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Authors: Sala, Stefano, Lostrangio, Maria Carla, Zampatti, Mara, De Luca, Giuseppe, Landoni, Matteo, et al.

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What Governance for Sustainable Development in the Mountains? Insights From the Alpine Region

Stefano Sala^{1*}, Maria Carla Lostrangio², Mara Zampatti¹, Giuseppe De Luca³, Matteo Landoni⁴, and Annamaria Giorgi¹

* Corresponding author: stefano.sala1@unimi.it

¹ Centre of Applied Studies for the Sustainable Management and Protection of Mountain Areas (CrC GeSDiMont), Department of Agricultural and Environmental Sciences (DISAA), University of Milan, Via Alessandro Morino 8, 25048 Edolo, Italy

² European Association for Innovation in Local Development (AEIDL), Chaussée Saint-Pierre 260, B-1040 Bruxelles, Belgium

³ CrC GeSDiMont, Department of Economics, Management and Quantitative Methods, University of Milan, Via Festa del Perdono 7, 20122 Milano, Italy

⁴ Department of Economics and Management (DEM), University of Brescia, Via S. Faustino 74/B, 25122 Brescia, Italy

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This article considers different governance structures, policies, and strategies that focus on the sustainable development of mountain areas in the European Alpine region and investigates how different countries integrate sustainable development into their mountain policies. Even though mountain areas cover around one third of European land, only a few countries have established place-based policies for their sustainable development. We analyzed 4 cases (Austria, France, Italy, and Switzerland) to reveal extremely diverse systems in terms of policies and actions. Furthermore, we scrutinized the sustainable development governance frameworks in policies directed at mountain areas, comparing

national legislation. We also performed 4 semistructured interviews with national experts in mountain governance. Our results show that interacting with different stakeholders is a precondition for place-based sustainable development processes. We conclude by providing evidence-based policy recommendations for the sustainable development of mountain areas.

Keywords: sustainable development; governance; mountain development; regional policy; place-based policies.

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Introduction

Mountain areas cover approximately 36% of Europe's area and 29% of the area of the European Union (EU) member states; they host 17% of Europe's population and 13% of the population of the EU's 27 member states (EEA 2010). Europe's mountains hold economic and social significance, offering a diverse array of ecosystem services across spatial scales: their ecosystems are deeply multifunctional, and their benefits extend to both mountain communities and those in the nearby lowland and urban areas (EEA 2010). The primary policy challenge confronting mountain areas revolves around preserving their environment as the "ecological backbone of Europe" (CEEA 1999: 377) while bolstering their economic vitality and social unity and maximizing synergies between highland and lowland regions (EEA 2010). Sustainable development is thus an imperative, because it combines the 3 pillars of economic viability, environmental protection, and social equity. Despite the territorial relevance of Europe's mountain areas, to date, there has been no integrated policy framework at the European level, and, in most cases, national frameworks lack strategies to specifically address sustainable mountain development.

One prominent exception is France: in the 1980s, it began to design legislative instruments targeted at mountain areas (Castelein and Villeneuve 2006), addressing problems such as the aging of residents, depopulation and outmigration to urban centers, the widening socioeconomic gap between cities and small villages, and poor infrastructure and social

services (Carbone 2018; Dax 2020; European Commission 2020).

In this context, place-based policies aim to tackle regional disparities and promote development (Nordregio 2004; Castelein and Villeneuve 2006; EEA 2010; Mendez 2013; Barca 2018; Carbone 2018). The topic of place-based policies has been at the core of EU action since the publication of the report *An Agenda for a Reformed Cohesion Policy* (Barca 2009; Mantino and Lucatelli 2016; Beer et al 2020). Place-based policies combine specific resources and strategies with a multilevel governance approach (Barca et al 2012; Beer et al 2020). However, their impact has yet to be fully assessed, especially in mountain areas. Although the correlation between sustainable and place-based development is still unclear, several mountain policy strategies and measures use both concepts and consider them mutually reinforcing (for examples, see Wymann von Dach and Ruiz Peyré 2020).

