

Svaneti at a Crossroads: Socio-Economic Challenges and Opportunities for Regional Development

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Abstract

Svaneti, the most mountainous historical-geographical region of Georgia, is characterized by its exceptional natural conditions and culturally rich anthropogenic landscape. The region encompasses the municipalities of Mestia and Lentekhi, whose distinct physical environments, historical heritage, and socio-cultural traditions shape divergent trajectories of socio-economic development. In the summers of 2023–2024, a sociological survey was conducted within the framework of the Vakhshuti Bagrationi Institute of Geography's field expedition to evaluate contemporary socio-economic dynamics in the region through active engagement with local residents. A total of 35 respondents participated, enabling a comparative assessment between Mestia and Lentekhi and facilitating the identification of key development constraints and emerging opportunities. The survey was complemented by cartographic materials, statistical diagrams, and photographic documentation. The results reveal severe challenges related to depopulation, limited employment opportunities, and pronounced out-migration—issues particularly acute in Lentekhi, where sustained emigration has resulted in the closure of kindergartens and schools in several villages. Although livestock breeding continues to represent a traditional economic activity, tourism has become an increasingly important sector, with a majority of respondents expressing interest in acquiring the skills necessary to participate more effectively in tourism-related services. Nevertheless, infrastructure remains unevenly developed: while major transportation corridors have been improved, rural road networks require substantial reconstruction, and deficiencies persist in telecommunications, healthcare provision, and commercial services. Tourism infrastructure, including accommodation facilities and visitor information centres, also remains insufficient and requires systematic, state-supported development. The analysis further indicates that migration pressures are more pronounced in Lentekhi than in Mestia, driven by a complex interplay of economic, infrastructural, and demographic factors. Addressing these challenges will require integrated regional policies aimed at strengthening population retention, diversifying employment, and balancing tourism-driven growth with the needs of agriculture and traditional livelihoods. Given the limited availability of arable land and other natural constraints, sustainable development in Svaneti cannot rely solely on agriculture; instead, it must be underpinned by targeted job creation, improved infrastructure, and enhanced state involvement across multiple sectors.

Keywords: highland developments, socio-economic vulnerability, Mountainous Region, Svaneti, Agriculture, Migration, Tourism.

Introduction

Mountain regions occupy approximately 27% of the Earth's terrestrial surface and support more than 1.1 billion people, while providing vital ecosystem services—such as freshwater resources, biodiversity protection, and cultural landscapes—to billions more living in adjacent lowlands (FAO, 2015).

Extending from the Alps and Himalayas to the Andes and the Caucasus, these regions are marked by highly diverse geographies, distinctive cultural systems, and rich biocultural heritage. Despite their global ecological and strategic significance, mountain territories remain among the most vulnerable and socio-economically marginalized environments worldwide (Jodha, 2005; Price, 2013; Messerli & Ives, 1997). In Europe alone, mountains cover approximately 36% of the continent and host 16% of its population, reflecting the considerable demographic and territorial importance of upland regions across the continent (Moretti et al., 2023). Yet chronic environmental fragility, geographic isolation, infrastructure deficits, and the accelerating impacts of climate change continue to undermine pathways toward sustainable development (Beniston, 2003; UNEP, 2012). Understanding the future of mountain communities requires context-sensitive, place-based strategies that acknowledge local socio-ecological systems, settlement histories, and cultural identities.

The socio-economic challenges facing mountain regions are rooted in both physical constraints and long-standing structural marginalization. Rugged terrain and seasonal climatic barriers hinder mobility, complicating access to education, healthcare, and national markets. Many highland regions—including those in Nepal, Kyrgyzstan, and Georgia—continue to experience seasonal isolation, with roads closed for months during winter, reinforcing patterns of social exclusion and limiting engagement in broader political and economic processes (Price, 2013; Debarbieux & Rudaz, 2015). Mountain communities also frequently contain ethnic and linguistic minorities whose representation remains limited within centralized governance frameworks. Outmigration, particularly among younger cohorts, is widespread and contributes to demographic ageing, cultural erosion, and the weakening of traditional knowledge systems essential for sustainable land management.

