

Promoting the economy while protecting nature? The UNESCO Biosphere Reserve Mont Viso as a model region for economically sustainable development in the Cottian Alps

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Keywords: biosphere reserves, sustainable economic development, endogenous regional development, territorial governance, transnational collaboration, Cottian Alps, peripheral regions, case study, La Riserva della Biosfera transfrontaliera del Monviso / La Réserve de biosphère transfrontière du Mont Viso

Abstract

Many peripherally located Alpine regions have faced decades of depopulation and infrastructure decline. In response, protected areas (PAs) such as biosphere reserves and regional nature parks are increasingly seen as instruments to integrate nature conservation and regional development. Yet public acceptance remains limited due to concerns over potential economic restrictions. This study analyses the structural conditions shaping the actions of the UNESCO Biosphere Reserve Mont Viso in the Cottian Alps, framing PAs as strategic corporate actors by triangulating structuration theory and actor-centred institutionalism. It conceptualizes territorial agency as the capacity of PAs to initiate and sustain structural transformation. Findings show that such an agency critically depends on access to legal authority and financial resources.

Profile

Protected area

UNESCO Biosphere

Reserve Mont Viso

Mountain range

Alps, France

Introduction

Shrinking populations, abandoned pastures, and depopulated settlements reflect the socio-economic transformation of the Alpine region driven by industrialization and tertiarization (Bender & Haller 2020). EU funding programs frame mountain regions as structurally disadvantaged due to low agricultural and forestry productivity (Dax 2020). This narrative is particularly evident in peripheral Alpine areas, which have long faced persistent challenges such as outmigration and infrastructure decline (Bätzing 2015). These issues remain central to public debate on a region's attractiveness and economic viability (Simmen et al. 2006).

In line with a *modern understanding of nature conservation* promoting both ecological preservation and socio-economic development (Weixlbaumer et al. 2020), protected areas (PAs) are regarded as key instruments for sustainable regional development (Job et al. 2005). Biosphere reserves (BRs) as *model regions for sustainable development* (Borsdorf & Jungmeier 2020) and regional nature parks (RNPs), preserving cultural landscapes (Weber 2013), operate within multi-level governance systems. These frameworks enable coordination across administrative levels and sectors, fostering participatory, consensus-based regional planning and development (Pütz & Job 2016; Kühne 2010).

However, the relationship between nature protection and local economic interests remains controversial since conservation is still associated with a *prohibitive character*, restricting landscape exploitation and economic activities (Borsdorf & Jungmeier 2020; Sacher & Mayer 2019; Coy & Weixlbaumer 2009). In many rural areas, particularly in the Alps, these tensions cre-

ate local resentment, as communities fear losing access to critical resources for agriculture, settlements, and transportation (Simmen et al. 2006; Maschke et al. 2020). This also applies to the Mont Viso border region in the Cottian Alps, encompassing the Mont Viso (3,841 m) and parts of the Italian Piedmont and the French Provence-Alpes-Côte d'Azur. Despite its promotion to foster sustainable regional development, the designation of the cross-border UNESCO Biosphere Reserve Mont Viso (UBMV) in 2014 met with considerable resistance at the municipal level, especially in the Italian Valle Pellice, where many municipalities opposed participation due to fears of economic losses (CIPRA International 2019).

Given global conservation goals like the 30% protection target set at the UN Biodiversity Conference (COP15) in 2022, reconciling environmental protection with local economic interests is increasingly urgent. This article therefore explores how PAs stimulate sustainable economic development in remote Alpine regions. It examines the structural conditions that shape the UBMV's actions and asks whether these actions contribute to structural change in support of sustainable economic development in the Mont Viso border region. Drawing on Weber (2013), the study triangulates actor-centred institutionalism (Mayntz & Scharpf 1995) and structuration theory (Giddens 1984), conceptualizing PAs as strategic *corporate actors* in regional development. In this regard, the study defines *territorial agency* as the capacity of PAs to initiate and sustain structural transformation dependent on legal authority and financial resources.

