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## AUTHOR'S NOTE

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The contents of this manuscript represent some evidence that emerged during a series of activities between 2017 and nowadays in various mountain territories of the Alps and Italy. A series of activities with direct involvement of stakeholders were conducted within the Alpine Space Programme project “LOS\_DAMA!” (2016–2019), EIT-Climate KIC “SATURN” (2018–2021) and EIT FOOD “PoC HELPFood” (2021) and “HELPFood4.0” (2022). The study on cultural landscape and resilience of the Trentino territory is investigated by the ReArch research in “Territorial Fragility” project held by DASTU (Department of Architecture and Urban Studies – Politecnico di Milano), funded by the Ministry of University and Research (MIUR) for the years 2018–2022 belongs to the Departments of Excellence initiative (Law No. 232/2016).

### Credits

Author 1 (AT) is the editor of the paper, co-author of paragraphs 1, 2, 3, 4 and author of the images Fig. 1–2–3 (a)

Author 2 (AG) is co-author of paragraphs 1, 2, 3, 4 and author of Table 1.

Author 3 (MA) is co-author of paragraph 3.

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## Macro Trends on the Alpine Chain

- 1 Several challenges and macro-trends are questioning human relationships with food and landscape, especially in terms of how we approach designing and enhancing the agricultural landscape (Sereni 1961, Bätzing 2003). The Alpine landscape is also characterized by production chains with common features defining the Alpine Intangible Food Cultural Heritage, specialized in the whole region by the presence of food productions and similar knowledge, traditions, rituals, and transformation processes. These were established in association with human experience and needed to transform the so-called “cultural landscape”<sup>1</sup>. In support of this concept, it is relevant to consider the question of mountains in the context of history and geography, considering their reciprocal influences in a complex landscape where social and physical features are intrinsically connected. From Fernand Braudel’s statement, who perceived the Alps as a transit region or reserve for lowland civilization, recently, we have moved on to consider the mountains as an autonomous area with distinctive characteristics (Caveri 2001). It is necessary to emphasize the peculiar capacity of the highlands in having experimented with and developed political and administrative practices to make high altitudes livable (Salsa 2021). Historically, the Alps has been transformed from places merely crossing to sparsely inhabited places. The spatial sectorization led during the early Middle Ages to a discontinuous demographic distribution in the Alps with an impact on the morphological layout of the territory.
- 2 The production necessity and the aim to foster land exploitation led to the establishment of rules (i.e., “Carte di regola”) and set a shifting paradigm in the view of the Alpine chain. Therefore, the relationship between communities and natural resources in the Alpine territory is based on long-standing historical and normative evidence. Thus, the mountain can be considered a common good itself, a millennial outcome of stratification and actions, a landscape in which nature and artifice merge (Magnaghi 2000), and a choral work resulting from careful collective action to make it habitable (Dini 2013), an experimental laboratory of innovative developments (De Rossi 2016).
- 3 Consequently, the intersection of the physical and natural environment and social, economic, and cultural changes create a hybridized space in a fragile balance. A double perspective can indeed be historically linked to the Alps. On the one hand, landscape perception is linked to an estheticizing enjoyment. On the other hand, highlands have been tackling a range of issues for years.
- 4 Nowadays, the Alpine landscape is commonly recognized as a heritage resource, and its preservation is one of the goals of national and communitarian policies. As recognized by the *European Landscape Convention*, the landscape is the consequence of the interaction of natural and human factors<sup>2</sup>, affecting environmental development and quality. Moreover, the landscape is no longer perceived in its cultural-aesthetic aspect but is configured as an organized and productive model in which natural resources are an essential element of sustainability. Daily debate on future sustainability commonly highlights the progressive abandonment of daily agricultural and breeding practices, resulting in increased fragility of the territory, and intensified social fragmentation due to the lack of generational change. (MacDonald *et al.*, 2000)
- 5 Since the beginning of the 20<sup>th</sup> century, the developments that occurred in the Alpine territory brought the gradual fading of the cultural roots of the landscape (Cocca *et al.*

2012; Marini *et al.* 2011; Gellrich & Zimmermann 2007) following the loss of the alpine geography's caretakers due to the aging of population and migration towards urban centers of both young and high-skilled people (Bätzing 2003, Flury *et al.* 2013; Soliva 2007; Streifeneder *et al.* 2007).

- 6 Furthermore, globalization and the transformation of food into a trading commodity, with the consequent incorporation of the instruments of financial capitalism into the agricultural sector, excludes many peripheral areas from global trade (Liberti 2016). The remoteness of those alpine agricultural areas, the disconnection from the main import-export fluxes of the agro-food systems, involved the resulting complexities in accessing the consumption centers that hinder socio-economic development and increase social or economic vulnerabilities. Higher transportation costs and a limited local consumer base contribute to the progressive abandonment of mountain farming practices.
- 7 The industrialization processes also affect the farming and food production sector, and most remote areas of the Alps progressively lost their attractiveness as agro-production sites (Taiani *et al.*, 2021). Farms are often no longer profitable, and potential successors are not interested in taking over the business (Pinter and Kirner 2014, p. 442). Consequently, many mountain farmers leave their land, embracing radical changes in their way of living (Arnoldi 2009). Moreover, the increasing pressure of mass tourism (both in the winter and summer seasons) further influences the changing relationship between Alpine communities and their landscapes.
- 8 For many years, there has been debate on what and how to tackle these challenges. The establishment of an Alpine Region, accordingly to the EUSALP Macro-regional strategy, recognizes the complex system of the Alps as one of the largest economic and productive regions in Europe, where approximately 70 million people live and work<sup>3</sup> and aim to define actions and policies to address most of the above-mentioned significant challenges following a cooperative approach.
- 9 An increasing number of European projects (i.e., Interreg, Horizon...), and research groups and associations (Cipra, Euromontana<sup>4</sup>...) in the alpine territories aimed to understand the evaluation of the food chain in the mountains and try to demonstrate that there are several ways to address these challenges, from product innovation to crop diversification, from educational activities for consumers to capacity building for farmers. However, none so far has been able to build a real comprehensive and institutionalized paradigm change.

