or medicinal crops). At the same time, landscape restoration is being implemented, to recover the mountain landscape, protect the soil, promote biodiversity and attract tourism, within an ecosocial perspective.

Thematic area 3: Agroecology and the integration of conservation and production

Agroecology is a holistic and integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of sustainable agriculture and food systems.[4] Agroecology offers a sustainable and resilient approach to agriculture and forestry that is well-suited to the unique environmental and socio-economic challenges faced by EU mountain areas. By promoting biodiversity, soil health, water management, and community empowerment, agroecology can help diversify farming and forestry practices while promoting environmental conservation and social equity. More specifically, agroecology prioritises: i) Biodiversity enhancement: by promoting the cultivation of diverse crops and the conservation of native plant species, it leads to increased biodiversity on farms and in forests; ii) Soil health and fertility: by focusing on the use of organic fertilisers it improves soil health and fertility; iii) Water management: by applying water harvesting techniques it helps to conserve water and improves water infiltration in mountainous regions, thus reducing runoff and soil erosion; agroecology contributes to more efficient water management and helps mitigate the impacts of drought and flooding; iv) Climate resilience: by promoting diverse cropping systems and the conservation of natural habitats, agroecology helps farmers and foresters adapt to changing environmental conditions in mountain areas; v) Community engagement and empowerment: local knowledge and community participation in decision-making is prioritised to guarantee stewardship and sustainable land use and natural resource

[4] https://www.fao.org/agroecology/overview/en/

management; vi) Economic diversification: agroecological farming systems may incorporate the production of high-value crops, agroforestry products, or eco-tourism activities, contributing to rural development and poverty alleviation; and finally vii) Sustainable food production: by prioritising local food production and distribution systems, it reduces dependence on external inputs and promotes food sovereignty.

Ecosystem services delivered by mountain grasslands include food, biodiversity, climate mitigation and water. Navigating the delicate balance between conservation and production in mountain grasslands is critical. Grazing is needed to maintain grasslands and prevent scrub encroachment leading to abandonment and the loss of grassland species. However, such grazing must be sustainable. Farming in these vast and inaccessible upland areas is experiencing socio-economic decline, presenting unique challenges including low farm incomes and an ageing farming population. Issues of overgrazing, undergrazing and abandonment have resulted in some of these areas failing to attain Favourable Conservation Status with reduced biodiversity including declines in iconic upland bird species such as the red grouse (*Lagopus lagopus*) and the hen harrier (*Circus cyaneus*), encroachment of Invasive Alien Species, and a reduction in high status water quality.

Mountain grasslands, as well as adjacent shrublands, woodlands, forest clearings and phrygana rangelands (these ones especially in the Mediterranean), have been used for centuries to cover the nutrition needs of herds of sheep, goats, horses and cattle, especially in the mid-spring to mid-autumn season. The grazing herds or flocks are "local or resident", i.e. overwinter in nearby settlements at lower altitudes or "transhumant", a practice still implemented by stock breeders that move their herds to the summer pastures coming from areas that maybe situated hundreds of kilometres away – by trucks within some hours or on foot within days. Many of these grasslands belong to protected habitat types, as they present specific phytosociological characteristics and host rare plant and wildlife species (Annex I of the Habitats' Directive 92/43/EC, with some of them listed as "priority" habitat types) (EC 2013, Vrahnakis and Kazoglou 2022). Grassland vegetation is maintained by sustainable grazing where the "stocking pressure equal to grazing capacity" rule is applied, which means that the vegetation is consumed by the proper animal species up to the point that plants and soils maintain their productivity.

Peatlands on mountain areas contain a significant quantity of carbon. However, this carbon accumulates very slowly, and depends on water for this to happen. Draining of peats in the uplands can therefore result in carbon loss. The establishment of trees is a significant impact on any bog ecosystem because of the immediate effects of ploughing and the continued disturbance of the water balance due to the growing trees (IUCN UK Committee Peatland Programme Briefing Note No 4, 2014).