Study design and methods

This article explores case studies of 4 European countries (Austria, France, Italy, and Switzerland) that have a significant portion of territory covered by mountains (74, 25, 60, and 94%, respectively; EEA 2010). In some cases, these include different mountain ranges (eg France with the Alps and Pyrenees and Italy with the Alps and the Apennines). We consider different governance structures,

policies, and strategies that focus on the sustainable development of mountain areas (EEA 2010). Moreover, these countries are all part of the broader Alpine region, which covers 8% of the EU, stretches across 8 countries, and is inhabited by 80 million people in France, Italy, Austria, Germany, Slovenia, Switzerland, Monaco, and Liechtenstein (Sundseth and Sylwester 2009; Permanent Secretariat of the Alpine Convention 2018). This is a highly diverse region with complex interactions between rural and mountain areas. More than 14 million people reside in mountain areas, in around 5700 small and medium-sized municipalities, of which more than 75% have fewer than 2500 inhabitants and which together cover an area of almost 200,000 km² (Permanent Secretariat of the Alpine Convention 2018).

Through desk research, we analyzed the interaction between governance levels and approaches, a characteristic essential to the concept of place-based policies (Duranton and Venables 2018). We investigated how national frameworks and political priorities integrate the notion of sustainable mountain development in the 4 countries. We collected normative acts (laws and ministerial acts) and policy papers (government decisions and policy outlines) from the official governmental databases and repositories. Documents were collected through Internet searches, using keywords in the respective languages or English (law, policy, strategy, mountain, and rural). Only documents outlining policies adopted in the 20th and 21st centuries were analyzed. Documents identified in searches were checked for their direct relevance to mountains or, more widely, to rural areas or for sectoral relevance (eg local development, place-based development, tourism, and agriculture). We analyzed these documents using a content analysis approach. This means that the selected documents were scanned for specific keywords. To begin with, we checked the number of times mountains and sustainable development were mentioned. We examined documents containing those keywords for the presence of other words, meanings, and concepts to disentangle how legislators integrated the concept of sustainable development into legislative acts. In particular, we focused on the contribution to the key pillars of sustainability (ie environmental, social, and economic), socioeconomic sectors, and whether measures were bottom up or top down.

In doing so, we collected evidence of the 4 countries' initiatives for mountains. We analyzed and compared national legislation to find patterns of policy implementation that converged or differed between countries. Then, to validate and complete the findings, we conducted 4 semistructured interviews with 1 national expert on mountain governance per country analyzed. The experts were identified using the Euromontana network and a snowball technique and came from various backgrounds, namely, research in the case of Italy, policy in the case of Switzerland, research and policy in the case of Austria, and the nonprofit sector in the case of France. These informants had unique knowledge of each country case because they had conducted research on policy or worked directly on mountain policies. The interviews were conducted in 2021 and lasted approximately 60 minutes each.

The interviews had 4 main components: (1) history of mountain policies and/or strategies in the country, (2) the

expert's views on main weaknesses and strengths, (3) specific clarification questions, and (4) the expert's views on desirable actions and policies for the future. These interviews provided ad hoc validation of our results.

Case study results

Austria

Austria has introduced place-based policies with a multilevel governance approach. The idea behind Austrian policies was that mountain areas “should not be left to manage entirely on their own” but rather require particular and specific attention at the federal level (Table 1; Dax 2001: 233).

The Austrian government has been implementing governance models with a bottom-up approach to coordinate urban and mountain areas since the 1970s (OECD 1998; Dax 2004). Policies for the development of rural and mountain areas embrace multilevel governance and bottom-up strategies with a focus on sustainable development. They recognize that agricultural activities and local actors protect and enhance specific opportunities related to key economic sectors in the mountains (Dax 2004). Federal and local authorities have used European structural funds to integrate regional development initiatives; for example, the Program for Endogenous Regional Development (FER) fund improved farms' access to services. This program embedded the concept of bottom-up development with the concept of sustainable resource use in mountain areas (Dax 2001).