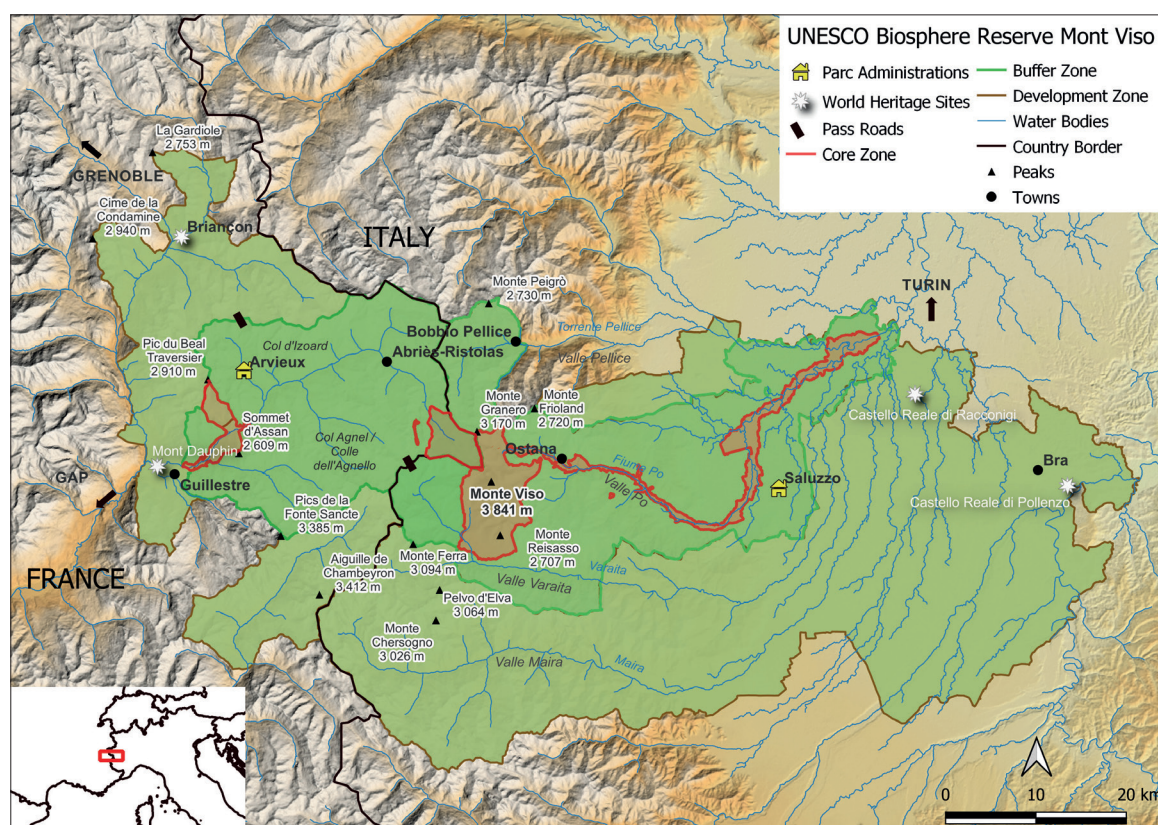


Figure 1 – The UNESCO biosphere reserve Mont Viso. Source: Copernicus 2022; Eurostat/GISCO 2016 2022; Parc naturel régional du Queyras 2022; Parco del Monviso 2022; own figure.