## Dynamics and Peculiarities of Trentino Agro-food System

- 10 Looking not only at the current situation concerning the past eras, but especially to possible future outcomes for such a delicate landscape as the alpine one, the Alpine Convention (2015) reports the emerging critical issues since the beginning of the 2000s, and it has since become the basis for the work carried out under the *Atlas 2050* project (ESPON 2018).
- 11 The population's question is at the core center about the maintenance or resilience of the Alpine territories. Various Alpine regions present different demographic processes of growth or shrinkage. Considering the last 30 years, some territories show a net

increase in inhabitants, whereas many areas still present a decrease. The growth is mainly due to inbound migrations from other regions of Europe or the world (Permanent Secretariat of the Alpine Convention, 2015). Trentino shows, in particular, a net increase of about 22% in the last forty years, yet many remote valleys have constantly been losing inhabitants since the 1960s (Table 1).

Table 1: Major statistical data for Autonomous Province of Trento (source: ISTAT & ISPAT)

Description	1980	1990	2000	2010	2020
Population (at Census)	442,845	449,852	477,017	524,832	542,158
Farms (single entrepreneurs)	37,723*	15,760	12,634	8,866	6,980
Utilized Agricultural Surface—SAU (hectares)	148,696*	149,907	146,989	137,220	84,159***
Gross Sellable Production (value € at current prices)	151,730	390,591	587,886	758,642	938,246***
Tourism (overnights)	24,894,165**	26,594,619	26,788,760	29,741,493	32,779,430***

NOTE: \* data at 1982 Census for Agriculture; \*\* data at 1987; \*\*\* data at 2019, for tourism it has considered the pre-COVID19 situation

- 12 The exploitation of natural resources through the farming sector has played a pivotal role in the subsistence economies that characterized many territories until the mid 20<sup>th</sup> century and shaped the cultural landscapes of the Alps (Schiff, Levkoe 2014). According to the Permanent Secretariat, a residual number of municipalities registered a positive dynamic in terms of farm presence in the last 30 years. Significant decreases (also with a negative figure of over -80%) were registered on the Southern side of the Alps in all the Italian regions. The modification of the primary sector in Trentino is clearly shown by the statistics of the last 40 years (Table 1). Since the Agrarian Census of 1980, the number of farms has been reduced to one fifth, and the surface area dedicated to this activity (except forestry—Fig. 1a) has decreased by nearly 45% (ISPAT Trentino). The current situation, furthermore, reports a steady aging process (the rate of under 35 farmers decreased from 12% in 1980 to 8% in 2020). This status represents a clear signal of how the system has moved both towards a process of concentrating the producers/farms in the most promising territories (Fig. 1b) and abandoning the marginal ones.
- 13 It should be noted then that some producers are still practicing agriculture but not as a principal activity, and many smallholders are supplying their products to the 516 (2020) associated farm companies (usually, cooperatives<sup>5</sup> which are representing the considerable player not only in the agrarian but in the largest share of the tertiary sector). The trend is reflected by the narrowing of the role of “minor crops” for the influential food value chains (wine, apple, dairy—Fig. 1b—1c) in the shares of the gross salable production, of which the most significant part of the production is for export worldwide.

