CHAPTER 4

Livek: A Mountainous Border Area’s Transformation from a Ski Paradise to a Resilient Community

Mimi Urbanc and Mateja Šmid Hribar

Abstract This chapter focuses on the resilience, capacity, and role of the sociocultural context in climate change adaptation in a small and marginal local community that prides itself on an affluent past based on ski tourism and agriculture. The empirical part is built on a case study of Livek in the hilly northwestern part of Slovenia on the border with Italy, and it includes data from available literature and a series of interviews with two local opinion leaders. The results show that, in the absence of local-specific and targeted national or regional measures, the path of transition has relied on the community’s internal strength and motivation, mostly stemming from flexibility, stubbornness, identity, and place attachment. A crucial role was played by several NGOs and the Livek Agrarian Community, promoting various activities to improve the quality of life in both tangible and
non-tangible aspects. In a favourable regional and national context, the community of Livek succeeded in turning its negative development trends around and adapting to current climate conditions.

**Keywords** Livek • Slovenia • Marginality • Climate change • Tourism • Resilience

**INTRODUCTION**

This case study explores the resilience, capacity, and role played by the sociocultural context in adaptation to climate change in the Local Community of Livek (named after its largest settlement) in northwestern Slovenia. Livek is located between the Soča (Ital. Isonzo) and Nadiža (Ital. Natisone) Rivers, 8 km from Kobarid, the seat of the municipality (Fig. 4.1). The entire area, measuring 11.2 km², is characterized by high

![Fig. 4.1 Map of the local community of Livek; location within the Municipality of Kobarid and Slovenia](image-url)
elevations with sloping shelves, long steep hillsides, wide passes, and gentle mountain ridges. The ridge with Mount Matajur (Ital. Montemaggiore) comprises part of a physical-geographical transition between the colder alpine orographic system and warmer sub-Mediterranean/Dinaric, shaping the area’s living conditions. The community is composed of several villages and hamlets scattered across hilltop plateaus between Mount Kolovrat (1243 m) and Mount Matajur (1642 m): Livek (695 m), Perati (828 m) (Fig. 4.2), Avsa (822 m), Jevšček (805 m), and Livške Ravne (1043 m). Altogether 263 people lived in the area in 2019 (Stat-Si 2019).

Among anthropogenic characteristics, the geopolitical location, skiing, and agriculture are noteworthy. Culturally and economically, the area gravitated toward the Friuli Plain in present-day Italy. It was significantly affected by extremely turbulent historical development, with continually changing borders assigning Livek to more than ten political configurations, mostly in their immediate frontier zones. In addition to the feeling of being on a border, skiing has shaped the local identity. Skiing began here as early as 1910 and reached its peak between the 1960s and

---

**Fig. 4.2** One of the settlements in the Livek area, Perati, at 828 m (photo: Boris Drešček) and Culture
mid-1980s, when Livek was still small, but a vibrant and thriving ski resort (Roš 2019). The development of ski tourism went hand in hand with agriculture, characterized by a small-scale ownership structure and less-favourable conditions and supplemented by earnings from agriculture and vice versa. It was easy to reconcile farming with tourism services efficiently due to their alternating seasonality. However, with climate change in the last decades of the twentieth century, the promising nexus of tourism and agriculture supported by relaxation in border regimes started to collapse (Roš 2020). In addition, the remote location also contributed to depopulation and economic recession. Therefore the locals needed to find ways to adapt to the new situation and develop strategies for making a living in this backwater Alpine area.

**Climate and Culture**

*Climate Change and Its Impact*

*Physical and Climate Characteristics*

Many studies have shown that the climate in the Alps has already been affected by global warming, which is evidenced not only by rising temperatures but also by many other aspects, such as an altered precipitation regime and changes in insolation, humidity, water conditions, snow cover, floods, droughts, natural hazards, vegetation, and soil (e.g., Gobiet et al. 2014; Chersich et al. 2015; Hrvatin and Zorn 2017). Gobiet et al. (2014) expect that the change in the annual precipitation cycle with a summer decrease (particularly in the southern part) and a winter increase will continue, and in combination with a temperature change this will lead to floods, droughts, snowpack, and natural hazards. In addition, climate change is predicted to challenge not only the natural environment but also the socioeconomic conditions in the Alps (Chersich et al. 2015).

A climate crisis has already been observed in the Livek area. Although the Municipality of Kobarid belongs to the Julian Alps, due to orographic characteristics some parts of the area are influenced by warm Mediterranean air masses that move inland along the Soča and Nadiža Valleys (Pavšek 2011), and they therefore experience a milder climate than most of the Julian Alps. The average temperatures (annual 10–12 °C, January 0–2 °C, and July 20–22 °C) make the area comparable to nearby Mediterranean regions (Pavšek 2011). Hrvatin and Zorn (2018) report that at nearby
Mount Krn (6 km away and about 100 m higher in elevation) the temperature has risen by 1.45 °C from 1961 to 2010. The average rainfall in the Livek area is abundant, at 2500 mm per year (Nadbath 2017). However, a decline already started in 1969 and has been particularly strong, with some exceptions from 1981 to 1990 and from 2003 to 2007 (Fig. 4.3).