The Austrian Association for Independent Regional Development (ÖAR) has served as a platform between regional consultants and associations for the exchange of ideas, good practices, and initiatives since 1983 (Dax and Hebertshuber 2002). The ÖAR promoted projects to organize regional cooperation independently until 1995, when Austria joined the EU and integrated the FER fund and regional development policies with European structural funds (Dax 2021). In more recent years, cooperative groups, regional development agencies, and local action groups have played a pivotal role in rural and mountain development (Heintel 2004; Dax et al 2016; Georgios et al 2021). This mostly results from the integration of the Links between the Rural Economy and Development Actions (LEADER) program into rural development programs during the 2007–2013 EU programming period (Dax et al 2016). In 2017, the Austrian Federal Ministry of Agriculture, Forestry, Regions and Water Management (BML) coordinated with various ministries and authorities at the levels of the federal states and municipalities to promote integrated action for regional cohesion, taking into account diversified mountain economies through the Master Plan for Rural Development (BML 2017). However, the plan had little effect on existing rural development programs.

France

In the second half of the 20th century, France adopted 2 legislative measures affecting mountains, namely, the Rural Renewal Policy (no. 67-938) and the Pastoral Law (no. 72-12; French Republic 1967, 1972).

TABLE 1 Overview of Austrian policies and strategies referring to mountain areas.

Policy or strategy	Year	Reference	Promoting body
Special Program for Mountain Farmers (<i>Bergbauern-sonderprogramm</i>)	1972–1990	Knöbl (1987)	Federal Chancellery, Ministry of Agriculture
Compensation for Mountain Farmers (<i>Bergbauernzuschuss</i>)	1972–1994	Kirner (2010)	BML
Special Initiative for Mountain Areas, later FER (<i>Förderungsaktion für eigenständige Regionalentwicklung</i>)	1979–1999	Dax (2001)	Federal Chancellery
Austrian Spatial Development Concept (<i>Österreichisches Raumentwicklungskonzept [ÖREK]</i>)	From 1981, developed on a 10-year basis (latest report: ÖREK 2030)	Arbter (2001), ÖROK (2021)	Initially managed by the federal states, currently managed by the BML
Master Plan for Rural Development (<i>Masterplan für den ländlichen Raum</i>)	2017	BML (2017)	BML

Adopted in 1967, the Rural Renewal Policy is part of a series of broader actions aimed at the management and development of rural areas carried out by the Interministerial Delegation for Land Management and Regional Attractiveness. This policy aimed to create opportunities for economic development in regions with demographic or economic imbalances, including mountain areas. Mountain areas were assigned 5 Commissioners for the Management of Massifs. Since 1967, several measures have been initiated to foster economic development, albeit limited mainly to agriculture, through the Rural Renewal Policy. These include a “special allowance for mountain areas,” a law for the enhancement of pastoral activities, a series of “special contracts for mountain areas” between the state and specific regions, measures for the establishment of young farmers, and “special rural aid” for employment (Barruet 1989: 330).

Promulgated in January 1972, the Pastoral Law recognizes and supports traditional systems for the collective management of mountain pastures by establishing 3 main measures: pastoral land associations, pastoral groupings, and multiyear grazing agreements (Eychenne 2012; Lorenzi 2013). In addition, the Pastoral Law establishes compensation for farmers who contribute to land management in critical zones within mountain areas (Eychenne 2012).

Beyond the measures taken, the distinguishing factor of these policies lies in their contribution to the elaboration of the concept of mountain specificity, defined primarily in terms of the natural handicaps of this territory in comparison to other regional communities. This concept was to be the basis for calling for an ad hoc policy for mountain areas, the inception of which was the 1985 Mountain Law I (Barruet 1989).

