Italy: Garfagnana

Mirta Sutter, Stefano Stranieri, Massimo Rovai, and Francesco Mantino

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Summary and overview

The Pilot Region represents the entire territory of LAG Montagnappennino, which runs the LEADER programme in the area. The region is located in the northern part of Tuscany and corresponds to the territory of Garfagnana, Media Valle del Serchio, Alta Versilia and Appennino Pistoiese, part of the provinces of Lucca and Pistoia in the north-western part of Tuscany, for a total territory of 2110 km2 (1872 mountainous) and including 27 municipalities.

The total population in the pilot region in 2020 was 88,343, while in 2001 it was 96,556. The demographic data confirms the steady trend of **population decrease**. From 2011 to 2020 there was an overall decrease in the area's total population of -7.58%, data as of 2019 on population structure show that in the area, the population over the age of 65 accounts for 29% of the total. As far as civil society is concerned, the Pilot Region has always been a place of intense and innovative **community initiatives**.

Figure 10 Image of the village of Pruno (photo property of Montagnappennino Archive)

The territory of LAG MontagnAppennino is almost **entirely covered by forest** (88%, 2020 data), the majority of which are mature forests (86%), and the analysis of data indicate that forest area is continuing to grow over the past years (+15% between 2013 and 2020). Woodland in the LAG area has multiple functions beyond forestry, such as touristic-recreational function, energetic function (production of firewood), productive function (wood used for processing), food production function (chestnut groves), social function (civic use), landscape and soil protection function.

Living Lab achievements

Both CREA and LAG Montagnappennino teams, together with a network of local stakeholders, are applying the Living Lab approach to the territory of the pilot region. The overall objective was to identify a specific challenge to explore the key transitions in the region. The transitions have been explored through two thematic meetings focusing the attention on two main transitions: ***demographic transition and community approach*** to involve local population and ***forest resources management*** as testing ground useful to promote new sustainable production and meet climate and environmental challenges. Key actors and local networks have been identified, as well as transition challenges and opportunities pinpointed. The team has managed to actively engage the local community in the works of the Living Lab. In 2023, 2 focus group meetings were organised online, and several animation activities were carried out during the summer.

Key learning to date

Cycle 1 allowed us to develop a comprehensive overview of the transitions and challenges facing the area and the economic and political context in which the LAG operates. It has highlighted the vital role played by local communities in maintaining/preserving biodiversity and conserving the landscape while using the forest for their livelihood and sustenance. The participants to the focus group evidenced that it is highly important to consider not only the ecological/environmental dynamics, but also the economic, historical, and cultural functions for local population, and that the forest management does not imply only its utilisation but also the maintenance of the territory.

Living Lab challenge

Cycle 1 of the Living Lab allowed us to identify the socio-economic transition and climate change transition as the most relevant for our Pilot Region. All focus group participants agreed that the transition challenges in the area are interlinked. **Forests** plays a relevant role mainly in two of the three transitions, the climatic/environmental and socio-economic ones, and indirectly affects also demographic transition. We chose two transitions linked to opportunities about social capital and forestry. Civic uses could be a great opportunity to develop multifunctional forest use models and ensure a close link with the other goal of socio-economic transition through local community regeneration projects.

Emerging data needs

There is inadequate knowledge about the forest stock in terms of both forest type and ownership structure. There is a wide spread of collectively owned forests (civic uses) but even on this there is little knowledge about management plans.

There is hence a need to acquire in-depth information on the qualitative-quantitative characteristics of forest resources, their ability to provide different mixes of ecosystem services (regulation, production, cultural) in different territorial contexts in order to then proceed with planned participatory planning.

Considering that the territory of the pilot area is 88 percent covered by forests, any strategy for transition can only start from a thorough understanding of one of the main components of the land heritage.

The socioeconomic transition is based, fundamentally, on the need to develop **community regeneration projects**. In this sense, the socioeconomic data must be aimed at identifying the quality of social and relational capital present within the territory. Very important, from this point of view, is the monitoring of data on immigration in general and new residents in particular (to figure out how to find it because there are no official statistics on this) and, especially on policies (incentive, tax, etc.) oriented to attract new residents. It would also be very important to set up a data collection involving the so-called third sector, these types of actors on the ground are very active so it would be necessary to set up a data collection on their projects and the results they have and their socioeconomic impacts.