Furthermore, the distribution of rainfall has changed over the years. Even though there is enough precipitation, rainfall might occur when it too warm to snow, resulting in winter months being drier than they used to be. For example, this happened in 1992 (Fig. 4.4); the total precipitation was 2693 ml, but the winter (January–April 1992) was dry, with only thirteen days of snow cover. Figure 4.4 shows a declining trend in the number of days with snow cover in Livek from 1968 to 2011; this can be recognised with the maximum in the 1985/1986 winter season and the minimum in the 1989/1990 season (the 1970/1971 season lacks a complete data set). Unfortunately, precipitation data for Livek after 2011 are not available. Similar trends in snow cover have also been observed in other parts of the Julian Alps; Hrvatin and Zorn (2017: 24) report that from 1961 to 2010 at eleven of the twelve precipitation stations the number of days with snow cover decreased by 16 to 49%. The only exception was Mount Kredarica, at 2515 m.

It appears that the lack of snow cover has posed a more significant challenge than the temperature rise and changes in precipitation. Livek was
one of the first areas in Slovenia to face ‘green winters’. Already in the 1970s, the area occasionally experienced winters with a significant lack of snow cover. The trend has continued up to the present day. Based on available data (Fig. 4.5), this was mostly due to a combination of the

![Fig. 4.4](image)

Fig. 4.4  Amount of precipitation (mm) and number of days with snow cover per month in Livek in 1992 (Arhiv meteoroloških 2020)

![Fig. 4.5](image)

Fig. 4.5  Days with snow cover during the snow seasons in Livek from 1968 to 2011. For the 1970/1971 and 1974/1975 snow seasons (red numbers) not all data are available. A decline in the number of days with snow cover is visible (Arhiv meteoroloških 2020)
temperature rise and changes in precipitation distribution. Green winters not only affected Livek’s reputation as a tourism area for skiing and ski-related activities, but also—presumably more pressing—its water supply. In the past, the spring and summer snowmelt guaranteed the availability of potable water. The issue is exacerbated by the geological composition, with a prevalence of permeable bedrock resulting in inadequate surface water sources. Therefore, the area largely depends on precipitation, and a change in precipitation distribution with peak rainfall in autumn has led to drought in some recent summers. A similar climate change process and trends have been observed all over the Julian Alps (Hrvatin and Zorn 2017).

**Historical and Social Characteristics**

The population history and the recent demographic situation reflect a convoluted state of affairs, including but not limited to continually changing borders, a remote location, and historical connections with the Friuli Plain in Italy. These contributed significantly to perceived peripherality in a geographical, economic, social, or linguistic sense by both outsiders and insiders establishing a strong local identity despite negative demographic trends. The population in Livek has been decreasing since the population peak (669 residents) in the mid-nineteenth century (Krajevni leksikon Slovenije 1995). The drop has been more pronounced in the smaller higher-elevation settlements of Jevšček and Livške Ravne. Interestingly, a new settlement called Perati emerged in the late 1990s. In 2019 Livek had a population of 176, Avsa thirty-five, Jevšček twenty-two, Livške Ravne thirteen, and Perati seventeen. Since 2002 more than half of the population has lived in the central settlement and the share is increasing (e.g., 56% in 2002 and 67% in 2019; Census 2002; Stat-Si 2019). However, despite the persistent decrease, the community is still vital, which is proved by the increasing share of young residents (age 0–14) and the decreasing share of the elderly population (age 64+) in the last decade (Uvajanje 2017). Both indicators also show a favourable situation compared to the municipal average.

Borders, especially three of them, merit special attention. The first one was the border between the Republic of Venice and the Habsburg Monarchy (1420–1797), with Livek belonging to the former. Already in 1613, the Venetians allowed Livek’s peasants to cultivate municipal pastures and forests and turn them into meadows and fields, providing an impetus for agricultural development. Following the collapse of the Republic of Venice in 1797, the metropolitan part of the disbanded state,
including Livek, became an Austrian territory under the name of the Venetian Province. The second life-changing border was established in 1866, when the entire Venetian Province, except Livek, was incorporated into the newly established Kingdom of Italy. The imposition of this boundary ultimately prevented the Slovenian population of the Venetian province in Italy (i.e., the Venetian Slovenians) from unifying with their linguistic kin in Slovenia (Josipović 2014). Livek remained on the border of the Austro-Hungarian Monarchy until the end of the First World War, during which the border was the battle line of the infamous Isonzo Front. The Treaty of Rapallo in 1920 shifted the border to the east for twenty years onto the watershed between the Soča and Sava basins. After the Second World War and after the politically and militarily sensitive period of existence of the Free Territory of Trieste (the Livek area belonged to Zone A of Anglo-American military rule) up to 1954, the boundary was moved back to its 1918 position, where it has remained until the present. This tight and closed boundary was perceived as very traumatic because it cut centuries-long economic, cultural, and social ties. To prevent illegal border crossings to the Italian side, the Yugoslav authorities ordered the border cleared of forests. A small border crossing allowing local border transport was only opened in 1957. Herein lies the reason that the border opening in 2007 takes on particular meaning; after five hundred years of belonging to ten different frontier zones, a borderless period finally arrived.

Skiing was introduced by Austrian soldiers in the early 1900s to patrol the area more effectively, and Italian soldiers continued the practice after the First World War; both of these practices inspired the local population. With modest attempts in the early days, lively recreational skiing took place between the two wars (in the 1930s), when the first ski jumping facility, a 30-meter structure, was built. Livek was connected by buses and trucks with nearby Italian towns, and even with Venice and by a shuttle ski bus with Cividale. The place flourished, hence its nickname: the Davos of Friuli. Many houses offered tourist accommodation and food, and young men earned money by carrying ski equipment. After the Second World War, Livek was the only ski resort in Zone A of the Free Territory of Trieste. In 1948, the Matajur Ski Club was established in Livek. In 1950 a new ski jump was constructed based on plans by the engineer Stanko Bloudek (who also designed the ski jump facilities in the world-famous Planica Valley). Construction of ski lifts and lodges on the slope of Mount Kuk began in 1962. Livek developed into a modern ski centre with three lifts and a ski lodge, and its amazing view earned it the name Nebesa.
'Heaven’. Despite ambitious plans, a lack of snow irreversibly affected the Livek ski slopes. In the 1990s, the ski resort was in its last gasps (Roš 2019, 2020).