Figure 1a

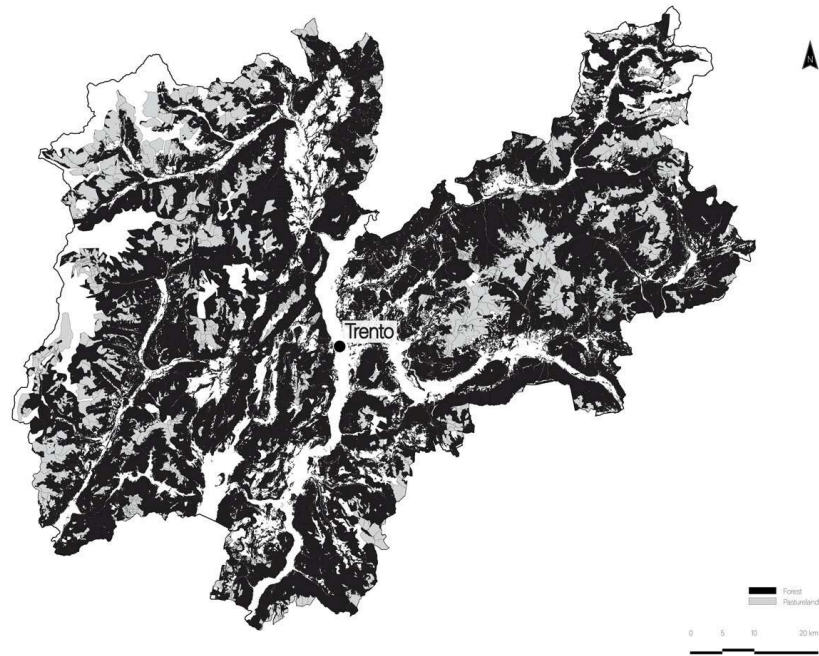
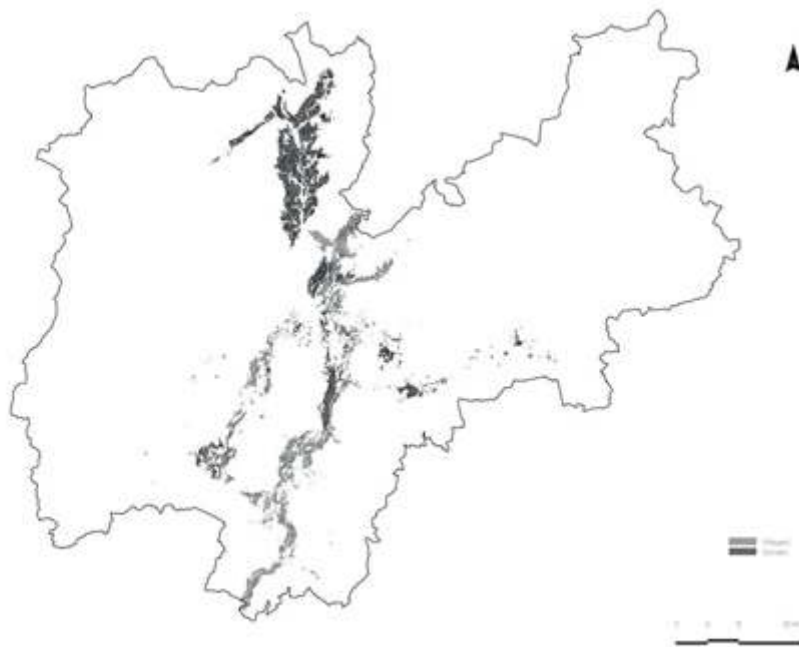
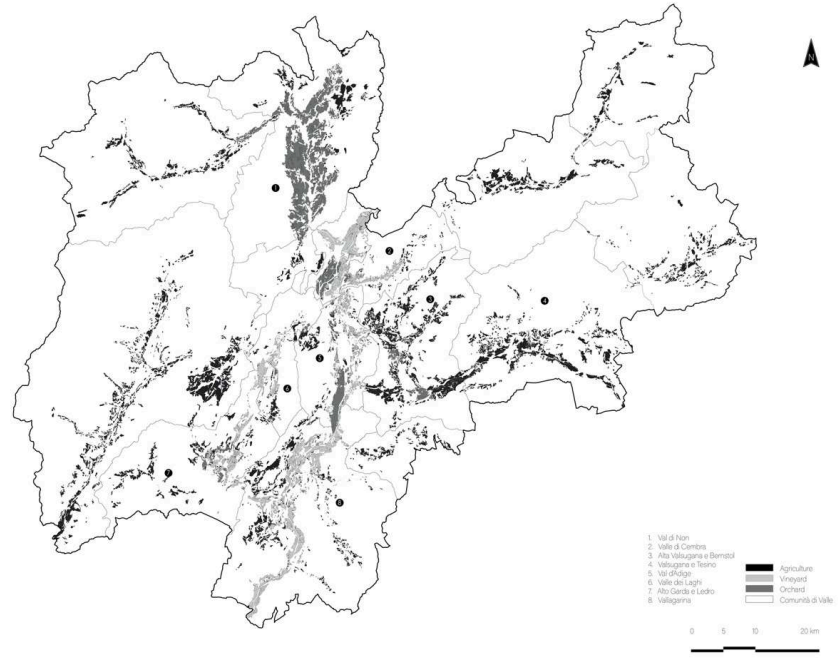