The Mont Viso border region

The Mont Viso border region (N44.66789089132902, E7.090466572196286) encompasses over 420,000 hectares with more than 300,000 inhabitants in the province of Cuneo in north-western Italy, and the departments of Hautes-Alpes and Alpes-de-Haute-Provence in south-eastern France. Located in an inner Alpine arid zone, the territory features the Mont Viso massif, high Alpine valleys, the Po river's source and plain, the Durance river basin and dense forests with unique wildlife and endemic species (CIPRA International 2019; Knauer & Voll 2005; Parc naturels régionaux du Monviso & Parchi naturali regionali del Monviso 2007). The region's topography limits agriculture to small-scale practices, with tourism developing more gradually than in other Alpine areas. Local crafts provide supplementary income (Parco del Monviso 2021). Barely accessible high Alpine valleys and resistance to *modern development* have contributed to a substantial exodus in recent decades, marginalizing the region (Knauer & Voll 2005).

However, nature conservation efforts since the 1980s have been successful, particularly early cross-border initiatives such as monitoring the endemic Lanza Salamander (Knauer & Voll 2005; Parc naturels régionaux du Monviso & Parchi naturali regionali del Monviso 2007). Since the beginning, the French Parc Naturel Régional du Queyras (PNRQ) and the

Italian Parco del Monviso (PNRMV) cooperated closely, culminating in the transnational designation of the UBMV in May 2014. Jointly managed by the two RNPs, the UBMV aims to establish cross-border governance for a common territorial development strategy, promoting a socio-ecological transition and fostering exchanges between high alpine valleys and river plains while emphasizing the region's cultural heritage. But the idea met with resistance in the Pellice Valley. On the Italian side, the park official overseeing the UBMV characterizes the negotiations as follows:

"When the authorities [of the Piedmont region] wanted to expand the park area, there were many reactions. Meetings were organized, the authorities were represented there, and it was a strong argument, not physically, but very, very strongly polemical. And the authorities understood there was no possibility of extending the park there." (Author's translation)

This is why the UBMV territory is cut to the north (Figure 1).

Conceptual background

The EU's regional development strategy adopts an integrative policy paradigm that seeks to promote the endogenous potential and ecological resources of rural regions through *territorial governance*, defined as coordinated action among public and private stakeholders at the regional level (Böcher 2009; Esparcia & Abbasi 2020). This has evolved into a *neo-endogenous* ap-

proach, emphasizing intersectoral coordination within multi-level governance arrangements (Dax 2020). In this context, PAs such as BRs and RNPs are seen as instruments for sustainable regional development, particularly in economically weak, peripheral regions (Job et al. 2005). Established through participatory processes, they facilitate vertical and horizontal coordination across political frameworks and policy sectors (Pütz & Job 2016). While nature preservation aims to maintain a territory's *ecological function* (Hammer 2003), the modern paradigm of nature conservation integrates ecological protection and socio-economic development (Weixlbaumer et al. 2020). This is particularly evident in BRs, envisioned as *model regions for sustainable development* (Borsdorf & Jungmeier 2020), and RNPs, preserving cultural landscapes (Weber 2013). They contribute to the protection of fragile ecosystems and the socio-economic development of a region (Broggi et al. 2017; Weber 2013). Yet their economic impact remains contested, prompting calls for further research beyond tourism (Price et al. 2021; Sacher & Mayer 2019; Mayer & Job 2014).

Drawing on Weber (2013), this study triangulates Giddens's theory of structuration (1984) and the concept of actor-centred institutionalism according to Mayntz & Scharpf (1995) to assess the impact of the UBMV and its two managing organizations, the PNRQ and the PNRMV, on sustainable economic development in a peripheral mountain region. The study analyses PAs' strategic behaviour as corporate actors within regional development processes. It focuses on the actions of the UBMV, seeking to reconstruct the material and legal resources it draws upon in its actions. This theoretical-conceptual approach enables the analysis of interactional changes. It offers insights into the extent to which the UBMV controls processes and dynamics that either support or constrain sustainable economic development at the regional level. Particular attention is given to its capacity to promote sustainable economic development through structural transformation.