Next steps

Our next step will be to identify the key groups that should be involved in the experiment (based on desk mapping of relevant groups and organisations done by the Pilot Region Partner) and begin planning interviews and workshops with individuals from these groups. During Cycle 2, the Living Lab will initiate an information gathering experiment using a quantitative and a qualitative approach, using existing reports for community regeneration projects and interviews with local stakeholders, respectively.

Part 1: Progress Review

Pilot Region introduction

The local action group (LAG) Montagnappennino is based in the territory of Garfagnana, Media Valle del Serchio, Alta Versilia and Appennino Pistoiese. Four geographical areas are part of the provinces of Lucca and Pistoia in north-western Tuscany, for a total territory of 2110 km2 (1872 mountainous) and including 27 municipalities.

Morphologically, the Garfagnana and Media Valle del Serchio areas (central part of the territory) are structured around the Serchio river system and the mountain systems that flow into it, namely the Apuan and Apennine systems, which are characterized, in turn, by deep transverse valleys. The Alta Versilia area is composed by 2 municipalities in the Apuan Alps (western part) and the Montagna Pistoiese area by 4 municipalities in the Appennine (eastern part). The area offers a wide variety of landscapes, starting with an impervious and unspoiled mountainous belt, rocky in the Apuan Alps, meadowy and a gentler slope in the Apennines, which transforms at the lower altitudes into a hillside rich in meadows and cultivated fields of particular scenic beauty. The course of the Serchio River with a wide pebbly shore everywhere marks the centre of the valley's slope.

Figure 11 Map of the area

The highest peak in Tuscany, Mount Prado (2054 m), lies on the border between Garfagnana and Emilia-Romagna, while the highest peak of the Apuan Alps, Mount Pisanino (1947 m), is located entirely in upper Garfagnana.

The area called Montagna pistoiese is located north and northwest of Pistoia, on the southern ridge of the Tuscan-Emilian Apennines and extends from Alpe delle Tre Potenze (1940 m), which dominates the Val di Luce and part of the Abetone ski area, to the eastern slopes of Mount La Croce (1318 m), near the Acquerino Forest. Bordered to the northwest by the province of Modena and to the north by that of Bologna, it has some differences between the markedly alpine western part and the morphologically gentler eastern part, typically Apennine and characterized by elevations of no more than 1300 mt., separated by the Reno valley.

Major challenges for the pilot region are population decline, a population density of half the regional average, and a high age and dependency ratio of 57% of the population. The total population in the area in 2020 was 88,343, while in 2001 it was 96,556. The demographic data confirms the steady trend of population decrease. From 2011 to 2020, there was an overall decrease in the area's total population of -7.58%, with a difference between the Lucchese area.

Data as of 2019 on population structure show that in the area, the population over the age of 65 accounts for 29 per cent of the total, up more than one percentage point from 2014, where it stood at 27.81 per cent. This value marks a consistent deterioration from the figure eight years earlier, in 2001, where the percentage was 24.8 per cent. In 2019, the population over the age of 85 represented 5 per cent of the total in the province of Lucca and 6.74 per cent in the province of Pistoia, still up from the 2014 data where some municipalities already had even higher percentages.

Pilot Region Partner

The LAG Montagnappennino is an entity (formally a consortium company) composed in its turn of other partner entities, both public and private, such as municipalities, trade unions, businesses, forestry associations, foundations, and civil society associations. LAG Montagnappennino consists of the assembly of members (which includes all the entities, both institutional and private, that participate in the LAG), the board of directors (which is vested with all the broadest powers of ordinary and extraordinary administration and disposition, with the exception of those reserved by law to other corporate bodies) and a board of auditors (or auditing auditor).

The role of LAG Montagnappennino in the area is to plan, foster and encourage development in rural areas through the use of European Structural Funds such as the EAFRD (European Agricultural Fund for Rural Development). The local development strategy is a policy to be approved by the LAG's Members' Assembly by which the objectives for the sustainability of the area are identified, as well as the individual actions to be carried out by the various public and private actors in order to achieve the set objectives. The aim is to achieve an increasing level of quality of life and greater sustainability of economic and social development processes. To do all this, the LAG uses funds under the community initiative program called LEADER.