In 1985, France was among the first in Europe to develop a legislative framework for mountains, with Mountain Law I (no. 85-30, later replaced by Mountain Law II, no. 2016-1888). This law explicitly referred to mountains “as a group of territories whose equitable and sustainable development is an objective of national interest” (French Republic 1985: art. 1). Through the principles of self-development (a dynamic process initiated and managed by mountain communities, with the support of the national authority)

and equilibrium (between protected areas and areas exploited by human activities), this law targets better living standards and conditions, social protection, employment, services, and resources comparable to other regions (Table 2; French Republic 1985).

The revised version of the French Mountain Law (II, no. 2016-1888) introduced the principles of modernization (of mechanisms and organizations supporting mountain development) and adaptation (of public policies for mountain development), giving greater attention to the needs of mountain inhabitants (Genevard and Laclais 2015; French Republic 2016; CGET 2017). This law targets governance and cohesion, economy and employment, environment, agriculture, public services, research, and innovation. A few relevant examples include reforming the National Mountain Council, improving the diffusion of information and communications technology, providing medical and educational services, improving conditions of seasonal workers, approving fiscal reforms in agriculture, encouraging return to land that has not been cultivated for more than 40 years, and relaxing measures related to town planning. In 2020, the National Agency for Territorial Cohesion (ANCT) was established. The ANCT hosts the secretariat of the National Mountain Council and relies on Massif Committees as local antennae to facilitate the decentralization of mountain policies and to address the needs of and provide information on the socioeconomic characteristics of mountains (Broggio 1997; French Senate 2002; Peneau et al 2010; ANCT 2020). Since its establishment, the ANCT has launched several programs to promote sustainable mountain development, such as territorial pacts (2020), an investment plan for sustainable and resilient tourism (2021), future mountain plans (2022), and *France Ruralités* (2023; ANCT 2021a, 2021b; French Government 2023).

Italy

The Constitution of the Italian Republic states: “The law shall make provisions in favor of mountainous areas” (Italian Republic 1947: art. 44). Law 991/1952 first defined the provisions and delineated mountain areas. The law identified mountain areas with municipalities that

TABLE 2 Overview of French policies and strategies referring to mountain areas.

Policy or strategy	Year	Reference	Promoting body
Rural Renewal Policy (<i>politique de rénovation rurale no. 67-938</i>)	1967	French Republic (1967)	French Republic
Pastoral Law (<i>loi pastorale no. 72-12</i>)	1972	French Republic (1972)	French Republic
Mountain Law I (<i>loi montagne no. 85-30</i>)	1985	French Republic (1985)	French Republic
Mountain Law II (<i>loi montagne no. 2016-1888</i>)	2016	French Republic (2016)	French Republic
Territorial pacts (<i>pactes territoriaux</i>)	2020	ANCT (2021b)	French Republic, ANCT
Investment plan for sustainable and resilient tourism	2021	ANCT (2021a)	French Republic, ANCT
Future mountain mobilities (<i>Avenir montagnes mobilités</i>)	2022	ANCT (2021a)	French Republic, ANCT
Future mountain engineering (<i>Avenir montagnes ingénierie</i>)	2022	ANCT (2021a)	French Republic, ANCT
<i>France Ruralités</i>	2023	French Government (2023)	French Government, ANCT

combined certain characteristics of elevation (greater than 600 masl for 80% of the territory) or difference in elevation (600-m differential between minimum and maximum elevation of the municipality) and low cadastral income, to which, aside from the orographic and socioeconomic identification criteria, were added municipalities “damaged by war events” and those that “present equal economic-agrarian conditions,” creating a so-called legal mountain area (Italian Republic 1952: art. 1). This definition refers to the concept of disadvantaged mountain areas. The resulting welfarist approach led to excessive enlargement of the area subject to intervention, with the inclusion of cities such as Rome. With Law 1102/1971, the Italian state aimed to promote the enhancement of mountain areas by encouraging, through the establishment of Mountain Communities, the participation of local populations in drafting development programs and spatial development plans for the respective mountain districts (Italian Republic