Economically, mountain regions face multiple structural disadvantages, including limited agricultural potential, ecological fragility, and underdeveloped infrastructure. Steep slopes, shallow soils, and short growing seasons constrain agricultural productivity and render mechanization difficult or economically unviable (UNECE, 2019). Consequently, subsistence farming, pastoralism, seasonal labour migration, and remittances remain central livelihood strategies in many upland communities. Persistent deficits in transport, telecommunications, education, and healthcare infrastructure further entrench marginalization and restrict access to markets and services (Jodha, 2005). Tourism has emerged as a significant economic alternative in numerous mountain destinations such as the Alps, the Andes, and parts of the Caucasus; however, its benefits are often unevenly distributed, weakly regulated, and vulnerable to seasonality and external shocks. Moreover, unplanned tourism development may intensify environmental pressures and cultural commodification if not embedded within integrated regional planning (Khartishvili et al., 2019).

Georgia and the wider Caucasus region exemplify many of these challenges and dynamics. Svaneti—one of Georgia's most mountainous, remote, and culturally distinct regions—offers a compelling case for examining the interaction between natural-geographical conditions, demographic processes, and socio-economic development. Situated along the northwestern flank of the Greater Caucasus, Svaneti consists of two municipalities, Mestia (Upper Svaneti) and Lentekhi (Lower Svaneti), each shaped by contrasting topographies, altitudinal gradients, and economic specializations. While Mestia is dominated by high alpine landscapes, with over 96% of its territory situated above 1,000 meters and nearly two-thirds above 2,000 meters, Lentekhi features more moderately elevated terrain that supports a more diverse range of agricultural activities, including fruit cultivation and viticulture. These differences significantly influence settlement patterns, agricultural potential, and diversified livelihood strategies.

The region's development prospects are further influenced by its peripheral location and limited transport connectivity. Svaneti is accessed primarily through the Enguri and Tskhenistskali river valleys, with additional routes constrained by natural barriers. Scarcity of arable land, steep slopes, and challenging soil-climatic conditions limit agricultural productivity and mechanization, while extensive natural hayfields, pastures, and forests dominate the regional land fund. Demographic decline, persistent emigration, and the underutilization of local labour resources exacerbate socio-economic pressures, especially in Lentekhi, where depopulation is more acute and widespread.

Nonetheless, Svaneti possesses considerable potential for sustainable tourism development. Its unique combination of high mountain landscapes, UNESCO-recognized cultural heritage, and distinctive ethnographic traditions has increasingly positioned the region as a key destination for adventure and cultural tourism. Mestia has emerged as a regional tourism hub, benefiting from recent infrastructural investments, while Lentekhi is beginning to promote its natural attractions—including the Kheledura and Mananauri gorges and the Ailama peak and glacier. Ongoing projects, such as road reconstruction

and resort rehabilitation, illustrate expanding state and private-sector interest in the region. However, socio-economic surveys reveal significant remaining challenges, including limited employment opportunities, insufficient healthcare access, uneven tourism development, and the need for more sustainable land-use planning.

This study examines the socio-economic processes shaping contemporary development trajectories in Svaneti, with particular emphasis on the interrelations between physical geography, demographic trends, and local livelihood strategies. Through a comparative analysis of Mestia and Lentekhi municipalities, the research identifies convergent and divergent patterns in economic activity, population dynamics, infrastructure, and development priorities. Drawing on sociological field surveys conducted in 2023–2024 by the Vakhusheti Bagrationi Institute of Geography, the study integrates local perspectives to assess both the opportunities and the structural constraints shaping sustainable development in the region. By situating the findings within broader debates on mountain development, the research contributes to a deeper understanding of the pathways and policy mechanisms necessary to support resilient, inclusive, and sustainable futures for highland regions of the Caucasus.

Study area

Svaneti is located on the southern slope of the Central Caucasus in the upper part of the Enguri and Tskhenistskali basins. It occupies 4388.9 sq. km (6.2% of the country's territory). The most characteristic feature of Svaneti's location is its isolation. It is bordered on all sides by high ridges: to the north rises the Main Caucasus Range, which reaches the highest hypsometric level in the territory of Svaneti. Here is located the highest peak of Svaneti and at the same time Georgia, Shkhara - 5203 m. To the west, Svaneti is bordered by the Kodori (highest peak Moguashirkha 3847 m) and Akibi (lowest peak Akibi 2811 m) ranges, to the south by the Egrisi range (lowest peak Tsekuri 3486 m), to the southeast and east by the Lechkhumi range (lowest peak Samertskhle 3584 m).