Living Lab Coordinator.

CREA Policy and Bioeconomy is a public research institute working in the field of rural and regional development and policy evaluation, notably the Common Agricultural Policy and Regional Policy. CREA has also developed a huge experience in supporting local development projects and animating rural partnerships, deriving from twenty-three years of activities in coordinating the national LEADER network and, more recently, Inner Areas Strategy.

Francesco Mantino is senior economist at CREA, with research interests in local development processes and policy evaluation at territorial level, and with experiences in animating the design and implementation of strategies of local development and participative approaches. Barbara Forcina is researcher at CREA, with research interests in participative approaches and analysis of supply chains in agri-food sector.

Functions and transitions

Functions

Production functions

Among the various sectors of activity, around 12% of local business units are in agriculture, 30% in industry and 58% in other activities. Within these, the trade sector weighs almost half and in the total number of local units, it accounts for 26%. Agriculture has a higher percentage incidence in the province of Pistoia (16% of local units) than in the province of Lucca (11% of local units).

Regarding small and medium businesses sector the data confirm the continuation of the long wave of the economic crisis that began in 2008 and has manifested itself with alternating phases until today.

A significant part of the Pilot Area is covered by forest; therefore, local economy is mainly rooted in this natural heritage. Forest and chestnut grove management is relevant in the area for the economy of the region and the production of chestnut flour has a particular relevance.

Consumption functions

From the point of view of the consumption function, the area is characterized more by a tourism function, on which stakeholders focus a lot, especially recreational activities related to tourism and related to the cultural heritage of the area. Relevant element is residential, which strongly characterizes the lower valleys, while an interesting element that is emerging is the SGI of forest areas, or provision of services of general interest: healthcare (forest therapy), educational and social activities.

Ecosystem services

Concerning biodiversity and landscape, the Pilot Region has been represented as a model of sustainable production in a rural/mountain environment and it has been underlined that please also pay attention to the numbering. Forest and chestnut grove management is relevant also for protection of soil and natural resources.

Figure 12 Image of a typical chestnut grove in the area (photo property of Montagnappennino Archive)

Woodland in the LAG area has multiple functions beyond forestry, such as touristic-recreational function, energetic function (production of firewood), productive function (wood used for

processing), food production function (chestnut groves), social function (civic use), landscape and soil protection function. This breakdown is functional to understand the multi-faceted nature of the forest, and mainly to pinpoint how all these services are interlinked and with which rules and structures they are managed.

Transitions

Socio-economic and demographic transition

Social challenge: community regeneration through specific initiatives

The main problem common to all inland and mountainous areas, and found also in all LAG areas, is depopulation.

Major critical issues:

- uneven territorial distribution of commercial services especially to the detriment of historic centres and villages,
- poor generational renewal in entrepreneurial realities due to demographic fragility,
- reduced attractiveness of the territorial context to new investments,
- degradation of historic centres, villages, and the landscape context,
- distance from services for residents in noncapital centres,
- reduced level of entrepreneurship in the social sector, strong criticality in the transfer of good practices to support young entrepreneurs and innovation in companies.

The strengths remain in the structural elements of the area i.e. history-environment-culture-traditions-agri-livestock and gastronomic specialties. Strengths are a link between artisanal productions, agri-food, and local knowledge, historical-architectural, landscape, naturalistic context of good quality to support the quality of residency and tourist attractiveness; availability of real estate assets in historic centres for residential use and tourist accommodation activities; widespread presence of an associative and voluntary vocation; presence of socio-cultural experiences as potential elements of contamination and inclusion.

In the pilot region, the MontagnAppennino LAG has functioned as an element of social cohesion. In the summer of 2022, the LAG issued an innovative call for proposals, for the implementation of ***community re-generation projects***, jointly designed and implemented by local partnerships. These projects are a tool to conceive new ideas of development, shared paths, participatory planning for the enhancement of common goods and to create goods and services considered fundamental for improving the quality of life in rural territories.