1971). Subsequently, Law 97/1994 designed differentiated actions for mountain development with a focus on Mountain Communities and regional authorities (Table 3; Italian Republic 1994). Since the late 1990s, relevant legislation has been regionalized in consideration of constitutional changes (reform of Title V, Part II; Italian Republic 2001). To date, however, the area of Italian intervention has varied because of the repeal of the article defining the legal mountain area within Law 991/1952.

Strategies and policies with a place-based approach at the national level have been promoted in the last decades. A primary example is the establishment of the National Strategy for Inner Areas (SNAI) in 2015 (Barca et al 2014). However, the SNAI has primarily focused on the social sustainability of peripheral and mountain areas without considering the environmental pillar of sustainability. In 2015, the National Strategy for Green Communities was approved (Italian Republic 2015). The strategy focused on

TABLE 3 Overview of Italian policies and strategies referring to mountain areas.

Policy or strategy	Year	Reference	Promoting body
Provisions in favor of mountain areas	1952	Italian Republic (1952)	Italian Republic
New regulations for mountain development	1971	Italian Republic (1971)	Italian Republic
New provisions for mountain areas	1994	Italian Republic (1994)	Italian Republic
Amendments to Title V of Part II of the Constitution	2001	Italian Republic (2001)	Italian Republic
National Strategy for Green Communities (<i>Strategia Nazionale delle Green Community</i>)	2015, implementation through Next Generation EU funds in 2021	Italian Republic (2015)	Italian Republic, Ministry for Autonomies and Regional Affairs
SNAI (<i>Strategia Nazionale Aree Interne</i>)	2015, implementation of pilot areas in line with the EU fund (2014–2020, 2021–2027)	Barca et al (2014)	Italian Republic, ANCT
Fund for the Development of Italian Mountains (<i>Fondo per lo sviluppo delle montagne Italiane</i>)	2021	Italian Republic (2021a)	Italian Republic, Ministry for Autonomies and Regional Affairs

rural communities capable of management for the public good using an integrated approach, embedding all pillars of sustainable development. The strategy also promotes subsidiary relationships and alliances between urban and rural areas. In 2020, the strategy was promoted as a strategic action to be implemented through funds from the national Next Generation EU National Recovery and Resilience Plan (Italian Republic 2021b). This is the only example in Italy of an integrated strategy encompassing sustainable development of mountain areas. However, the concept of cocreation and bottom-up involvement of local actors is missing.

In 2021, 48 experts formed the National Scientific Technical Table for Mountain Areas to support the definition of a National Strategy for Mountain Areas and revise the existing legislation. In 2022, the government approved a legislative plan containing provisions for the development and enhancement of mountain areas and established the Fund for the Development of Italian Mountains that promotes the protection and development of mountain areas and topics such as entrepreneurship and tourism (Italian Republic 2021a). The measure introduces organic actions that encourage economic and sustainable development to limit depopulation and reduce the disadvantages of mountain municipalities. In February 2024, the Council of Ministers approved a new mountain bill titled “Provisions for the development and enhancement of mountain areas” (commonly called the DDL Montagna; Senate of the Italian Republic 2024). This bill aims to recognize and promote sustainable development of mountain areas, which have been declared to be of strategic importance for the country, and seeks to help overcome the economic and social imbalances of mountain areas through measures that ensure their promotion, sustainable development, and protection of their peculiarities. The DDL Montagna promotes necessary regulatory reorganization by introducing a wide-ranging law implementing article 44, paragraph 2 of the Constitution, which also helps to address the legislative problem mentioned earlier concerning the definition of mountain municipalities. The DDL Montagna also envisages the definition of a Strategy for Italian Mountains that would define priorities and policy directives specifically for mountain areas, promoting their growth and socioeconomic development. The measure, having passed the scrutiny of the Conference of Regions and Autonomous Provinces, has begun its approval process in the Italian parliament.