Methods

The study used a qualitative approach to explore the functioning of the two RNPs and the UBMV, focusing on identifying factors that motivate or hinder action. Semi-structured interviews were conducted with PA administration representatives, regarded as administrative and internal organizational processes experts. To assess the impact of activities and measures on those directly affected and the influence of PAs on local economic development, additional interviews were conducted with local economic stakeholders, including tourism professionals, artisans and farmers. In total, 17 interviews were completed during a 4-week field trip in spring 2022, with participant contact facilitated through the *gatekeeper* function (Mattissek et al. 2013) of UBMV employees in France

and Italy. The research strategy followed a deductive logic in line with Mayring's (2015) approach to qualitative content analysis. Based on this multi-perspective theoretical framework, a theory-guided coding scheme was developed to categorize the interview material according to the study's analytical interest. The analysis aimed to identify the spatial and social structures that shape and constrain the three PAs in the Mont Viso border region, helping to evaluate the extent to which they exercise agency in mobilizing or reshaping these structures to foster sustainable economic development.

Results

The analysis reveals that the differing national and historical structural conditions of each PA lead to inconsistent interpretations of sustainable development in the Mont Viso region, influencing the UBMV's efforts to promote sustainable economic development.

Legal and material means for actions

The 2014 UNESCO designation was followed by an interministerial agreement between France and Italy, formalizing transnational collaboration and establishing a legal framework for the UBMV. This joint *MAB Mon Viso* (MAB – UNESCO Man and the Biosphere program) dossier promotes sustainable development

Infobox

French Parc Naturel Régional du Queyras (PNRQ)

The PNRQ, established in 1977, is one of France's oldest and smallest nature parks. Created under the 1967 national decree on regional nature parks, it promotes sustainable regional development while preserving the landscape. It operates under a 5-year charter and is funded by local municipalities, the Provence-Alpes-Côte d'Azur region, and public and private sponsors.

Italian Parco del Monviso (PNRMV)

Reorganized in 2016 under Regional Law No. 19 (2015), the PNRMV focuses on nature conservation across Monte Viso's slopes and the River Po, encompassing several smaller conservation areas. In addition to managing these protected areas, the PNRMV oversees research and environmental education and promotes sustainable agriculture and tourism. The Piedmont region and local partnerships fund it.

UNESCO Biosphere Reserve

The UNESCO biosphere reserve designation zoned the Mont Viso border region into: a *core zone*, including the PNRMV and the *Réserve naturelle de Ristolas* within the PNRQ under existing conservation laws; a *buffer zone*, covering the rest of the PNRQ and the Italian Valle Varaita, focusing on sustainable resource management; and a *development zone*, including the lowlands, Valle Maira, and Vallée de l'Ubaye, promoting sustainable development without legal restrictions (see also Figure 1).