A key objective for upland management should therefore be to maintain carbon stocks by reducing these losses. Water table management, the avoidance of vegetation loss resulting in the exposure of bare peat and sustainable grazing are critical. Mountain peatlands have traditionally been used for grazing. Sustainable grazing on blanket bogland is a sustainable activity which does not inhibit peat accumulation and should be supported.

Barriers and challenges – A major challenge is the increase of commercial forestry plantations across large areas of mountain peatlands and abandonment land resulting in a lack of sustainable grazing needed to maintain habitats in good ecological condition to maximise ecosystem services. The low farm incomes and an aging farming population are relevant barriers.

Case study 3: Problems associated with under-grazing management in Greece.

Over the last 15-20 years, traditional extensive stockbreeding activities in mainland mountain areas have changed due to land abandonment, abandonment of stockbreeding and change of livestock animals (e.g. many goat herds are eliminated, while sheep are replaced with heavy beef cattle). As a result, many mountain grasslands face a "new" problem caused by under-grazing. This phenomenon speeds up ecological succession, especially at grasslands located at the zone between 600 and 2000 m a.s.l., which allows for the invasion of woody species and the creation of a thick dry litter layer. Thus, plant and fauna diversity in grasslands is limited, vegetation becomes too dense and habitats are at risk of wildfires. For the mountain grassland manager, either within or outside protected areas (e.g. Natura 2000 network), the crucial question is how to maintain balance between habitat conservation and livestock production. In the context of a "greener" CAP these two aims can be achieved and measured based on various biodiversity criteria (e.g. vegetation height, number of flowering heads, presence of specific taxa) and values of specific soil and water characteristics. In practice the "normal/moderate grazing" rule is the easiest to apply, while another precious "tool" to achieve sustainable grazing is offered by autochthonous (native) breeds. These animals are very well adapted to local relief and climatic conditions, exploit plant resources effectively and consume little water, have minimal needs in terms of veterinary care, do not trample the soils as much as larger animal of improved breeds do, and can be the basis for the production of tasty, high quality food (Tsaprailis and Kazoglou 2029, Amaltheia 2021, Zarovali et al. 2023).

Case study 4: Wild Atlantic Nature (WAN) LIFE IP

Wild Atlantic Nature LIFE IP, a 9-year EU-funded LIFE Integrated Project, works with farmers, local communities and land owners to add value to the wide range of services provided from our Special Area of Conservation (SAC) network of blanket bogs and associated areas. As part of the project, a pilot voluntary Results Based Payment Scheme linked payments to the quality of the habitat, thereby putting landowners and their skills, expertise and knowledge of their land central to the development of this project, which is now delivered under the national agri-environment scheme. Large-scale restoration projects that are outside the scope, budget or capacity of the national agri-environment scheme are financed by leveraging public, private and blended finance from multiple sources. WAN is building local capacity for delivering peatland restoration by training local community members in restoration techniques and engaging them in conservation activities via our Natura Communities programme. We are also providing training to ACRES CP (give full words) teams and state agencies. In addition, we are delivering a schools' programme and a KE (full words) programme, which both use the principles of 'Results Based Payments' to increase education, awareness and knowledge around ecosystem function and sustainable management of uplands. We are also piloting a home retrofitting programme, which aims to reduce the need for peat as a solid fuel source to meet domestic energy needs. Participants engage in a peatland restoration programme in return to a deep retrofit of their home. Forest to bog restoration is done in conjunction with Coillte Ireland's semi-state forestry company.

Thematic area 4. Technology for sustainability systems

By promoting and utilising more the power of technology, agriculture and forestry systems in EU mountain areas could become more resilient, sustainable, and diverse, while supporting the livelihoods of rural communities and conserving the natural environment. More specifically, technology improves i) Precision farming: devices such as GPS-guided machinery, drones, and sensors, enable farmers to optimise resource use and tailor management practices to specific areas within their fields; ii) Remote sensing and GIS (Geographic Information