The initiatives Activate civil society (private farms, farmers organisations and trade associations, civic associations, entrepreneurs) to mix different policies such as regional health policies and rural development policies to promote bottom-up strategies and co-design community projects. In this framework of demographic and social change, the LAG translated all these local needs into a call for tender promoting community regeneration projects with the purpose of trying to overcome sectoral interventions that have proved to be scarcely effective. It is a new experiment at local level, it promotes bottom-up strategies and aggregates community around some concrete initiatives aimed at facilitating access to services or setting up small economic activities. The key approach to shrinking population is linked to the creation of social capital (or the increase of existing social relations) necessary to keep vital the local communities remaining in the area.

Climate and environmental transition

Climate challenge: valorisation of the multifunctional role of forests

In the territory of the LAG area, there are two park areas (the National Park of the Tuscan-Emilian Apennines and the Regional Park of the Apuan Alps) with a total area of 1,946 hectares and 13,758 hectares respectively. In addition, there are 8 State Reserves (4 in the territory of the province of Lucca and 4 in the territory of the province of Pistoia) with a total area of 2,227 hectares. A recent element that further characterizes the environmental-landscape context is the recognition as a UNESCO MaB Reserve of the territories of the National Park of the Tuscan-Emilian Apennines. This represents a remarkable opportunity in that the territory will be able to enter the process of developing the branding of Biosphere Reserves applied to high-quality food products and their use in gastronomy.

The strengths are good structuring of the local nature network (parks, protected areas, hiking trails...), high and widespread agricultural biodiversity (ancient varieties) that can allow their recovery and valorisation for the creation of "niche" markets with high added value, high know-how for the conservation of germplasm of ancient breeds and varieties (Regional Germplasm Bank Nursery La Piana). Weaknesses are the sharp contraction of Agricultural Land Area due to widespread abandonment and denaturalization phenomena, a reduction in the number of people employed in agriculture.

The potential represented by plant and animal biodiversity, a consolidated culture and action of local, national, and transnational experiences, recovery and conservation of animal and plant species, their introduction in the open field, and the quality of primary and processed products related to them, can be a starting point from which to overcome the shortage of agricultural land and the difficulties inherent in the geomorphological structure of our territory.

Nowadays it is even more vital to promote the **sustainable use of forest** for productive purposes and as food source by local communities, not only to support local livelihood but also to defend the area from the alarming visible and uncontrolled spread of the forest due to abandonment.

Concerning forests sustainability, the first issue raised by the private and public forest bodies participating to the focus group relates to a basic anthropological issue: the need to take a wide-ranging approach to forestry when considering the protection and the sustainability of woodland. Understanding the people who live and work in these areas and their modes of thought is a precondition, since decision makers and local populations have different perceptions of the mountain world.

There is a high demand for forest products and ecosystem services, but we need to develop a real entrepreneurial culture like local forest cooperatives (woodland cooperatives).

Living Lab Cycle 1: Planning Possibilities

Setting up the Living Lab

The preparation works within the Living Lab started with a bilateral meeting of the LL Coordinator and the Pilot Region Partner. The issues discussed at the meeting concerned formal matters of collaboration as well as the essence of the work. After a phase of scouting of data needs and availability, meetings with living-lab coordinator and external experts, functional to preparation of

the PR report we involved a list of actors: major stakeholders in the forestry sector and community regeneration project leaders and partners were contacted.

The transitions have been explored through two thematic meetings focusing the attention on two main transitions: demographic transition and community approach to involve local population and forest resources management as testing ground useful to promote new sustainable production and meet climate and environmental challenges.

Collaborative methods

Many online meetings were organised with CREA colleagues on the data needs to be collected. This focus group explored the key challenges and opportunities in the area and their relationship to the data and the results of the two focus groups organised with area stakeholders. The results contributed to the Pilot Region Report: Garfagnana (Italy).

Participants and stakeholders

In our Living Lab activities, we have involved a wide range of actors, from public agencies, agricultural and forestry enterprises, commercial, tourism and craft enterprises, third sector entities and other associations, educational institutions, community cooperatives and citizens.

The area of the LAG includes four Unions of Mountain Municipalities: 1) Garfagnana; 2) Media Valle del Serchio; 3) Appennino Pistoiese; 4) Alta Versilia, these are our main interlocutors as far as public bodies are concerned and have participated in all the animation activities that have been carried out in 2023. Territorial animation consists in initiatives that enable the involvement of civil society, entities, institutions, and businesses in innovative forms of development consistent with local vocations. Territorial animation is implemented through the promotion and organisation of meetings, workshops, thematic and/or territorial tables, spaces for listening and confrontation, pooling experiences and skills to strengthening the design capacities of communities.