The downfall of ski tourism coincided with the restructuring of agriculture not only in the Livek area but generally in Slovenia, especially cattle farming, which substantially prevailed in Livek. Already in 1896, two small dairies started operating, and in 1970 a 5 km pipeline was built to transport milk straight to the Planika dairy in Kobarid twice a day (Krajevna 2020). The milk pipeline, which was the second-longest in Europe, ceased operating in 2006, when the primary sector was fragile due to a prolonged crisis; the most rapid structural changes happened between the early 1990s and 2003. Slovenian agriculture is characterized by land fragmentation, small and medium-sized farms, and harsh production conditions, which is especially true for mountainous areas. Complementing incomes derived from farming with revenues stemming from non-agricultural sources were necessary (Bojnec and Latruffe 2013). In the mid-1980, a crisis in both agricultural and non-agricultural sectors affected Livek’s residents, leading to the restructuring of cattle farming, and especially dairy farming. The situation has completely changed since the mid-1990s. The number of dairy farms, which prevailed in Livek, for instance, declined by 60% by 2010, and the number of animals by 25% at the national level (Kocjančič et al. 2018).

**Problem Statement**

Although ski tourism was never an independent industry for the residents of Livek, it supplemented incomes, especially for small dairy farms. By coincidence, the crisis in both sectors overlapped. Mild winters with fewer days of snow cover depleted the potential for developing skiing (artificial snow was not an option due to the lack of local water resources) and agriculture took a step backward due to structural changes in dairy farming, which affected less-favoured mountain areas more severely. Many people sought jobs in nearby towns and also across the border in Italy. By abandoning agriculture, the slopes, once ideally suited for skiing, were taken over by spontaneous overgrowth that further reduced the potentials for skiing and farming.

If people wanted to stay in the area, they needed to adapt, and this process is still going on, keeping the area populated and vital. Such development is particularly remarkable, considering that most neighbouring
villages and hamlets across the border in Italy have been facing pronounced depopulation for decades, with some examples of complete abandonment. Such a trend is evident on the Slovenian side as well (Josipovič 2014). Conversely, in the Livek area, the residents endured and stopped the process. An increasing number of younger people decided to stay and raise their families there, but the situation is not entirely stable yet. In order to achieve firm stability and resilience, the community needs a better-skilled labour force (i.e., with a higher education level) and entrepreneurial ideas.

Given climate change, it is highly likely that drought will be one of the most significant burdens in the coming years. Therefore the current challenges already identified among the locals are to address the poor condition of the water distribution system efficiently and to provide additional water resources.

**A Response Without a Response: A Total Absence of Planned Counteractions**

When the ski slope was abandoned and the facilities left to deteriorate, at the national level neither politicians nor climate science researchers considered climate change a concern. Moreover, unemployment was not an issue because the planned economy—even though economic and political problems had already been clearly outlined—was still in place, and most of the ski resort employees were regularly employed at the TIK factory, the owner of the ski resort. To complete the set of reasons for neglecting the issue of ski tourism failure, the situation in farming and the attitude toward it should be mentioned. Agriculture was widely neglected in communist Yugoslavia (Klemenčič and Genorio 1993), and when measures to boost farm production were finally introduced in the 1980s (Cochrane 1988), mountain farming was already at a critical turning point (Erjavec et al. 1998). Transition to a market economy after 1991 with the elimination of price controls cast agriculture into a state of considerable uncertainty, combined with the disruption of long-established trade contacts (Turnock 1996). The decline in agriculture occurred in parallel with the general economic recession from the mid-1980s onward, and probably reached its low point after Slovenia proclaimed independence in 1991.

The Livek area did not experience institutional or governance arrangements providing adaptation and mitigation measures with targeted measures tackling declining ski tourism and its consequences or agricultural challenges. Yet, the situation did not become critical for two reasons. First,
part-time employment has traditionally been significant for Slovenian family farms (Razpotnik Visković and Seručnik 2013) and, second, it was spontaneously mitigated by contextual features; that is, national policies tackling the issue indirectly. A polycentric regional development approach that supported the existence of non-agricultural activities, local off-farm employment, and income opportunities in smaller rural towns starting in the early 1970s (Nared et al. 2017) is first to be singled out. People were therefore able to find employment in industry in nearby Kobarid and in tourism services in the wider area (the Upper Soča Valley).

There were no planned responses to the closure of the ski slopes from non-governmental sites either. Adaptation measures would first be expected from the ski slope company itself, but this was not the case. The skiing infrastructure was owned by the TIK factory in Kobarid—a producer of medical equipment—which concluded lease contracts with landowners. The core of the company’s business was not tourism-related, and so developing adaptation strategies was not crucial for its operational performance. The economic crisis in the 1980s might be the reason why the ski slope owner did not invest in technological improvement, let alone artificial snowmaking, which was rare outside of Austria and Switzerland before the mid-1990s. However, as stated above, artificial snow was not an option due to Livek’s scant water resources.