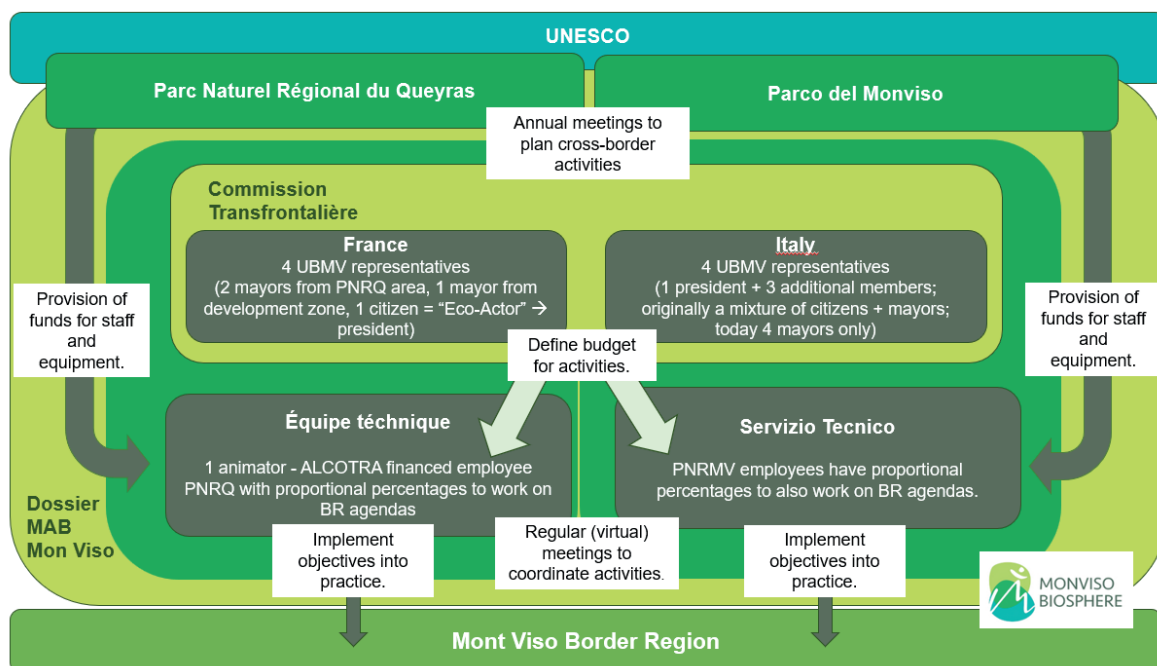


Figure 2 – Legal and Material Means for actions. ALCOTRA – INTERREG ALCOTRA program (*Alpes Latines COopération TRAnsfrontalière*); MAB – UNESCO Man and the Biosphere program; PNRMV – Italian Parco del Monviso; PNRQ – French Parc Naturel Régional du Queyras; UBMV – UNESCO Biosphere Reserve Mont Viso. Source: own design.

aligned with the core, buffer and development zones. The joint UBMV management is complemented by a transnational commission (*Commission transfrontalière* or *Commissione transfrontaliera*) to plan BR activities. Since UNESCO does not allocate material resources, the two RNPs fund staff and equipment costs. Additional funding is secured through public tenders, particularly from the INTERREG ALCOTRA program (*Alpes Latines COopération TRAnsfrontalière*) supporting cross-border collaboration. Several UBMV actions are also co-financed by the respective environmental ministries, enabling the PNRQ to hire a dedicated employee to oversee UBMV actions (Figure 2).

Actions

The UBMV pursues three objectives: conserving biodiversity; promoting sustainable development that favours cultural heritage and a *green economy*; and providing technical assistance for local sustainable economic practices. One initiative that specifically aims to promote sustainable economic development is the *Eco-Actor* network (*Éco-Acteurs* or *Eco-Attori*), targeting individuals, businesses, associations and cooperatives. Participants must already be engaged in sustainable development and seek to expand their commitment. Candidates submit a dossier outlining goals they aim to pursue in alignment with the Sustainable Development Goals (SDGs). Upon review by park staff, successful applicants sign a *Declaration of Commitment* (*Charte d'Engagement* or *Carta d'Impegno*) and receive a plaque (Figure 3).

The award recognizes commitment to sustainable development, positioning *Eco-Actors* as sustainability

ambassadors. Through voluntary meetings and trainings, the UBMV established a network of like-minded individuals, promoting exchange and collaboration within the BR. *Eco-Actors* represent various economic activities, including organic farming; craft cooperatives; hospitality businesses; restaurants focused on circular economy principles and regional products; and travel and event agencies connecting tourists with the local culture and population.

The two RNP administrations coordinate local involvement, though resource disparities between the PNRQ and the PNRMV affect the coordination. Communication on BR-related topics, for instance, depends on each RNP's capacity to integrate them into their websites, newsletters and social media. National differences also exist in external stakeholder involvement. While *MAB France* sets BR guidelines and offers advisory support, Italy coordinates actions with the Ministry of the Environment in the absence of a similar body.