Switzerland

Switzerland issued the Federal Law on Investment Aid for Mountain Areas in 1974 and replaced this in 2008 with the New Regional Policy, which defines a list of mountain areas in the confederation (Swiss Confederation 1974; Regiosuisse 2017). In 1992, with the reform of the federal law dealing with agriculture, payment schemes to Swiss hill and mountain areas were implemented (Curry 1996; Giuliani 2009). The specifics of mountain areas were later inserted in the Federal Act on Agriculture of 1998 (Swiss Confederation 1998). The federal constitution has recognized the importance of mountains since the 1999 revision, with article 50 mentioning that the confederation “shall take account of the special position of [...] the mountain regions” (Table 4; Swiss Confederation 1999). Federal and cantonal authorities

promoted processes such as the Swiss Spatial Project of 2012, a strategy aiming to “preserve the diversity of spaces, solidarity between different regions and population groups, and the country’s competitiveness at the international level” (Federal Council et al 2012: 12). The Spatial Strategy for Alpine Areas in Switzerland was promoted by the mountain cantons in 2014 with regard to common tasks of sustainable development (CGCA 2014).

A coordination strategy has promoted links between all levels of governance and the identification of long-term sustainable development objectives since 2015. The strategy was elaborated under the mandate of the Maissen motion of 2011 (11.3927), which introduced the goal of coordinating the sectoral policies of the confederation (Swiss Parliament n.d.; ARE 2014). The resulting Federal Policy for Rural Areas and Mountain Regions (PERM; Federal Council 2015a) complements the confederation’s Agglomeration Policy 2016+ (AggloPol; Federal Council 2015b) and integrates the Spatial Strategy for Alpine Areas in Switzerland and the Swiss Spatial Project (ARE 2014; SECO 2014). These policies are supplemented by important measures promoting cohesive spatial development, such as the Federal Law Concerning Fiscal Equalization and Cost Compensation (Swiss Confederation 2003) and public service provisions.

The Swiss government identified the main challenges that mountain areas are facing to promote integrated actions for sustainable development (Federal Council 2015a). PERM is a cross-sectoral, complementary, and innovative policy that coordinates the various sectoral policies (Federal Council 2015a). Coordination and a constant dialogue with different governing bodies within a multilevel governance approach is essential in the implementation of PERM, which sees the New Regional Policy as an important funding instrument for developing new pilot schemes for mountain areas (eg the “New Regional Policy pilot measures in mountain areas”; Regiosuisse 2017). The Federal Parliament adopted a new motion (no. 19.3731) in 2021, asking the Federal Council to develop a cross-sectoral action plan for the implementation of PERM (Swiss Parliament 2019). PERM had mentioned in its plan the necessity of a close monitoring process involving all actors to understand whether the measures implemented would respond to the specific spatial challenges (Federal Council 2015a). This evaluation and monitoring process took place in 2022 and was followed by a definition of priorities for the 2024+ strategy concerning PERM and AggloPol, underlining the need for even greater coordination and complementarity between the two strategies (Infras 2022; Federal Council 2024).

Toward integration

This study gives a composite and diverse picture of policies and strategies to promote sustainable development in mountain areas in the countries analyzed. The measures adopted in terms of legislation and governance reflect the differences in the governance systems of each country. However, different methods and approaches—sometimes translated into laws, systemic strategies, administrative interventions, and governance structures—underline that the selected countries have all attempted to address sustainable mountain development. In most cases, place-based approaches were viewed as a key element to successfully implement regional policies. However, these

TABLE 4 Overview of Swiss policies and strategies referring to mountain areas.