Figure 1b





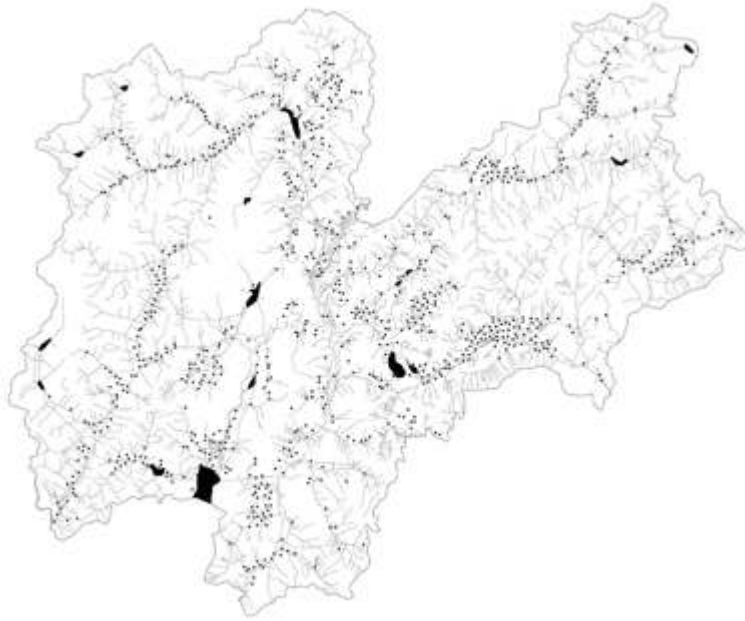
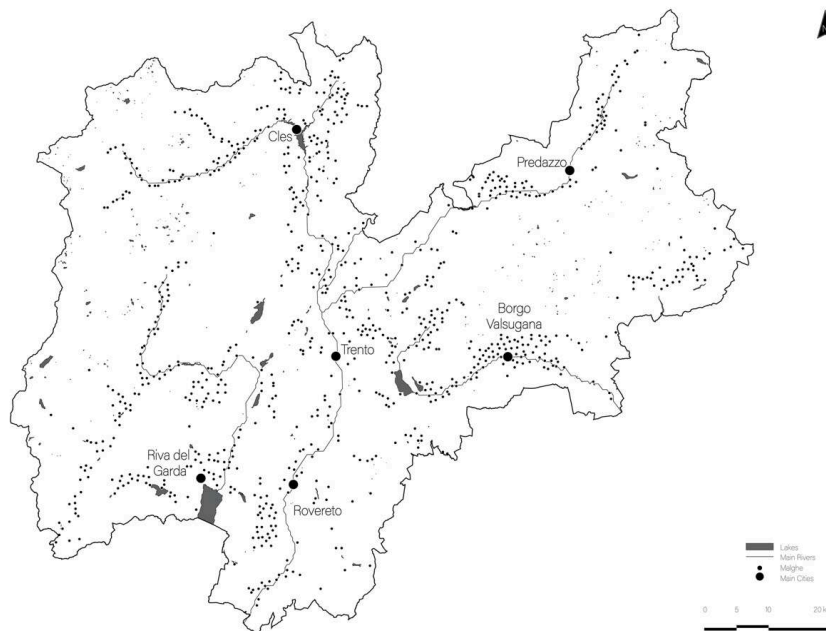


Figure 1c



The maps show the spatial distribution where most of the territory is covered by forests (390,463 hectares, 63% of the provincial surface—<https://forestafauna.provincia.tn.it/Foreste>) to which pasture meadows (about 35,000 hectares) (a), usually collectively owned, are added. Agriculture (b), the most intensive, is located on the bottom of the valleys where mainly apple orchards (Val di Non) and vineyards (Valle dell'Adige and Cembra) are cultivated. The mountain pastures (c) are still partly managed in a common form by alpine pasture and grazing companies, although direct management by a livestock company is becoming increasingly frequent. Farms with few animals have practically disappeared in favor of an increase in the size of stables (<http://www.trentinoagricoltura.it>).

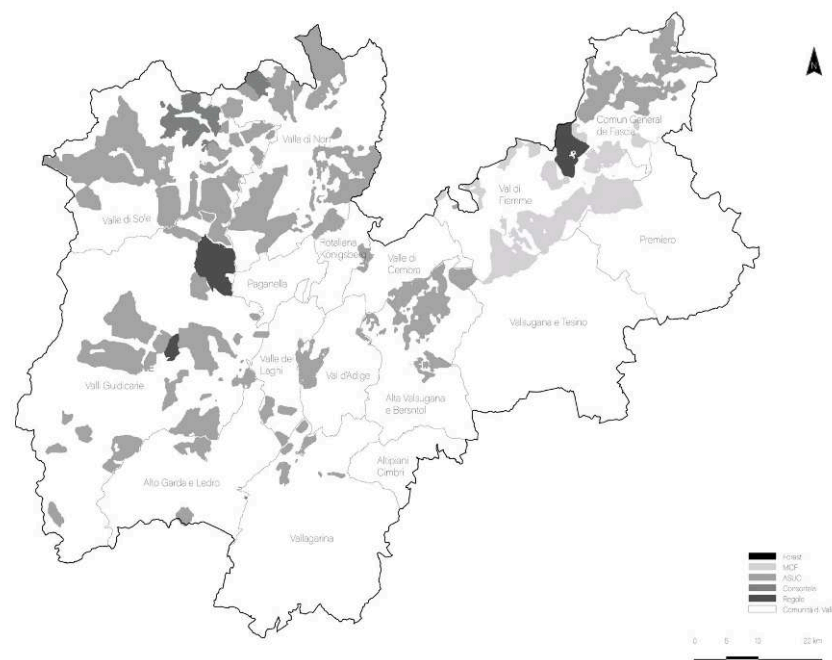
Graphic elaboration by Authors. Source: Statistical Service of the Autonomous Province of Trento (data warehouse online).