The reasons for the complete absence of a proactive response from individuals gaining (additional) income in the tourism industry are even more complex and convoluted. The people involved individually followed their private strategies within a broader regional and national context without the ski industry. One reason might be detachment of ski slope management from the locals. Unlike the period before the Second World War, when ski tourism development was embedded within the local community, after the war local people were no longer stakeholders. Having had no say in the process, the locals did not feel asked to reply to this challenge. In addition, the timing coincided with turbulent political and social changes in Slovenia. The 1980s and the beginning of the 1990s saw gradual democratisation (which ended in the introduction of a multiparty system) and the struggle for national emancipation (which ended with the formation of a sovereign state). There were many consequences of the political, social, and economic changes that followed independence and the transition from a totalitarian communist social system to a democracy and market capitalism (Drozg 2007). One of the essential changes was denationalisation (reprivatisation) of agricultural lands, which made
possible the revitalisation of agrarian communities (Petek and Urbanc 2007; Premrl et al. 2015; Šmid Hribar et al. 2018). The agrarian communities managed the common property; that is, agricultural and forest land (pastures, forests, fallow land, and ponds), particularly in hilly areas that remained undivided after the completion of the agrarian reform in 1848 (Petek and Urbanc 2007). Like elsewhere in Slovenia, Livek Agrarian Community was abolished in 1947 and again in 1965, and the property was nationalised (Zakon o agrarnih 1947; Zakon o razpolaganju 1965). New legislation (Zakon o ponovni 1994) made it possible to return the property to the former Livek Agrarian community, which was re-established in 1996. Eighty-one initial members collectively own and manage six hundred hectares of mostly forests (Drešček 2020).

Gradual Transition after 1991: Power and Agency

After proclaiming independence, Slovenian society started its transition to political democracy and a market economy. For the case study, several facts are relevant. First, the democratisation process was based on the bottom-up principle, which was conceptually new because in communist Yugoslavia all decisions were imposed top-down and the local population did not have a voice in decision-making processes. In independent Slovenia, people became involved either through territorial groups (local communities) or various interest groups (e.g., non-governmental associations, societies, clubs, study circles, etc.). A window of opportunity opened up for civil society, whose role proved to be crucial for the collapse of the communist-dominated regime (Bebler 2002), to be involved in the decision-making process. Second, the new economic system switched its orientation from a planned economy to a market economy, allowing private initiatives. Third, Slovenia changed its regional policy orientation from top-down imposed regional policies to endogenous regional development building on regions’ potentials (Nared 2007, 2020).

It took some time for people living away from the economic and political centre to grasp a new reality. This was the case for Livek. The initial entrepreneurial activity was modest, but it gradually took on a more energetic pace. Although a considerable time was needed, tourism finally re-emerged, but in a new form. In contrast to ski tourism, which was a stand-alone point, this time the tourism infrastructure and options were scattered, forming a network following a line along the Isonzo front and the course of the Soča River.
However, the crucial factor was the locals, the embeddedness of individuals and families in the local community, belonging to the community, and attachment to an area rich in forests. It was about the adaptive capacity of people, which greatly depended on their tenacity to remain and deal with the novel situation. Slowly, together with political, social, and economic changes in Slovenia after independence, more attention was generally given to self-initiative and communities’ inner potentials. The Livek Agrarian Community should be highlighted. As an NGO, it has taken on a role that has been partially neglected by the Municipality of Kobarid. Given potential difficulties in distributing revenue incurred by timber logging among owners—some of them living abroad for decades—and the fact that the local community would not benefit sufficiently, the Agrarian Community’s council has decided to extend the circle of beneficiaries from the owners to all community members financially contributing to various local initiatives. Some recent investments benefited small-scale infrastructure activities, sports fields, training (e.g., in fire prevention), and small activities targeted at individuals’ personal lives (e.g., protective masks during the coronavirus epidemic). Not only does the Livek Agrarian Community invest its private revenue into the local community, but it has also been recognised as an exemplary forest owner pursuing the concept of sustainability to the fullest. Recently, it has been encouraging young community members to renovate the old and deteriorating inn and thus contribute to tourism development (Drešček 2020).

Networks (Relationships, Loyalties, and Dependencies)

A key actor for keeping a community together is the Local Community of Livek as an extension of the Municipality of Kobarid. Before Slovenian independence and before the introduction of the Local Government Act in 1993, local communities were a constitutional category and performed the majority of local functions. This act increased the role of municipalities and overlooked local communities. They have been deprived of formal power and reduced to the form of popular participation in decision-making on local matters. This is true for the Local Community of Livek, which acts as facilitator between people and the official administrative unit; that is, the municipality (Roš 2020), yet it lacks power and spending autonomy. This deficiency was spontaneously being well taken care of by the Livek Agrarian Community.
An essential element of agriculture is the ownership situation. Because agriculture in Livek was only on a small scale, it was not affected by institutional limitations imposed through nationalisation under communism. Consequently, after independence, it was not impacted by reprivatisation, except for land owned by the Livek Agrarian Community. The stable land ownership situation helped small farm owners resume cattle farming and thereby once again supplemented the range of tourism options. After several decades of a break, tourism and agriculture succeeded in cohabiting and complementing each other.

Due to its vitality, Livek functions as an incubator of activities, mostly in civil society, for the wider area, and especially the cross-border area of Venetian Slovenia, which has been facing intensive depopulation and out-migration (Museo etnografico 2019). Building on centuries-long political, linguistic, and economic ties, Livek is pursuing the concept of a borderless Europe.

Social Justice

People’s rights to access, use, and control land for farming and settlement depend on the ownership situation. Herein lies the reason there are only a few newcomers. There is also limited housing land available for local people (Slovenians are very hesitant to sell their property). The local population obtains housing plots by passing property down from one generation to the next. Given the vitality of economic development of the Upper Soča Valley, especially in tourism, there are many ways to readily make a living. Following the expansion of car use, the urban-rural divide has narrowed, especially in terms of living standards.