Policy or strategy	Year	Reference	Promoting body
Federal Law on Investment Aid for Mountain Areas	1974, 1997 revision, replaced by the New Regional Policy (NRP, 2008)	Swiss Confederation (1974)	Federal Council
Federal Law on Investment Aid in Mountain Regions	1997	Swiss Confederation (1997)	Federal Council
Federal Act on Agriculture	1998	Swiss Confederation (1998)	Federal Council
Federal Constitution of the Swiss Confederation	1999	Swiss Confederation (1999)	Federal Council
Federal Law Concerning Fiscal Equalization and Cost Compensation	2005, 2020 revision	Swiss Confederation (2003)	Federal Council
NRP	Implementation through an 8-year multiannual program (2008–2015, 2016–2023)	Swiss Confederation (2006)	Federal Council
Swiss Spatial Project	2012	Federal Council et al (2012)	Federal Council; Conference of Cantonal Governments; Swiss Conference of Directors of Public Works, Planning and Environmental Protection; Swiss Union of Cities; Association of Swiss Communes
Spatial Strategy for Alpine Areas in Switzerland	2014	CGCA (2014)	Conference of the Governments of the Mountain Cantons
PERM	2015	Federal Council (2015a)	Federal Council

attempts were implemented with varying degrees of institutional interventions and were affected by the effectiveness and ability to engage with local stakeholders of the involved governance structures—a precondition to improve the overall sustainability and livelihood of geographically complex areas, such as mountain areas (Tucker et al 2021). This is indeed the precondition of place-based policies, which should aim to provide a clear framework in which to promote connection with indigenous local knowledge for coherent and sustainable development (Barca 2009, 2018; Barca et al 2012; Beer et al 2020; Lam et al 2020). Overall, the 4 countries used different approaches. Some insisted on the adoption of integrated strategies that encompass a systemic vision, whereas others employed sectoral measures to fight population shrinkage and promote the vitality of remote areas (Table 5).

France emerges as having one of the most developed legislative frameworks for mountain areas, integrating measures across areas of intervention with a holistic approach (eg economic development, research and innovation, agriculture, and tourism). The French model underlines that the implementation of a strategy must happen in coordination with local actors and focus on the establishment of specific governance structures (eg National Mountain Council and Massif Committees). This indicates how a multilevel approach, which entails coordination with local actors, is key in designing and implementing for mountain areas specific policies that have an impact on the ground. Switzerland attempted to implement a

multilevel and multisector coordination mechanism capable of assessing long-term objectives and interacting with both public and private actors to identify strategic projects for development. The same has been attempted in Italy with the implementation of the SNAI. However, this did not exclusively target mountain areas, mostly because of the general lack of a framework of reference in the Italian legislation but also because of a more general definition of inner area focusing on the social aspects while failing to address the environmental pillar of sustainable development. If the DDL Montagna is approved, this gap in the legislative framework will be addressed by establishing a new definition of mountain areas. Austria emphasizes the role of regional development through a bottom-up approach. This approach of multiactor involvement has proved essential for the activation of projects in line with the specific needs of the regions and their inhabitants. The strategy of identifying regional needs matches EU place-based policies (eg the Cohesion Policy and the LEADER and community-led local development approach) and is a key element in empowering bodies that lack human capital. Austria represents an example of good practice in the use of European funds.

What is the future for sustainable development and place-based policies in the mountains?

The political push, especially in countries like Italy, toward the integration of place-based strategies for sustainable

TABLE 5 Overview of national strategies and intervention priorities for mountain areas.