- 14 The alpine economy is predominantly tertiary, with the service and tourism sectors creating most of the overall GDP. Tourism is the main economic driver by most of the local administrations. Consequently, there has been a decrease in the interest in the agricultural sector and a *caesura* among those territories identified for developing tourist activities. Considering the touristic districts of the Dolomites, these territories are an excellent example of how tourism is influencing local economies and society. Investments (public and private) have been made since the 1970s to expand the tourist capacity of these areas toward massive industrial models. The increase in tourism (see Table 1) has led to the expansion of real estate development and the construction sector's growth with an increase in land consumption occupied by a new housing typology for various consumers. The generation of seasonal and concentrated demand in the tourism area also emphasizes the incapacity to produce the needed food locally and expresses a negative biocapacity for many valleys of Trentino.
- 15 The cultivated land, pasture, and forests are elements shaping the cultural landscape, and, in Trentino, they play a crucial role in the primary sector and tourism (Climate Action Plan 2.0, 2021). These peculiarities have also been influenced by land and resource ownership. As reported, in Trentino, more than 60% of the entire territory is managed through forms of collective property (Fig 2). It represents the most prominent example of this land governance in Italy, which is deeply rooted in the local culture and history (Dalla Torre *et al.*, 2021). Territorial and landscape planning or resource management are among the areas where the self-government structure has been applied the most by innovating community-led practices of managing the commons, which date back to the medieval age (Gios *et al.*, 2002; Gretter *et al.*, 2018a). Such structures strongly impact the food sector since they have often been translated into cooperative networks for farmers and consumers.
- 16 However, the expansion of the cooperative system (from the late 19<sup>th</sup> century mutual approach towards a more "production-oriented" system since the 1960s) and its transformation into a more "capitalist-oriented" structure is causing criticism from a growing part of the farming sector, in particular for full-time smallholders and multi-crops producers.
- 17 Despite a strong network of farms and cooperative companies growing highly profitable crops, the Trentino food supply chain is facing a series of challenges and is struggling to cope with more sustainable use of resources such as soil or water and preserve the delicate Alpine landscape and ecosystem. As it had happened in the past when the communitarian agricultural systems shaped the landscape elements (roads, terracings, mix of forest and pasture) and supported the installments of specific buildings (also concerning new species to breed), nowadays, the local systems are driving the adoption of specific infrastructure and features which are harnessing the local landscape.
- 18 The most common farming land uses related to orchards, vineyards, and fodder for cow breeding, which on one side, grant farmers profitable businesses yet have a substantial impact on the territory (Osservatorio del Paesaggio Trentino, 2020). To compete with other production areas, most of the farmers organized themselves in a diffuse cooperative system which, while allowing the agricultural system of Trentino to reduce some gaps related to the complex topography or reduced surfaces, led to the concentration and industrialization of the sector. Moreover, the landscape has been punctuated with extensive storage, processing, and logistic facilities for fruits and

animals or semi-permanent greenhouses dedicated to intensive berries cultivation, such as in Valsugana. However, the watering infrastructure has been developed to reduce crops' hydric stress, resulting in conflicts with other land uses such as recreational activities due to increased resource scarcity. Many buffer areas dedicated to protecting ecologically sensitive areas have been eroded, and too often, forest areas are not managed to balance the need for open grasslands with the needs of breeders or the timber industry.

- 19 However, the emerging scenario shows a situation in Trentino that is neither wholly settled nor univocally oriented. Alongside some signs of improvement, which can be traced back to the implementation of more accurate land management practices, many critical factors and persistent dynamics require a permanent commitment aimed at achieving the objectives stated in many European Directives, such as reducing urbanization and land consumption on a continental scale (Osservatorio del Paesaggio Trentino, 2020). In line with this, the aim is to ensure the development of capacities, sustainable management, and preservation of the Alps' territories, landscapes, and cultural heritage<sup>6</sup>

Figure 2. Different organization of collective properties in the Trentino Province



Graphic elaboration by Authors, Source: Associazione Provinciale A.S.U.C. Del Trentino. PAT.

## Local Communities and Regenerative Visions for the Future

- 20 Agriculture and the territorial organization of farming play a crucial and distinctive role in the Alps in a vision that links agriculture and food to maintaining environmental biodiversity and enhancing the territory (Cosner, Longo 2020). Communities' structure is strictly connected with landscape organization, and local

experiences can create leverage to ignite the discussion about the (local) agro-food chain. European Commission guidelines aim to achieve environmental sustainability objectives. In line with this, implementing institutional agreements based on the involvement of citizens and innovative organizations seems to be the key to ensuring balanced and sustainable development of these mountain territories' social, ecological, and economic capital. These initiatives are crucial for protecting fragile mountain ecosystems and, at the same time, reinvigorating their economies (Marquis *et al.*, 2012). Several local administrations worldwide have set up multi-stakeholder round tables to encourage the emergence of these new realities to provide an opportunity for all actors in the area to discuss, share initiatives and identify new objectives working together (Schiff, Levkoe, 2014).

- 21 Likewise, the agri-food chain has become a central topic in public and political debate both in the Global North and South. Encouraged by the increasing attention of citizens to the quality and sustainability of their consumption, a growing number of administrations are testing these new participatory approaches to address the environmental and social externalities of existing agri-food systems (Peuch *et al.*, 2020). In these arenas, it is possible to participate both actively and passively, discussing and making proposals involving producers, companies, researchers, professionals, schools, associations, and groups of citizens.
- 22 Moreover, it could be said that these food policy councils perform the crucial task of institutionally legitimizing certain food-related discourses and practices, influencing and accelerating decision-making at the national or local level, and significantly contributing to food system reform (Matacena *et al.*, 2016; Andreola *et al.*, 2021).
- 23 The manuscript highlights some experiences based on involvement and a close relationship with local communities in the Trentino context. The multi-centennial experiences of governance, mainly based on mutualism and collective resources, left a distinct connection with the new and emerging paradigms and approaches, in which the preservation of agro-biodiversity and social aspects are the central elements.
- 24 In particular, we focus on two main roundtables, the “Tavolo dell’Economia Solidale” and “Nutrire Trento”, as well as the projects promoted by the latter, trying to emphasize how the involvement between local communities and stakeholders affects the territory and landscape. To collect valuable information and data on these realities, we adopted a mixed methodology, which included qualitative methods, such as semi-structured interviews and participant observation at meetings or events, and quantitative methods, i.e., questionnaires.
- 25 The “Tavolo dell’Economia Solidale” was created by Provincial Law n° 13 of June 17<sup>th</sup> 2010 and led by representatives of the Province of Trento, mainly performs consultative functions, offering technical and cognitive support to prepare and monitor legislative interventions in the local agri-food sector, but also to inform citizens and raise their awareness. In addition to institutional delegates, six representatives of the solidarity economy are represented in the round table, guaranteeing representation of the solidarity economy sectors of industry, trade, tourism, and agriculture. Roughly, it operates as a “closed” roundtable focusing on analyzing and evaluating local guidelines.
- 26 Thanks to this institution, Trentino’s alternative food networks appear to be much more institutionalized and included in the process of interaction with administrations