In this project we also involved the main actors of forestry activities in the area, namely the three Forestry Consortia, voluntary private law associations of owners of private plots of land and forest-related businesses that are in charge of the associated management of members' forestry resources: 1) the Forestry Consortium of Villa Basilica operating between Lucca (Villa Basilica, Capannori) and Pistoia (Pescia) managing around 400 hectares of forest; 2) the Agroforestry Consortium of Colline Lucchesi operating in the area of Lucca (Pescaglia and Borgo a Mozzano); 3) the Forestry Consortium of Cerbaie, operating between Pisa and Florence (from Altopascio to Fucecchio).

In particular, in the two online focus groups that were organised together with CREA as part of the Living Lab activities, representatives of the community regeneration projects that were funded and actors directly involved in forest management were involved: people from forestry consortiums, farm unions, voluntary associations, public agencies, community cooperatives, social enterprises, consultants and planners.

Community projects have led to the emergence of ideas for repopulating and activating rural villages, for instance, through encouraging new forms of tourism aimed at getting to know the area (slow and conscious tourism). Collaboration between private and public actors:

- Mountain unions/municipalities
- Cooperatives of services

- Local health services
- Schools and university
- LAG's role is important in accompanying these projects to their implementation.

Data collection methods

Socioeconomic data collection was done, predominantly, using national and regional databases that collect data down to the administrative unit of the municipality.

In addition to this, Tuscany Region also has an archive of geographic data (https://www502.regione.toscana.it/geoscopio/cartoteca.html) rich in information also of natural environmental and landscape nature that allows a very in-depth territorial framing.

At the same time, it is necessary to emphasize that for some aspects related, for example, to socioeconomic transition, it would also be important to adopt more specific data collection of a qualitative nature to delve into the evolving dynamics of social capital, needs and expectations especially where community regeneration projects will be carried out.

Living Lab activities in 2023

Table 10 List of activities completed in cycle 1.

Date of the meeting	Subject of the meeting	Participants
April-June 2023 Scouting of data needs and availability	Meetings with living-lab coordinator and external experts, functional to preparation of the PR report	LAG Montagnappennino CREA
19th April ONLINE FOCUS GROUP "Forest resources management"	The role of the multifunctional forest in the LAG area. Focus group with representatives of forestry consortia and civic uses, chestnuts producer associations, Union of Municipalities representatives.	LAG Montagnappennino CREA 10 participants
26th April ONLINE FOCUS GROUP "demographic transition and community approach"	The role of community cooperation in the LAG area. Focus group with participants to *community re-generation projects.* The impact of the project on the community.	LAG Montagnappennino CREA 10 participants
April to now Discussion with local stakeholders within the LDS design	Animation activity within the frame of the new programming phase 2023-27, concerning community projects and forest chain activities.	LAG Montagnappennino 10 meetings About 250 participants

Reflections from Cycle 1

Overall, we believe that Cycle 1 worked satisfactorily. Coordination between the Pilot Region partner and the Living Lab coordinator has been generally smooth, as we could build upon a previous long-term relationship of cooperation in different projects.

The involvement of stakeholders who participated in the first focus group regarding forestation was more difficult, given the wide variety of actors on the ground, while regarding the second focus group we directly involved project beneficiaries who responded more readily.

Most tasks related to the project have been completed in due time and with what we believe are useful results, but we are aware that we are under time pressure from the LAG and that this situation is likely to continue. To ensure that this does not create difficulties in Cycle 2, we will try to organise ourselves better to ensure a timely response to CREA and RUSTIK deadlines.

Cycle 1 results

Overall, Cycle 1 of the Living Lab allowed us to identify the socio-economic transition and climate change as the most relevant for our Pilot Region. All focus group participants agreed that the transition challenges in the area are interlinked.