Finally, the decision by the Livek Agrarian Community to extend the beneficiary circle from joint owners to the entire local community has contributed significantly to what seems to be a unique example in Slovenia, contributing tremendously to community building and coherence.

Adaptive Capacity and Climate Resiliency

Concrete Coping Measures and Strategy Implemented (Mitigation and/or Adaptation)

There were no national, municipal, or local systematic measures to directly tackle failed tourism in Livek. However, several indirect measures allowed the local residents, who had already showed their resilience particularly
due to their frontier location and turbulent history, to remain in the area, and these measures helped them keep and consequently boost internal cohesion. Road infrastructure is vital for passenger and freight transport, allowing daily commuting. Employment options in the vicinity also played an important role. A general national policy of developing a balanced and polycentric settlement system was defined in 1986 (Dimitrovská Andrews 2006), and a regional policy orientation was applied between 1981 and 1991 based on the Law on the Promotion of More Harmonious Regional Development in the Socialist Republic of Slovenia and its subsequent amendments (Nared 2003).

After joining the European Union, efforts to achieve better territorial cohesion have intensified. Slovenia has also sought to enhance its polycentric regional development, which makes possible economic efficiency and a balanced distribution of jobs, service activities, and housing (Zavodnik Lamovšek 2003). The goals have not been met, especially in public transport. This is why roads have been so crucial for local populations. The second contextual factor is tourism development in general in Slovenia and a clear orientation toward summer tourism in the Upper Soča Valley. Spillover effects extended from the valley bottom to hilly and remote parts, providing employment opportunities in Kobarid and other towns in the valley as well as bringing daily visitors to the Livek area. Adaptation to tourism went into two directions: one toward nature-based, active/adrenaline activities (kayaking, canoeing, and paragliding) in the river valley, and the other toward heritagisation of the Isonzo Front and its artefacts in situ. Establishing the Walk of Peace trademark and strengthening it have coincided with global trends in the development of niche tourism. However, a local opinion leader (Roš 2020) has raised concerns about the high dependence on seasonal tourism without higher added value in the Soča Valley, which proved to be justified, as demonstrated by the recent situation with Covid-19. To reduce vulnerability due to one type of industry, further adaptation strategies should be considered.

There is no research on agricultural development in the Municipality of Kobarid, let alone in the case study area. However, a parallel can be drawn with the national situation. Direct payments through national funding, and then after EU integration in 2004 through EU funding, provided basic income support to farmers and contributed to slowing down the loss of farming. Especially in the last decade, this situation has been reversed by recognising the importance of financially supporting small farms (Galluzzo 2015). This is attributable not only to (supra)national
agriculture measures but also to tourism development and awareness of the benefits of locally or nationally produced food (Perpar and Udovč 2019). The agricultural situation in Livek is entirely in line with the national situation. However, cattle farming has diversified: dairy cows still prevail, but have been complemented by beef cattle, horses, sheep, and deer. Milk processing has also diversified; it is mostly combined with summer mountain pasturing and collective cheesemaking at a pasture dairy, and individually at home during the winter. Irrespective of the fact that the majority of the land is cultivated, spontaneous shrub and forest overgrowth are threatening common land, which encompasses the steepest parts and edge of cultivated land, leading to shrinking of the traditional agricultural landscape. To prevent this, the Agrarian Community offers usage rights for its common property to locals for fenced pastures, vegetable gardens, and orchards or for setting up simple sheds in return for volunteer work and active involvement in joint activities, such as cleanup operations, clearing forests, and local road maintenance (Drešček 2020).

Such an approach is quite unique in Slovenia; it is a kind of privileged sharing of natural resources with local residents that are not members of the Agrarian Community. This activity contributes to social justice and solidarity among local residents, strengthens local cohesion, and improves local identity, which is inherently linked with local culture. It is assumed that all these activities will further enhancing community resilience.

Table 4.1 presents several measures that have helped locals overcome the decline in ski tourism and that have contributed to maintaining the vitality of the area. Except for one, all the measures were taken after 1991 and have addressed both locals and tourists. It is notable and not surprising to observe that a bottom-up approach is prevailing (Fig. 4.6), particularly for measures that significantly contribute to better wellbeing and the cultural life of the local community (i.e., at the local level). Some ingrained characteristics have proved to be crucial. Proactiveness and volunteerism are two of them. Other characteristics are mutual synergies and continually evolving strategies to make a living with limited resources. These are the pillars of lessons learned that can be transferred to and implemented in other local communities that would like to act proactively to improve the tangible and intangible aspects of residents’ lives, and they are probably some of the key success factors that differentiate resilient communities from non-resilient ones. Another essential group of measures used a top-down approach at the regional level and was mostly related to improving the tourism infrastructure in the Soča Valley. The majority of measures
Table 4.1  Measures implemented after the decline of ski tourism in the Livek area