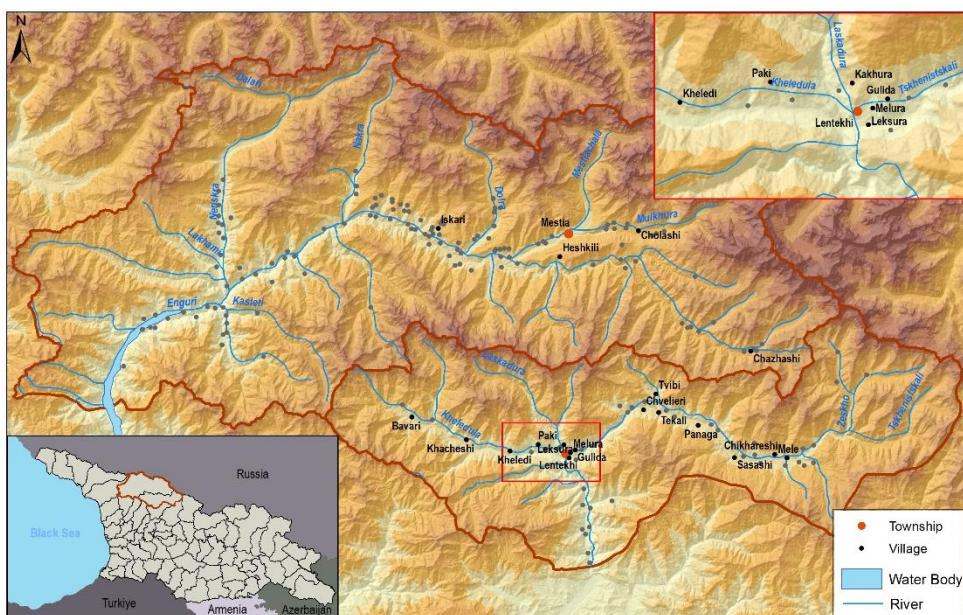


Figure 1. Study area (created by authors)

The geographical feature of Svaneti lies in its division into two parts: Lower Svaneti (Lentekhi Municipality) (fig. 2) and Upper (Mestia Municipality) (fig. 3) Svaneti. They are separated by the Svaneti range (lowest peak Lahili or Laila, 4008 m). Which is a watershed between the Enguri River (Upper Svaneti) and the Tskhenistskali River (Lower Svaneti). The Svaneti ridge is difficult to cross and represents a kind of barrier between the two parts of Svaneti, there are passes on it, through which Upper and Lower Svaneti are connected to each other. In the Svaneti section, all the passes of the Caucasus are located above 3000 meters (Khazaradze & Salukvadze, 2024).

Upper Svaneti has difficult natural conditions, is very remote from other regions of Georgia and is connected by the only, difficult transport route, which follows the Enguri River valley through the Jvari Kldekari.

Lower Svaneti is somewhat better located. It is hypsometrically lower, due to which its natural conditions are less severe, secondly, the distance from the plain regions is not so great, but the

fragmentation of the relief here is almost the same as in Upper Svaneti, due to which the scarcity of land resources is sharply expressed. In Svaneti, agricultural lands occupy 31% of the entire territory, with a large abundance of natural forage. Cultivated lands occupy only 1% ([Salukvadze & Chaladze, 2025](#)).



Figure 2. Lentekhi (Photo: M.Tsitsagi)



Figure 3. Mestia (Photo: M. Tsitsagi)

Methods and Materials

This study was conducted in the mountainous region of Svaneti, focusing on the municipalities of Mestia and Lentekhi and their respective settlements, including Tekali, Khacheshi, Melura, Leksura, Paki, Bavari, Kakhura, Gulida, Panaga, Chikhareshi, Chvelieri, Tsvib, Kveda Chvelieri, Sasashi, Mele, Kheledi, Chazhashi, Heshkili, Iskari, and Cholashi. These localities were selected through purposive sampling to ensure representation of both Upper and Lower Svaneti and to capture the geographical, socio-economic, and cultural variability across the region's highland landscapes. The selection strategy aimed to reflect differences in altitude, accessibility, demographic dynamics, and livelihood structures.