in comparison with other Italian contexts. On the one hand, institutional recognition has led to access to funding that has guaranteed a certain continuity to the activities of these networks over the years. On the other hand, these alternative food networks still seem to be very limited to specific niches in the population and reluctant to engage in dialogue and active collaboration with other local actors. This closed and self-referential approach significantly limits the scope and spread of interventions in the food chain (Andreola *et al.*, 2021).

- 27 The “Nutrire Trento” project was born with similar intentions, thanks to the collaboration between the Municipality of Trento and the University of Trento. The round table brings local stakeholders to discuss issues related to the food system, its paradoxes, and criticalities to plan shared solutions, promote more conscious consumption and sustainable production, and reconnect producers and consumers (Forno *et al.*, 2020). Since 2017, the initiative has involved more than 125 local actors: agricultural producers-association-syndicates, consumers, activists, researchers, shopkeepers, representatives of the institutions, and categories involved. It operates as an “open” roundtable, which any represented organization could join after Municipality’s acceptance.
- 28 For this reason, the primary function of “Nutrire Trento” is to help coordinate these realities, increasing their resonance and developing new links, networks, and opportunities. These functions are pursued in various ways: through the periodic organization of meetings, where the progress of ongoing initiatives is presented, or new players are introduced; through dissemination events, through which the initiatives are promoted to the public. The primary tool remains the digital platform that allows the public to view the actors and places of the Trentino short food supply chain (<https://www.nutritrento.it/>).
- 29 The importance of “Nutrire Trento” was boosted with the arrival of the COVID19 pandemic and the consequent lockdown. The initiative supported local farms for direct sales to interested families in Trentino. To understand the present conditions and investigate the functionality of these new ways of buying, selling, and consuming, during this phase, a system of monitoring was set up by filling three questionnaires for the families and the farmers. This survey collected questionnaires from 68 households and 15 farmers for nine weeks. In addition to quantitative data collection, field notes were recorded throughout the process based on participants’ comments.
- 30 The analyses show that the project has led to better planning of food consumption with a consequent decrease in food waste. In addition, there has been an increase in the use of regional products and purchases from small local distributors, producers, and farms, and a decrease in the use of large-scale retailers and consumption of precooked food. However, some weaknesses in the organization emerged, which were highlighted by the decrease in service users. According to the survey, the decline is due to limited stocks of some fresh products, the requirement of a minimum purchase order, and some problems with home deliveries. At the end of this phase, the producers’ awareness increased, and they proposed to co-plan the following phases with the consumers.
- 31 The most important result was the establishment of a “Community Supported Agriculture” (CSA), a food production and distribution model based on an agreement between consumers and farmers<sup>7</sup>. In Trentino, as in Italy, “Solidarity Purchasing Groups” (Gruppi di Acquisto Solidale, GAS) existed for quite some time. However, the



CSA is primarily based on bilateral support at the financial and project level. Farmers and consumers agree on the cultivation methods and the development plan by co-designing the whole process (Brunori *et al.*, 2011).

- 32 Therefore, the virtuous element in the CSA model is that the consumers become members by sharing the entrepreneurial risk and accepting the chance to lose future income. From the two experiences, it can be stated that the CSAs model achieves both stakeholder (consumers and producers) satisfaction. Implementing the relationships would not only create a more tight-knit community but would also increase the sense of identity and be a starting point for a more comprehensive number of members and support the resilience of local products and territories. These collective actions are generally developed through institutionalized round tables, which have been established in different parts of the world<sup>8</sup>, and through international projects (i.e., H2020 FIT4FOOD and EIT FOOD HELPFood). These round tables are a platform for spontaneous and inclusive dialogue, providing an opportunity to open the debate to anyone interested in taking an active/passive part, engaging producers, companies, researchers, professionals, schools, private associations, and groups of citizens.
- 33 These initiatives have revealed promising approaches to determine ongoing and shared goals to create inclusive clusters of producers and consumers in the permanent seeking of new partners. Based on social networking aspects, these partnerships may play a significant role in influencing the territorial organization and care of the land in contrast to the abandonment and parceling out of mountain farmland. However, until now, the case of Trentino is still limited mainly to an urban/peri-urban cohort.