| Measures                                                                 | Type                  | Approach     | Year(s)                  | Investor                                      | Target group                        | Level                  |
|-------------------------------------------------------------------------|-----------------------|--------------|--------------------------|------------------------------------------------|--------------------------------------|------------------------|
| 1. Local road reconstruction (9 km stretch + 3 km stretch)               | Transport             | Top-down     | 1994–2011, 2016–2017     | State (partly co-financed by the EU)            | Local population + tourists          | Local, municipal       |
|                                                                         |                       |              |                          | Public, municipality                            | Tourists                            | Regional, national     |
| 2. Cross-border bus connection                                          | Transport             | Top-down     | 2018                     | Private, Livek Agrarian Community               | Local residents                     | Regional, national     |
|                                                                         |                       |              |                          | Local residents                                 | Local, municipal                    |                       |
| 3. Livške Ravne sewage system                                           | Communal infrastructure | Bottom-up    | 2015, 2018               | Private, Livek Agrarian Community               | Local residents                     | Local, municipal       |
|                                                                         |                       |              |                          | Local residents                                 | Local, municipal                    |                       |
| 4. Secondary sports field facilities (community building, event tent)   | Recreation            | Bottom-up    | 2014–2017               | Private, Livek Agrarian Community               | Local residents                     | Local, municipal       |
|                                                                         |                       |              |                          | Local residents                                 | Local, municipal                    |                       |
| 5. Purchase of a fire truck and firefighting equipment, training for residents | Communal infrastructure | Bottom-up    | 2017–2019               | Private, Livek Agrarian Community               | Local residents                     | Local, municipal       |
|                                                                         |                       |              |                          | Local residents                                 | Local, municipal                    |                       |
| 6. Nebesa cottages (Fig. 4.7)                                           | Tourism               | Bottom-up    | 2003                     | Private                                         | Tourists (high-end market)           | Regional, national     |
|                                                                         |                       |              |                          | Tourists                                        | Regional, national                  |                       |
| 7. Jelenov Breg farm tourism                                            | Tourism               | Bottom-up    | 2000, 2012               | Private                                         | Tourists                            | Regional, national     |
|                                                                         |                       |              | more intensively         | Public, municipality and nearby municipalities, state | Regional, national                  |                       |
| 8. Orientation toward and promoting summer tourism in the Upper Soča Valley | Tourism               | Top-down     | 1980–                    | Private foundation, public and private investors | Tourists                            | Regional, national     |
|                                                                         |                       |              |                          | Public                                           | Regional, national                  |                       |
| 9. Creation and promotion of the Walk of Peace brand                    | Tourism               | Top-down     | 2000–                    | Private foundation, public and private investors | Tourists                            | Regional, national     |
|                                                                         |                       |              |                          | Public                                           | Regional, national                  |                       |
| 10. Direct payments and CAP                                             | Agriculture           | Top-down     | 1995–national, 2004–EU CAP scheme | Public                                          | Local farmers                      | Regional, national     |

(continued)
| Measures                                                                 | Type                   | Approach         | Year(s)          | Investor                                      | Target group                                      | Level                          |
|-------------------------------------------------------------------------|------------------------|------------------|------------------|-----------------------------------------------|--------------------------------------------------|--------------------------------|
| 11. Reconstruction of Nježa’s House and conversion into a museum        | Culture                | Top-down         | 2015             | Public (municipality, EU)                     | Tourists                                         | Local, municipal               |
| 12. Kolovrat Open Air Museum                                           | Culture                | Top-down         | 2001–2006        | Public, NGO                                   | Tourists                                         | Regional, national             |
| 13. The Livek Story thematic trail                                     | Tourism                | Bottom-up        | 2019–2010        | Public (municipality, EU)                     | Tourists                                         | Local                          |
| 14. Liwkstock festival                                                 | Culture                | Bottom up        | 2012–             | NGO (Liwkstock Cultural Association)          | Local population + tourists (cross-border)       | Local, cross-border            |
| 15. Hike across an imaginary line                                       | Culture, recreation    | Bottom up        | 1994 onward      | NGO (Rečen Cultural Association, Italy)       | Local population (cross-border)                  | Local, cross-border            |
| 16. Fountain: ‘This land does not want borders anymore’                | Culture                | Bottom up        | 2007–2008        | Spontaneous self-initiative                  | Local population                                 | Local, municipal               |
| 17. Celebration with a theatre performance                              | Culture                | Bottom-up        | 2011–             | NGO (Gorenj Konc Cultural Association)        | Local population                                 | Local, municipal               |
| 18. Various sports events                                               | Recreation             | Bottom-up        | 2011–             | NGO (Livek Tourism and Sports Club)           | Local population                                 | Local, municipal               |
| 19. Exhibition: Seven decades of skiing                                | Culture                | Bottom-up        | 2020             | NGO (Matajur Ski Club)                        | Local and regional population                    | Regional, national             |
| 20. Usage rights for common lands                                       | Agriculture            | Bottom-up        | 1996–             | Livek Agrarian Community                      | Local population                                 | Local, municipal               |
| 21. Drinking water provision during summer drought                      | Communal infrastructure | Top-down         | If needed        | Municipality of Kobarid                       | Local population                                 | Local, municipal               |
Fig. 4.6 Measures taken according to approaches (top-down, bottom-up) and for whom they were addressed and designed. The colour signifies the type and level of operation (green for the local, municipal, or cross-border level, and blue for the regional or national level).

Fig. 4.7 The Nebesa cottages at the former ski lodge site (photo: Nebesa.si)
(seven of them) are in culture, all of which but one were conceived and implemented on the bottom-up principle and primarily targeted the locals. Next are five tourism-related measures that combine both bottom-up and top-down principles. Three communal measures and three recreational measures are also essential for the welfare of local residents, all except one following bottom-up principles targeted at the local community. Two measures refer to agriculture, one using a top-down approach at the national level and another emerging from the bottom-up action at the local level. Another two measures are related to transport infrastructure, both using a top-down approach. Eleven measures address local residents, eight address tourists, and two address both. The prevalence of bottom-up measures is proof of the importance of local initiatives. The number of activities exceeds twenty-one because one measure falls into two categories.