Scope for action

The UBMV builds on natural and socio-cultural similarities, with transnational collaboration viewed by the local population as key to addressing current challenges and strengthening prospects. In this context, the joint *MAB dossier* legally supports involving a significantly greater number of municipalities and a larger population in sustainable development activities, expanding the spatial and thus operational scope of the two RNPs. Additionally, interviewees emphasized that the legal framework provides more autonomy in priority-setting than the PNRQ and the PNRMV legal



Figure 3 – Logo of the Eco-Actors of the UBMV and plaque of the Italian Valle dell'Eco cooperative. Sources: Parco del Monviso 2021. © Sauerwein-Schlösser

bases. For the PNRMV, this represents an opportunity to overcome legal constraints since UBMV management allows the Italian park administration to address a broader range of issues and collaborate with stakeholders beyond its core nature conservation role.

Moreover, the UBMV's actions and interactions benefit the population economically. While the BR designation did not impose additional restrictions, UBMV initiatives support sustainable economic activities. As such, the *Eco-Actor* network enhances the visibility and scope of niche economic activities. Sustainable development in the UBMV is furthermore based on the principle of voluntarism, respecting individual motivation while promoting alignment with the SDGs and identification with the Mont Viso region. In this context, the UBMV's assistance for *Eco-Actors* helps to access financial resources and political representation that agricultural cooperatives, artisan groups and small hospitality businesses lack compared to politically influential traditional sectors.

Transnational collaboration further amplifies these efforts, aligning with the region's socio-economic realities. Several cooperatives and local businesses, including French *artisan collectors* and an Italian craft cooperative specialized in mountain architecture, already engage in cross-border activities. The UBMV's actions enhance these local economies, create new economic links and expand markets, such as a French artisan cooperative now stocking Italian products. Overall, the UBMV strengthens and extends sustainable economic cycles in the region.

Limits of action

However, the main obstacle is a lack of legal and material resources. Unlike RNPs governed by national or regional laws, BRs lack binding authority, making their implementation voluntary. Moreover, the sponsorship division between the two RNPs creates dependency and power imbalances, positioning the UBMV as a subordinate administrative task. One of

the interviewees from the PNRQ administration illustrates this with an example:

"A colleague working on agriculture has done a lot of work on food in an area that is larger than that of the park, and even a little larger than that of the French part of the Réserve du Mont Viso. But he has never advertised these actions as being within the framework of the Réserve du Mont Viso. And yet, it was perfectly in keeping with the idea of a biosphere reserve. However, as the Réserve du Mont Viso did not finance it, he worked with other partners who were not in the same area. That is the difficulty with all these geographical differences and different structures. A lot is going on in the Réserve du Mont Viso. But we do not necessarily say that the Réserve is doing it." (Author's translation)

This situation also affects transnational collaboration. The PNRQ and the PNRMV hold decision-making power, while the *Transnational Commission* has been inactive since 2017, weakening its legitimacy. Consequently, transnational collaboration is undermined, as the RNPs' decisions are based on local conditions and interests without comprehensive transnational coordination. Furthermore, the PNRQ's dedicated employee benefits only the French side, leaving the PNRMV to manage tasks independently, creating a sense of inequality.

Additionally, the interests of municipalities in the development zone are insufficiently considered, and the UBMV's reliance on the RNPs' communication channels further complicates engagement. The UBMV's spatial lack of visibility contributes to a blurred distinction between different PAs in the public's perception, with the BR category only partially recognized. Unless directly involved, locals lack understanding of the UBMV's objectives, highlighting the need for greater outreach. *Eco-Actors*, moreover, feel their network is not fully leveraged, citing infrequent meetings and a lack of promotional materials, such as flyers or brochures. However, limited material means hinder such efforts. Furthermore, the *Eco-Actor* award is criticized as a certification with limited consumer signifi-



Figure 4 – Comparison of the economic benefits of different awards. © Sauerwein-Schlösser

cance. Unlike the *organic* label or *Booking.com* awards, it lacks specific quality attributes and recognition (Figure 4). At the time of data collection, the Covid-19 pandemic had severely impacted UBMV actions, especially cross-border exchanges between *Eco-Actors*. However, the physical inaccessibility of the Mont Viso massif remains a structural barrier even beyond the pandemic, distinguishing the UBMV from other cross-border EU projects.