The focus groups were very useful. Concerning forests sustainability, the first issue raised by the private and public forest bodies participating to the focus group relates to a basic anthropological issue: the need to take a wide-ranging approach to forestry when considering the protection and the sustainability of woodland. To sum up, it emerged that local stakeholders consider the local and regional policies may not be effective in supporting the resilience of local communities unless decisions at all levels are taken the closest possible to citizens and to the before mentioned specific local conditions and needs concerning the use of forest. A particular relevance is given to training and generational changeover and more political measures are required to improve skills and knowledge and to promote and reinforce the presence of young generations in chestnut/forest-related activities.

On the other hand, community project co-design allows individual actors to understand that what they are doing makes sense and that their actions will be amplified within the general context. One point to focus on is, in fact, that co-design is a complex process that needs a precise technical and methodological approach that brings people together and makes them stay together. The participatory approach is very useful; however, it must be led by professionals who support its facilitation and by planners who can hook financial resources and intercept calls for proposals. Certainly, planners play a delicate role: they must step back, not force the project to make it successful, but rather help the community achieve its goals.

Part 2: Challenge and next steps

Living Lab challenge

Rationale

The challenge chosen during cycle 1 are socio economic transition and climate change and environment transition.

Socio economic transition

The COVID 19 emergency has made the critical issues of our territory's socio-economic system even more evident. The need for new responses and new models clearly emerged. The need for a new approach also affected the LAG's way of operating, which proposed to the territory, according to the bottom-up model, to develop community projects where the different actors of the local socio-economic realities come together to share the project of their future. The LAG requested and supported that the community projects be the result of a participatory and inclusive process involving all community actors. The implementation of these projects is currently ongoing; monitoring their development and highlighting strengths and weaknesses is crucial to adjust the community projects tool in the future.

Climate change and environment

The high forest cover of the LAG's territory can be both a strength and a weakness. The extent of state forests and civic uses, represent an element that brings in factors of multifunctionality and especially public function. The potential of forest areas is not limited to timber production but performs and can develop even more recreational and climate change mitigation functions. Chestnut groves areas not only represent productive factors but also have historical-cultural and landscape value. Uses-costumes-landscape and economy-are identity factors of the chestnut forest. The first existing experiences of enhancing the ecosystem service of forest areas through the sale of carbon credits of public forests represents a first element of response to the demand for recognition of the ecosystem services represented by the forest and chestnut grove with respect to urban-metropolitan areas. Developing the multifunctionality of the forest by taking care of its impact on local communities is the goal of this living lab. In general, according to the above, at the root of it all is the need to implement the Forest Land Use Plans (PFITs).

Knowledge to date

CLIMATE CHANGE AND ENVIRONMENT

Regarding the transition to models oriented toward limiting the effects of climate change and conserving environmental heritage, rural and mountain areas are of fundamental importance being the territories where the production/reproduction of fundamental services (water, CO2 storage, food, biodiversity, etc.) for both contiguous and distant urban areas is concentrated. If, as in our case, we focus on the forest heritage present in the territory, it is necessary to fill the knowledge gap with respect to its functions: local communities think, predominantly, of a sustainable use of the forest for productive purposes and/or as a source of food but not of the other multiple functions of regulating the ecosystem and providing cultural and recreational services. The knowledge gap we currently see is on the need to identify and assess not only in qualitative terms, but also in quantitative terms, the extent of these functions using, for example,

the Ecosystem Services assessment approach. Such an assessment could then also allow for the creation of new governance models geared toward recognizing and rewarding the production of these services according to PES (Payment for Ecosystem Services) mechanisms, also extending experiences already in place on the ground such as that of the Apennine National Park.

SOCIO ECONOMIC TRANSITION

In an area prone to depopulation, especially in the youngest component of the population, initiating a socioeconomic transition based on the development of community regeneration projects is a very high and ambitious challenge because it aims to make people rediscover a model of organising social life that was widely used in the past in this area but that has been progressively side-lined by the regulatory mechanisms of the market on the one hand and the state on the other.

Community-based systems (e.g., cooperatives) enhance the centrality of human capital through participation and involvement, co-design, and subsequent co-management. From this point of view, therefore, the work to be done is geared toward intensifying the territorial animation activities that GAL MontagnAppennino has always carried out in the area in order to bridge the knowledge gaps of local realities on these new models of production and consumption of goods and services.

Research question/s

See the previous section, where we focus the relevant issues to be deepened.