**Conclusion**

The Livek area, once an affluent and thriving small ski resort, was impacted by climate change before the media were overwhelmed with threatening images of melting ice and before climate change became a pressing issue of political debate. Therefore the rapid decline in tourism, accompanied by a gradual decline in agriculture, was not addressed at all. The abundance of employment options in factories in the valley filled the immediate gap in income. In the long run, the national and municipal policies pursuing sustainable, balanced polycentric development addressed various sectors (e.g., road infrastructure), which provided a broader context for people to make a decent living and for job options in this peripheral area. Slowly, intensive tourism development in the wider (regional) area closely related to Triglav National Park and the Walk of Peace initiative have improved the tourism potential of the area, leading to limited local entrepreneurial efforts that are promising for reversing the negative economic and demographic development (Roš 2020).

Due to its historical development and remote location, the community of Livek is very persistent and resilient. Its border location, its connection to the Friuli Plain, a dialect that distinguishes it from other communities, and its location in the Municipality of Kobarid have helped it develop a distinct identity strengthened by pristine and unspoiled nature and natural beauty. Owing to its strong identity and place attachment, the community has grown more robust, turning it into a cohesive and resilient one building on inner potential, initiatives, and resources. Its entrepreneurial spirit
remains modest and underdeveloped. However, many NGO activities and citizens’ initiatives in culture, sports, and similar activities are clear proof of internal cohesion. The cultural, sports, other events and activities related to them that have grown out of the local community reflect and are an outcome of political changes over many centuries. The geopolitical situation is deeply embedded in the social memory of the local population, which has enthusiastically embraced European integration processes.

Last but not least, the people of the Livek area, like many others in Slovenia, will need to adapt to and mitigate future droughts, which will probably be increasingly frequent. This will be particularly important if they decide to continue pursuing agriculture, which ensures the maintenance of the traditional cultural landscapes that are so crucial for sustainable tourism.

Acknowledgment The authors acknowledge financial support from the Slovenian Research Agency (research core funding No. P6-010; Geography of Slovenia).

REFERENCES

Arhiv meteoroloških podatkov [Archives of meteorological data]. (2020). Ljubljana: Agencija Republike Slovenije za okolje. Retrieved April 2020, from http://meteo.arso.gov.si/.

Bebler, A. (2002). Slovenia’s Smooth Transition. Journal of Democracy, 13(1), 127–140.

Bojnec, Š., & Latruffe, L. (2013). Farm Size, Agricultural Subsidies and Farm Performance in Slovenia. Land Use Policy, 32, 207–217.

Census 2002. (2002). Ljubljana: Statistični urad Republike Slovenije.

Chersich, S., Rejšek, K., Vranová, V., Bordoni, M., & Meisina, C. (2015). Climate Change Impacts on the Alpine ecosystem: An Overview with Focus on the Soil—A Review. Journal of Forest Science, 61(11), 496–514.

Cochrane, N. J. (1988). The Private Sector in East European Agriculture. Problems of Communism, 37(2), 47–53.

Dimitrovská Andrews, K. (2006). Sustainable Spatial Development in Slovenia: Between Global Trends and Local Urban Problems. In U. Altrock, S. Gunter, S. Huning, & D. Peters (Eds.), Spatial Planning and Urban Development in the New EU Member States (pp. 59–76). Aldershot: Ashgate.

Drešček, B. (2020). Interviews (Carried Out Online in April 2020).

Drozg, V. (2007). Prispevek h gospodarski geografiiji Slovenije [A Contribution to the Economic Geography of Slovenia]. Revija za geografijo, 1(2), 67–88.

Erjavec, E., Rednak, M., & Volk, T. (1998). The European Union Enlargement—The Case of Agriculture in Slovenia. Food Policy, 23(5), 395–409.
Galluzzo, N. (2015). Role of Financial Subsidies Allocated by the Cap Towards Slovenian Farmers. *Scientific Papers. Series, Management, Economic Engineering in Agriculture and Rural Development, 16*(3), 129–134.

Gobiet, A., Kotlarski, S., Beniston, M., Heinrich, G., Rajczak, J., & Stoffel, M. (2014). 21st Century Climate Change in the European Alps—A Review. *Science of the Total Environment, 493*, 1138–1151.

Hrvatin, M., & Zorn, M. (2017). Trendi pretokov rek v slovenskih Alpah med letoma 1961 in 2010 [Trends in River Flows in the Slovenian Alps from 1961 to 2010]. *Geografski vestnik, 89*(1), 9–35.

Hrvatin, M., & Zorn, M. (2018). Recentne spremembe rečnih pretokov in pretočnih režimov v Juliiških Alpah [Recent Changes in River Flows and Flow Regimes in the Julian Alps]. In M. Zorn, P. Mikša, I. L. Benedičič, M. Ogrin, & A. M. Kunstelj (Eds.), *Triglav 240* (pp. 107–129). Ljubljana: Založba ZRC.

Josipovič, D. (2014). Recent Demographic Trends in the Northern Borderland between Italy and Slovenia: Stabilization or Further Redistribution of Population? *European Countryside, 1*, 50–67.

Klemenčič, V., & Genorio, R. (1993). The New State of Slovenia and Its Function Within the Frame of Europe. *GeoJournal, 30*(3), 323–333.

Kocjančič, T., Debeljak, M., Žgajnar, J., & Juvačič, L. (2018). Incorporation of Emergy Into Multiple-Criteria Decision Analysis for Sustainable and Resilient Structure of Dairy Farms in Slovenia. *Agricultural Systems, 164*, 71–83.