The UBMV thus demonstrates strength by transcending the spatial and conceptual boundaries of the PNRQ and the PNRMV, expanding cross-border interactions. This ability is key for initiating structural transformation. The UBMV can be understood as adopting a *territorial governance approach*. However, its engagement in sustainable development through socio-cultural and socio-technical innovations remains selective. Limited by the absence of legally defined responsibilities and insufficient financial and human resources, the UBMV falls short of its stated goal to “reconcile nature conservation and biodiversity preservation with human activities”, as the French UBMV employee noted. These limited means of action hinder the UBMV from exercising the full *territorial agency* necessary to support a sustainability transition in the Mont Viso region.

Discussion

PAs are seen as key instruments for sustainable regional development in the Alps, though concerns about economic restrictions due to conservation measures remain. The Mont Viso case exemplifies this tension, where low awareness of PA objectives hinders understanding and acceptance (Lindern et al. 2020). Yet, the analysis reveals a more nuanced reality. Instead of imposing additional conservation constraints, the UBMV designation expanded the existing RNP territories through a *development zone*, enabling support for entrepreneurial and socio-cultural niche activities and strengthening cross-border socio-economic dynamics. While this approach reflects a basic form of *territorial governance* in line with the SDGs,

structural frameworks alone are insufficient to drive transformative change.

Effective contribution to regional development requires PAs to go beyond coordination and consensus-building and to develop a *territorial agency*. This agency depends on legal and financial resources. PAs equipped with strong institutional mandates, adequate funding and sufficient personnel may promote sustainable economic development in peripheral mountain regions by supporting bottom-up initiatives, stimulating socio-economic dynamics and preserving unique natural and cultural assets, thereby advancing sustainability transitions.

Yet PA designations are often politically motivated to stimulate rural economic development (Pütz & Job 2016). Such instrumentalization can conflict with broader sustainability goals that emphasize long-term *responsible* resource use over short-term growth. In this study, *adding value* is thus redefined as enhancing regional potential and economic cycles. However, communicating this shift in purpose remains difficult, particularly with regard to how effectiveness is measured. Although monitoring is central to PA management, it often lacks practical relevance for decision-makers and stakeholders (Huber & Köstl 2020). To address this, value chain analysis offers useful insights into the economic impact of PA management on regional income (Kraus et al. 2014). It can be complemented by solid sustainable tourism planning (Job et al. 2017) and by advancing strategic levers, such as expanding market-based tools like the *Eco-Actor* label, integrating economic themes into education for sustainable development (Kraus et al. 2014) and diversifying local economies (Hora 2017).

Ultimately, the ability of PAs to act as *transition managers* (Frantzeskaki & Loorbach 2012) depends not only on institutional frameworks, but also on the quality of governance practice. In the Mont Viso region, political representatives control decision-making, resulting in a *top-down governance* model (Pflitsch & Strambach 2018). This can cause *ecological errors*, where political and economic priorities override spatial characteristics and endogenous development potentials (Marsden 2012). To counteract such dynamics, PAs must align with the principles of *good governance* (Broggi et al. 2017). In addition to improving socio-economic monitoring and planning (see also Buer et al. 2014), implementing a *comprehensive and transparent communication strategy* is essential in actively involving local communities (Baumgartner et al. 2022). Only through such reflexive and inclusive approaches can PAs successfully balance conservation with socio-economic development, thereby becoming effective agents of sustainability transitions in Alpine regions.

Acknowledgements

This study was conducted as part of a Master's thesis. I thank my supervisors, Professors Martin Coy and

Markus Schermer, for their valuable guidance, and the PNRQ and the PNRMV administrations for supporting my fieldwork. The research stay was funded by a Scholarship for Short-Term Scientific Work Abroad (KWA) from the International Relations Office of the University of Innsbruck.

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