Systems): remote sensing technologies, such as satellite imagery and aerial drones, combined with GIS, can provide valuable data on soil characteristics, vegetation health, land use patterns, and environmental conditions in mountain areas. This information can help farmers and foresters make informed decisions about land management practices, crop selection, and forest management strategies to enhance diversification and sustainability; iii) Biotechnology and crop breeding: genetic engineering and breeding can facilitate the development of crop varieties that are more adapted to the unique environmental conditions of mountain areas and changing climate. These technologies can improve crop resilience to biotic and abiotic stresses, expand the range of cultivable species and varieties, and enhance yields and nutritional quality; iv) Digital platforms and market networks: digital platforms, marketplaces and networks that focus on sustainability and local production and promotion can connect farmers, foresters, and consumers in mountain areas, facilitating the exchange of information, resources, and products.

Case study 5: an example of technology supporting the longevity of mountain bioeconomies in agriculture systems in Norway.

Highlands in Norway consist mostly of pastureland that is used by cattle, sheep and similar production. Often equal as an extensive production, but labour intensive. Due to that, the production has declined in those areas. Focus on technology development has been allocated to the high production areas instead of to highland and pasture grass forest production. However, there are techniques that can be used as an example on ***virtual fence****. A system where the fence is mapped virtually on areas for grassing and cattle bear neckbands with receivers. The system could be used to larger areas for grassing and to managed for better production.*

Barriers and challenges - Relevant challenges are the need of capacity-building, knowledge sharing and exchange of tech solutions and their application, which is a problem for practitioners.

Research needs

In the identification and analysis of the five case studies presented above, a number of clear research needs emerge that can further enhance the understanding and promotion of how agroecology in agriculture and forestry can help EU mountain areas be more competitive and resilient. The following focus areas show these research needs.

1) Economic analysis: Further understanding of the **economic benefits** of how the different kinds of agroecology activities can contribute to competitive and resilience in mountain areas is needed. Understanding the markets available for the range of ecosystem services and their benefits that agriculture and forestry can provide. Cost benefit analysis of diversifying traditional agriculture and forestry practices with those presented in the case studies, and other, can show practitioners and landowners how their income could be integrated better.
2) Market research: Investigating the **market dynamics and consumer preferences to diversification** towards agroecological practices in EU mountain regions and understanding how market demand can generate revenue for farmers and foresters in mountain areas.
3) Policy and governance analysis: Better understanding of emerging **policies and regulations affecting agroecology in agriculture and forestry in mountain regions** to

identify barriers and opportunities for promoting related initiatives. Assess the effectiveness of current support measures and explore potential policy reforms to incentivize agroecology diversification.

4) Environmental impact assessment: **Assess the environmental impacts of diversification towards agroecological practices** on mountain ecosystems, including soil health, biodiversity conservation, water quality, and carbon sequestration. This research should explore agroecological options that minimise negative environmental externalities. Results of these studies can show how improved, environmentally friendly management practices can enhance the provision of ES, impacting also the economic potential of diversified income.

5) Climate resilience: Further investigation and analysis of the **potential of introducing climate resilient species of crops, breeds of livestock and adaptation management practices** is needed for the agriculture, extensive stockbreeding and forestry sectors. Assess how agroecological practices can help mitigate climate-related risks such as extreme weather events, pests, and diseases.

6) Social and cultural: Better **understanding of social capital and cohesion is needed.** To understand how to support social innovation in mountain regions. Understand local knowledge systems, traditional practices, and community perceptions to design culturally appropriate agroecology strategies that are socially acceptable and inclusive.

7) Technology: More and better research is needed to develop **information technology systems and AI that can support sustainable agriculture and forestry in mountain areas.** This includes precision agriculture technologies, GIS and remote sensing mapping for land use change and climate disaster impact, agroforestry systems, and value-added processing techniques tailored to the specific conditions of mountain regions.

8) Capacity-building: Capacity and knowledge needs are crucial in order to understand how to support farmers, foresters, and other stakeholders in adopting sustainable, multidisciplinary land use practices. Then, new training programmes need to be developed in order to **provide training, technical assistance, and extension services** to enhance knowledge and skills related to agroecological strategies.