Figure 3a



Fig3(a) Val di Non: panorama to Banco and Casez Today (left © Authors)

Figure 3b

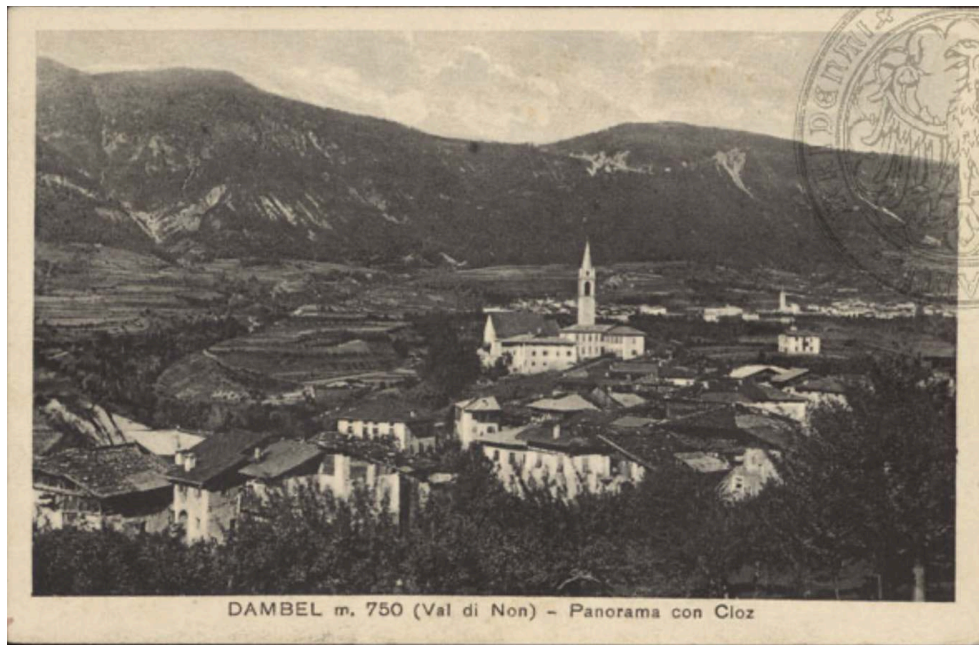


Fig3(b) panorama to Dambel and Cloz 1935 (right © <https://www.ilovevaldinon.it/cera-volta-la-val-non-vol-2>). It is visible how the landscape has been transformed.

## Openings Towards Desirable Cooperation in Designing Agro-Food Landscapes

- 34 The manuscript's general objective in some aspects here is to understand the weaknesses within the different approaches implemented in Trentino to support the development of regeneration strategies for mountainous agricultural areas. A virtuous paradigm shift in the production-consumption chains has been generally observed (Battaglini, Corrado 2014). In Trentino, the foundations for creating self-sufficient production management systems in some valleys, which can become pilot cases for the environmental sustainability of the local production chain, have now been laid.
- 35 Indeed, these regenerative strategies for mountain farming can only be developed through an in-depth understanding of how farmers interact with the community and vice versa and the role given to landscape values in different food production chains (Renting *et al.* 2003). In Trentino, new food cultivation and distribution approaches challenge managing relationships with the mountain landscape. For instance, the current effects of climate change on crops and their location also influence land use at different heights, contributing to a necessary rethinking of the distribution of the different varieties on the bottom of valleys and mountain slopes.
- 36 This notion is supported by two European projects developed in Trentino in which the authors cooperated. The Alpine Space Interreg project "Los Dama!" (2018–2021)<sup>9</sup> examined the potential of urban green areas and the different ways in which to mitigate the environmental or social effects of climate change. Local authorities emphasized the need to extend the network of vegetable gardens in urban areas to improve social inclusion while regenerating empty or unused plots and providing educational spaces for children and students. The SATURN project<sup>10</sup> highlights that

221 strips of abandoned agricultural land in Pergine Valsugana have been infested by spontaneous woodland (a total extension of 201 hectares). These lands could be quickly reintegrated as agricultural areas for collective farms or smallholders, activating social innovation processes by supporting agro-biodiversity connectivity.

- 37 From these experiments, the local administrations, supported by specific tools to identify and control the most suitable territories for agri-food activities, could play a very active role in developing a network of initiatives to preserve and improve rural buildings and landscapes. National measures (such as the “Land Bank”) can also be used to overcome property fragmentation, which is the main barrier to land ownership and the establishment of new farmers or new farming practices, particularly in less productive territories.
- 38 Several methods have been proposed to address the challenges covering various aspects, from capacity building, product innovation, and supporting young entrepreneurs or improving the multifunctionality of farms (Gretter *et al.*, 2019). A holistic and collective approach to encapsulating the different methods and acting on both the producer and consumer sides can contribute to more sustainable and effective agriculture in the contexts of various crises (climatic, pandemic, economic, demographic).
- 39 We argue in this paper that the logic of territorial regeneration cannot be imposed from the top down but instead require the mobilization of local actors from different sectors (agriculture, food processing, tourism, culture, education, civil society, and local government) towards a shared vision (Rinallo *et al.*, 2021). As pointed out throughout the paper, these processes take time to be systematized, enhancing existing tangible and intangible resources, and looking towards the links between the community and the cultural landscape, as the common example shows along the times. However, there are also spaces for new landscapes, in addition to those of extensive production, as shown in Fig. 1b. The two projects mentioned above emphasize how fragmented or peri-urban territories could become productive and involve the entire landscape, increasing its value.
- 40 However, the pilot experience of the Trentino CSAs shows how a shared vision implies a conscious choice to adopt governance systems appropriate to the local scale and to ensure sustainability in the long term, both for a self-conscious consumption of food and by helping the maintenance of the regional rural landscape.