A qualitative research design was employed to achieve a comprehensive and reliable understanding of socio-economic conditions in Svaneti. Following Creswell (2014) and Bryman (2016), the integration of qualitative and quantitative components allowed for methodological triangulation, enhancing validity and reducing bias. The primary instrument of data collection was structured personal interviewing, supported by standardized questionnaires commonly used in sociological and human-geographical field research (Bernard, 2017). In total, 35 respondents participated in the survey, representing diverse age groups, occupations, and settlement types across the region.

Fieldwork included systematic photographic and video documentation to support qualitative interpretation and to generate a visual archive of settlement morphology, infrastructure, and landscape features. These materials provided contextual depth and aided the verification of observational data. All collected information was organized in a digital database to facilitate subsequent coding, categorization, and comparison.

Geospatial analysis constituted a central component of the methodology. The study utilized Geographic Information Systems (GIS) to produce thematic maps illustrating settlement patterns, infrastructure distribution, accessibility, and land-use characteristics. Mapping procedures followed established cartographic and geospatial analysis standards (Longley et al., 2015). The integration of social survey data with spatial datasets aligns with contemporary approaches in socio-environmental research, which emphasize the value of GIS for linking human perceptions, demographic indicators, and environmental conditions (Pfeffer et al., 2005).

Quantitative results were visualized through statistical diagrams, while qualitative findings were analysed thematically. The convergence of multiple data sources—including interviews, questionnaires, visual documentation, and geospatial mapping—strengthened the robustness of the findings and allowed for a nuanced interpretation of regional socio-economic processes. This methodological framework ensured a realistic depiction of the conditions shaping development in Svaneti and supported the formulation of context-specific recommendations for enhancing regional sustainability.

Results

The sociological survey conducted in the municipalities of Mestia and Lentekhi provides insights into the demographic, economic, and infrastructural conditions shaping contemporary socio-economic development in Svaneti. A total of 35 respondents participated in the study, allowing for an indicative, community-level assessment of trends characteristic of Upper and Lower Svaneti.

Demographic Structure and Migration Trends

The age composition of respondents reveals pronounced demographic ageing (fig. 4). Elderly residents (65+) constitute 35% of respondents, nearly equalling the middle-aged working population (32%). In contrast, young adults (18–29) represent only 3% of the sample, reflecting significant youth outmigration. This pattern aligns with broader demographic trends in mountain regions globally, where young people frequently migrate to urban centres in search of education and employment, resulting in aging rural communities (Ives & Messerli, 1989; MacDonald et al., 2000).