Krajevni leksikon Slovenije [Gazetteer of Slovenia]. (1995). Ljubljana: DZS.

Museo etnografico di Lusevera [Lusevera Ethnographic Museum]. (2019). Retrieved April 2020, from http://www.museoluseverabardo.it/govoriger-margherita-trusgnach-recan-aldo-klo dic.

Nadbath, M. (2017). *Podnebna spremenljivost Slovenije v obdobju 1961–2011. 4, Meteorološka opazovanja II [Climate Variability of Slovenia in the Period 1961–2011. 4, Meteorological Observations II]*. Ljubljana: Ministrstvo za okolje in prostor, Agencija RS za okolje.

Nared, J. (2003). Legislation in the Field of Regional Policy in Slovenia and an Analysis of Its Spatial Impact. *Acta Geographica Slovenica, 43*, 85–110.

Nared, J. (2007). *Prostorski vplivi slovenske regionalne politike [Spatial Influences of Slovenian Regional Policy]*. Ljubljana: Založba ZRC.

Nared, J. (2020). Regional Development in Slovenia. In D. Perko, R. Ciglic, & M. Zorn (Eds.), *The Geography of Slovenia: Small but Diverse* (pp. 291–302). Cham: Springer Nature.

Nared, J., Bole, D., Valjavec, B., Mateja, Ciglič, R., Goluža, M., Kozina, J., Viskovič, R., Nika, Repolusk, P., Rus, P., Tiran, J., & Černič Istenič, M. (2017). Central Settlements in Slovenia in 2016. *Acta geographica Slovenica, 57*(2), 7–32.
Pavšek, M. (2011). *Podnebne ali klimatske razmere: Strokovne podlage za klimatsko zdravilišče v občini Kobarid [Climate or Climatic Conditions: Professional Bases for Climate Health Resort in the Municipality of Kobarid]*. Project Report. ZRC SAZU, Ljubljana.

Perpar, A., & Udovč, A. (2019). Organic Farming: A Good Production Decision for Slovenian Small Size Farms and Farms in the Areas with Restrictions/Limitations or Natural Obstacles for Agriculture? [Online First], IntechOpen. https://www.intechopen.com/online-first/organic-farming-a-good-production-decision-for-slovenian-small-size-farms-and-farms-in-the-areas-wit.

Petek, F., & Urbanc, M. (2007). Skupna zemljišča v Sloveniji [Common Land in Slovenia]. *Geografski vestnik*, 79(2), 41–62.

Premrl, T., Udovč, A., Bogataj, N., & Krč, J. (2015). From Restitution to Revival: A Case of Commons Re-establishment and Restitution in Slovenia. *Forest Policy and Economics*, 59, 19–26.

Razpotnik Viskovič, N., & Seručnik, M. (2013). Respectability of the Farming Profession and Part-Time Farmers in Slovene Society after World War II. *Geografski vestnik*, 85(1), 25–36.

Roš, K. (2019). Livek ali prazgodovina smučanja na Tolminskem [Livek, or Ancient Skiing History in the Tolmin Area]. In *Matajurjeve smučine* (pp. 11–71). Tolmin: Smučarski klub Matajur.

Roš, K. (2020). Interviews (carried out online in April 2020) and e-mail correspondence in April and May 2020.

Šmid Hribar, M., Kozina, J., Bole, D., & Urbanc, M. (2018). Public Goods, Common-Pool Resources, and the Commons: The Influence of Historical Legacy on Modern Perceptions in Slovenia as a Transitional Society. *Urbani izziv*, 29(1), 96–109.

Stat-Si 2019. (2019). *Demographic Data*. Ljubljana: Statistical Office of the Republic of Slovenia.

Turnock, D. (1996). Agriculture in Eastern Europe: Communism, the Transition and the Future. *GeoJournal*, 38(2), 137–149.

Uvajanje blagovne znamke dolina Soče v kmetijske produkte [Introducing the Soča Valley Brand into Agricultural Products]. (2017). Kobarid: Občina Kobarid.

Zakon o agrarni reformi in kolonizaciji [Agrarian Reform and Colonization Act]. *Uradni List LRS*, nos. 10/1948, 17/1958, 17/1959, 18/1961, and 22/1965. Ljubljana.

Zakon o agrarnih skupnostih [Agricultural Communities Act]. (1947). *Uradni List LRS*, no. 52/1947. Ljubljana.

Zakon o denacionalizaciji [Denationalization Act]. *Uradni List RS*, nos. 27/1991-1, 56/1992—odl. US, 13/1993—odl. US, 31/1993, 24/1995—odl. US, 20/1997—odl. US, 23/1997—odl. US, 65/1998, 76/1998—odl. US, 66/2000, 66/2000—ORZDen27, 11/2001—odl. US, 54/2004—ZDoh-1, and 18/2005—odl. US. Ljubljana.
Zakon o ponovni vzpostavitvi agrarnih skupnosti ter vrnitvi njihovega premoženja in pravic [The Act on Reestablishment of Agricultural Communities and Restitution of Their Property and Rights]. (1994). Uradni List RS, nos. 5/94, 38/94, 69/95, 22/97, 56/99, 72/00, 87/11, 14/15—ZUUFJFO, and 74/15. Ljubljana.

Zakon o razpolaganju s premoženjem bivših agrarnih skupnosti [Disposal of the Property of the Previous Agrarian Communities]. (1965). Uradni List SRS, no. 7/1965. Ljubljana.

Zavodnik Lamovšek, A. (2003). Vzdržni prostorski razvoj v Sloveniji [Sustainable Spatial Development in Slovenia]. Ljubljana: MOP.