Characteristics	Country			
	Austria	France	Italy	Switzerland
Key characteristics of policies and strategies tackling sustainable mountain development				
Definition of mountain area	No unambiguous definition. Use of the definition in the framework of the EU agricultural policy: (a) elevation > 700 masl; (b) slope > 20% for elevations between 500 and 700 masl.	Definition established by the national policy for the development of mountain territories of the 1985 Mountain Law I: (a) limited land use; (b) elevation > 700 masl (general), > 600 masl (Vosges chain), or > 800 masl (Mediterranean) and slope > 20% on 80% of the surface; (c) a + b.	No unambiguous definition in the absence of an integrated policy for mountains. Three existing definitions: (1) for the purpose of financial support actions (Law 991/1952); (2) for statistical purposes (ISTAT 1958); (3) for the purpose of identifying mountain communities (Law 1102/1971). Consolidated definition of Law 991/1952: (a) 80% surface area > 600 masl; (b) differential > 600 m and taxable income < 2400 lire.	List of mountain areas defined in article 2 of the Federal Law on Investment Aid for Mountain Areas (Swiss Confederation 1974). The list can be updated by the cantons with the agreement of the Federal Council. The list is now embedded in the NRP. Federal Statistical Office definition (FSO 2019): (a) average elevation > 800 masl; (b) hectare differential > 225 m for lower elevations.
Current strategy for mountain areas	No specific strategy	Mountain Law II (French Republic 2016)	No specific strategy	PERM (Federal Council 2015a)
Sustainable development	Embedded in strategies since the late 1970s	Explicitly mentioned as an objective in the mountain laws	Specific mention in the National Strategy for Green Communities	Embedded in the various strategies and mentioned explicitly in PERM
Areas of intervention of policies and strategies tackling sustainable mountain development				
Environment	x	x	x	x
Agriculture	x	x	x	
Services	x	x	x	x
Tourism	x	x	x	x
Fiscality		x		x
Education		x		
Digitalization		x		x
Research and innovation		x		x
Community-led projects	x	x	x	x

development in the mountains recognizes that it is necessary to act through place-based approaches and promote a new regional development paradigm. Place-based policies require integration of the regional dimension to be coherent, sustained, and supported by local actors. This dimension can be taken into account both by means of an integrated and multisectoral policy, such as in France and Switzerland, and by means of a

concrete coordination effort, such as in Austria and its federal states.

Place-based policies promoting sustainable development of mountain areas require interaction and communication among different stakeholders and different governance levels, and they must establish strategic alliances between institutions of different regions or countries to align local needs, challenges, and opportunities to the policy level

(Debarbieux et al 2015; Price 2010; Beer et al 2020; Dax 2020). These tasks are not easy and require prolonged political effort, but they are essential to facilitate the increase in knowledge and awareness required to create a new and modern vision for the future of mountain areas. Clearly, this can happen if mountain development becomes central on policy agendas in the EU, where the debate is still lacking the impetus for a coherent EU strategy on the long-term sustainable development of mountain areas, as mentioned in a European Parliament resolution of 2016 (European Parliament et al 2016). A new vision for mountain areas can be implemented to the extent that they become the recipients of investments for growth, rather than subsidies for support to buffer negative phenomena and trends, with consequent benefits for society as a whole.

Our case-based analysis led us to formulate the following 5 recommendations for policymakers seeking to support the sustainable development of mountain areas:

1. Promote a clear definition of mountain areas at the policy level—as in the French case—to delineate the areas that will benefit from the policies, as well as the key stakeholders.
2. Promote place-based, cross-sectoral, and multilevel governance practices involving different ministries and local stakeholders in a bottom-up process of signaling regional needs to increase the participation in implemented policies.
3. Facilitate access to and coordination of existing funds at the local level—as in the Austrian and Swiss case studies—to maximize the effects.
4. Implement cross-sectoral policies capable of aiding the diversification of local economies, ensuring their contribution to socially fair and environmentally just development.
5. Establish a monitoring framework—such as the one envisioned within the Swiss PERM—to constantly evaluate the impacts of the policies on different sectors.

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OPEN PEER REVIEW

This article was reviewed by Ingrid Machold and Thomas Egger. The peer review process for all MountainAgenda articles is open. In shaping target knowledge, values are explicitly at stake. The open review process offers authors and reviewers the opportunity to engage in a discussion about these values.

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