- How to promote the sustainable use of forest for productive and environmental purposes, in order to support local added value and reduce uncontrolled spread of the forest due to abandonment?
- What role can have the community projects in fostering cooperation, strengthening social capital, and building synergies between local initiatives promoted by rural population?

Policy relevance

The upcoming LEADER programming, and the National Strategy for Inner Areas in which the LAG territory is involved, represent a great opportunity to concretize and support pilot experiences resulting from the two focus groups. Acquiring data and information is essential to guide ongoing processes and to adapt future processes and actions to support projects inherent to the themes of the two living labs.

Being able to provide local political-administrative realities with data and analysis to feedback processes affecting the themes of the two living labs lays an objective foundation for the governance choices that local actors are called upon to make in the near future.

Having third-party data and analysis available, with respect to the LAG's point of observation, is beyond crucial in the interlocution with the regional authorities that control and supervise the outcomes and results of the two mentioned programs. The same applies to the process of self-evaluation that the LAG must do regarding its functional activities to demonstrate the effectiveness of its actions vis-à-vis the European Union.

Emerging data needs

Data availability

CLIMATE CHANGE AND ENVIRONMENT

As we mentioned earlier, the challenge of the transition for climate change and the environment passes the construction of a cognitive framework on the qualitative-quantitative characteristics of the forest heritage to then propose a "design framework" at the territorial scale with a zoning of the prevailing functions of the forest heritage (protective, naturalistic, productive, social, cultural, etc.).

At present, the data necessary to build the cognitive framework are available at the regional and national level and with a good scale of detail that can also allow the assessment of the flow of the main ecosystem services through the use of specific software (e.g., INVEST) as was done with the research "Mountains, ecosystem services and governance tools in Tuscany" promoted by ANCI and funded by the Tuscany Region (Marino, Poli and Rovai, 2023). To this we must also add the reconstruction of the planning framework in place in the territory.

SOCIOECONOMIC TRANSITION

In this case, the availability of data is not so easy to find because it is to explore mainly qualitative dimensions (social capital, quality of relationships, trust between people, reciprocity, etc.) and, therefore, the idea is to focus on a few case studies of "community regeneration" with a special data collection plan of both quantitative and qualitative nature in the project's inception phase and, then, with monitoring during the course of project implementation.

Lack of up-to-date picture to date population and industry census data on a municipal basis (we are still in 2011) a key entity to interact with could be IRPET, which has a lot of socioeconomic, demographic, and public expenditure data that it could provide.

Capacities

With regard to data collection and the preparation of any specific collections, questionnaires, surveys etc., the LAG Montagnappennino has prepared a specific agreement with the University of Pisa. On the other hand, with regard to the transposition of data and their interpretation the LAG internally uses the expertise of the staff. It has specific skills in the field of forestation, territorial animation, participatory processes, and the issues that are addressed within the living lab. The LAG is already working on community regeneration projects and to deepen the issues of forestation and is already employing its staff in these activities.

In addition, there will be the need for identifying the most effective forms of communicating the results of data processing. This is one of the challenges faced by the LAG, which, through the presentation of data, will have to stimulate participants' thinking and, above all, gather useful information to generate new knowledge useful for implementing effective transition policies/actions for the Living Lab.

Next steps

→ There is a series of initiatives within the programme of LL to be implemented by March 2024. These initiatives will be prepared in early January with CREA and can be summarised as it follows:

a) Refining the collection of data on forest functions and characteristics, and on initiatives and operators working in the area
b) Focusing on the two transition challenges with previous participants to focus groups and new subjects as possible innovators (and future beneficiaries of LAG support)
c) Identifying some projects funded by LAG as possible incubators of initiatives on the two transition challenges and their inclusion in a special monitoring activity within the current LAG monitoring.
d) Identifying specific lines of financing projects regarding the transition challenges within the future Local Development Strategy 2023-27 of Montagnappennino

→ This planning framework with a systematic collection of current and future "ideas and projects" of stakeholders. will be developed in parallel with the LAG's Local Development Strategy, which envisages promoting specific calls for application on community projects in 2024 and forest investment projects in 2025. Consequently, the data experiment to be conducted in 2024 is functionally linked to the implementing phase of the Local Development Strategy.

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