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## NOTES

1. The concept has been clearly analysed and expressed by Interreg Alpine Space Project “Alpfoodway”: <https://www.alpfoodway.eu/home/english>.
2. See: <https://rm.coe.int/CoERMPublicCommonSearchServices/DisplayDCTMContent?documentId=09000016802f80c6>.
3. See: <https://www.alpine-region.eu>.
4. <https://www.euromontana.org/en/working-themes/european-charter-of-mountain-food-products/>.
5. Trentino is one of the European realities with the highest density of cooperative enterprises and is an interesting case study. The cooperative system developed in mountainous territory, long characterized by a rural and marginalized economy on the national border. It has demonstrated a high resilience and, throughout 120 years, has responded by changing the institutional and economic context to local development dynamics through the pluralism of enterprise forms (Salvatori 2011).
6. “AlpFoodway. A cross-disciplinary, transnational, and participative approach to Alpine food cultural heritage”, <https://www.alpine-space.org/projects/alpfoodway/en/home>.

7. The CSA currently consists of 13 producers and 39 consumer groups, and the membership is expected to keep expanding.
  8. <https://www.milanurbanfoodpolicypact.org>.
  9. [https://www.alpine-space.org/projects/los\\_dama/en/home](https://www.alpine-space.org/projects/los_dama/en/home).
  10. <https://eventi.fmach.it/saturn>.
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## ABSTRACTS

The current paper belongs to a set of ongoing multi-scalar and trans-disciplinary research studies investigating potential approaches for regenerating rural areas in the Alpine areas of Italy, which have been suffering for years from underused phenomena (Balducci, 2019; Gretter *et al.*, 2018a).

The paper focuses mainly on the territory of the Autonomous Province of Trento to investigate how farmers face the current challenges in different ways while looking for sustainable and viable systems from the ecological and socio-economic perspectives (Bender & Haller, 2017). Trentino's cultural context reflects a long tradition of specific law rules, which have granted a degree of self-government capabilities in various sectors such as territorial planning and land use policies, culture and school system, or social services (Gretter *et al.*, 2018b).

Rather than present specific results based on deep quantity-qualitative analysis, the goal of the manuscript is to overview the peculiar features of this alpine territory, opening a series of inputs of reflection and discussions. Some have already been locally activated, but most must be addressed in a broader and systemic approach, involving a more comprehensive series of stakeholders, moving from public authorities to citizens.

In this manuscript, we highlight ongoing experiences that the Trentino Agro-food value chain faces today and how this impact the territory and its cultural landscapes' preservation.

Il presente lavoro si colloca nell'alveo di ricerche multi-scalari e trans-disciplinari in corso che indagano i potenziali approcci per la rigenerazione delle aree rurali nelle Alpi italiane, che soffrono da anni di fenomeni di abbandono e sottoutilizzo (Balducci, 2019; Gretter *et al.*, 2018a).

Il documento si concentra principalmente sul territorio della Provincia Autonoma di Trento (o per brevità, Trentino) per indagare come gli agricoltori affrontano le sfide attuali in modi diversi, cercando di realizzare sistemi sostenibili e vitali dal punto di vista ecologico e socio-economico (Bender & Haller, 2017). Il contesto culturale del Trentino riflette una lunga tradizione di specifiche norme di legge, che hanno concesso un certo grado di capacità di autogoverno in vari settori come la pianificazione territoriale e le politiche di utilizzo del territorio, la cultura e il sistema scolastico o i servizi sociali (Gretter *et al.*, 2018b).

L'obiettivo dell'articolo, più che presentare risultati specifici basati su una profonda analisi quantitativa-qualitativa, è quello di inquadrare le peculiarità di uno specifico territorio alpino, aprendo una serie di spunti di riflessione e discussione. Alcune sono già state attivate a livello locale, ma la maggior parte deve essere affrontata con un approccio più ampio e sistemico, che coinvolga una serie maggiore di parti interessate, passando dalle autorità pubbliche ai cittadini.

In questo articolo, evidenziamo le esperienze in corso che la filiera agroalimentare trentina affronta oggi e come queste incidono sulla conservazione del territorio e dei suoi paesaggi culturali.

## INDEX

**Parole chiave:** Dinamiche dei sistemi Agroalimentari, Governo del paesaggio, Abbandono rurale, Pratiche di comunità, Resilienza alimentare

**Keywords:** Agro-food Dynamics, Landscape Governance, Farming Decreasing, Community Engagement, Food Resilience

## AUTHORS

### ALISIA TOGNON

Politecnico di Milano - DASTU, Dipartimento di Eccellenza sulle Fragilità Territoriali, Milano (MI), Italy

Université de la Vallée d'Aoste, Centro universitario GREEN, Groupe de Recherche en Éducation à l'Environnement et à la Nature, Aosta (AO), Italy

### ALESSANDRO GRETTER

Fondazione Edmund Mach - Centro Ricerca e Innovazione, San Michele all'Adige (TN), Italy  
Université de la Vallée d'Aoste, Centro universitario GREEN, Groupe de Recherche en Éducation à l'Environnement et à la Nature, Aosta (AO), Italy

### MATTIA ANDREOLA

Università di Trento - Dipartimento di Sociologia e Ricerca Sociale, Trento (TN), Italy

### ALESSANDRO BETTA

Fondazione Edmund Mach - Centro Ricerca e Innovazione, San Michele all'Adige (TN), Italy  
Université de la Vallée d'Aoste, Centro universitario GREEN, Groupe de Recherche en Éducation à l'Environnement et à la Nature, Aosta (AO), Italy