9) Collaborative networks: Understanding how to **build and foster collaboration and knowledge exchange** among stakeholders, including farmers, researchers, policymakers, and industry representatives, to facilitate learning and innovation in agroecological diversification in mountain areas.

10) Long-term monitoring and evaluation: Finally, research needs to **understand and develop new, long-term monitoring programs to track the outcomes and impacts** of agroecological initiatives, systems and approaches application in EU mountain regions. Evaluate the success of such strategies in achieving economic, environmental, and social objectives over time and adjust policies and practices accordingly.

Ideas for EIP-AGRI Operational Groups

Two ideas are proposed as inspiration:

***Title of the idea**:* "Go Associations/Go Associate"

Describe if it is a project to address a challenge (name it) or to test an existing solution (name it) in 2 or 3 sentences (what would the project consist of?)

Professional foresters, farmers, landowners, experts, key stakeholders are often involved in little groups of people (associations) from mountain communities, and asked to help in finding financial and technical solutions to realise ideas/purposes arisen within the community and associations themselves to apply new methods, sometimes diversifying their existing activities. In many cases, these groups are set up thanks to passionate individuals that put much effort even without any financial return (at least at the beginning). Even after some time, when opportunities became more evident, there is often still no way to adequately remunerate such efforts, which then at some point risks exhausting energy and interest in viable solutions. Some best practice associations exist that have sustainable business models. Thus, there needs to be a way to foster social capital, going beyond establishing a single or more specific "forest or agriculture consortia" or "forest, agroforestry and agriculture associations". *Go Associate* would set up an operational group with a specific purpose of learning from these good practices and implementing them in a specific context.

Relevant sector(s) and actors to be involved: Forestry and agriculture

Specific outcomes/products expected from the project: Improved business models for forestry and agriculture associations

Specify the geographical area(s) of interest of the project or areas where the project is to operate: Mountain areas

Title of the idea: OGtion

Describe if it is a project to address a challenge (name it) or to test an existing solution (name it) in 2 or 3 sentences (what would the project consist of?)

Professional foresters and farmers often have difficulty in getting their products and services to markets. *OGtion* (from auction) would bring together the different stakeholders needed to set up and launch online auction platforms for sustainable products from mountain areas (from wood to wool).

Relevant sector(s) and actors to be involved: Forestry and agriculture

Specific outcomes/products expected from the project: Improved access to markets for sustainable mountain products: Mountain areas

Further research needs coming from practice, ideas for Operational Groups and other proposals for innovation can be found at the final report of the focus group, available at the FG webpage:

https://eu-cap-network.ec.europa.eu/focus-group-competitive-and-resilient-mountain-areas

Conclusions

To sum up, by embracing agroecological systems and approaches that promote sustainability in the four thematic areas in agriculture and forestry, EU mountain areas can become more resilient to socioeconomic and environmental challenges while unlocking new economic opportunities for local communities. We've seen through the five successful case studies that a number of priority areas emerge, transversal to the successful implementation and stewardship of the case studies themselves, and more ecology-friendly land management.

Some relevant approaches might contribute to support mountain territories, such as:

- transfer to local communities the value of the ecosystem services delivered, especially those related with regulating services (e.g., climate mitigation and hydrological regulation) and cultural services (e.g., recreational and health benefits).
- support the integration of agroforestry practices, through technical and financial support to practices that promote crop diversification, use of native livestock breeds, soil conservation and erosion control, water management, biodiversity conservation, climate change mitigation and adaptation, traditional knowledge preservation.
- develop tech solutions and test their applicability for mountain territories and practitioners.
- find the proper processes to increase education, capacity-building, knowledge sharing, awareness and knowledge around ecosystem function, sustainable management and mountain territories societal value.

These efforts should be complemented with initiatives that promote:

- stakeholder and community engagement
- cross-border knowledge exchange and transfer of the solutions processes and methodologies themselves
- willingness to try new solutions
- champions or ambassadors of the above-mentioned processes

Achieving the benefits provided by more impactful land management requires concerted efforts from policy makers, researchers, practitioners, and other stakeholders to address barriers and provide necessary support.

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