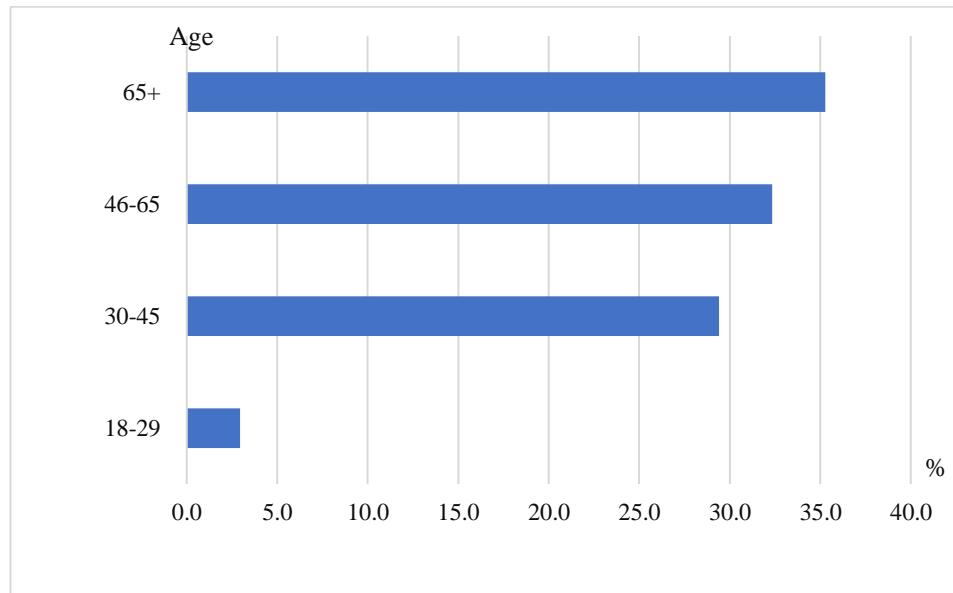


Figure 4. Percentage distribution of respondents by age

Gender composition shows a strong predominance of women (77%) over men (23%) (fig. 5). This imbalance is consistent with established migration dynamics in the Caucasus and other mountainous areas, where men migrate seasonally or permanently for work, leaving women and elderly residents as the primary population remaining in rural settlements (UNEP, 2012; Debarbieux & Rudaz, 2015).

Daytime data collection likely also contributed to the overrepresentation of women, as men were more likely to be engaged in agricultural, construction, or tourism-related activities.

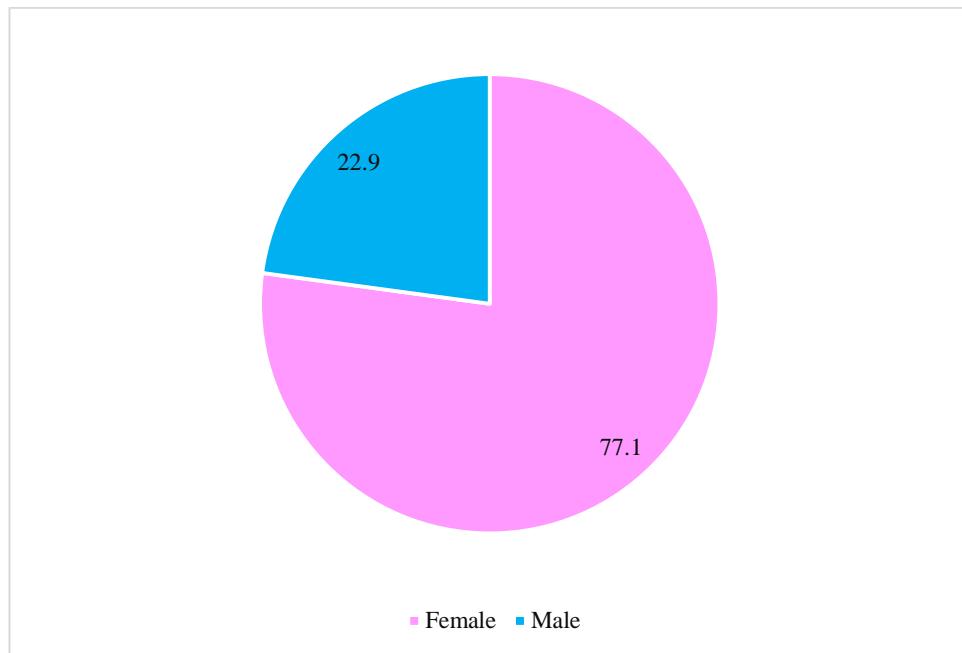


Figure 5. Percentage distribution of respondents by gender

Permanent residents constitute 66% of the sample, while 34% are seasonal residents (Appendix A) who spend most of the year in urban centres or abroad. Temporal means that They spend most of the year in Tbilisi or Kutaisi, working or studying there, and only return in the summer. This category also includes eco-migrants who live in other regions of Georgia but return to Svaneti in the summer.

Migration remains a major socio-economic issue: 26% of respondents (Appendix A) reported having at least one family member living abroad, with Spain representing the most common destination. These findings reflect the broader Georgian context, where labour migration plays a major role in household income strategies, particularly in peripheral mountainous regions (Salukvadze, 2022).

Comparative evidence from other mountain regions shows that youth departure is not universal: in parts of the European Alps and Carpathians, young people express greater willingness to remain in highland communities when local economic prospects improve (Ivasciuc & Ispas, 2023). This contrast underscores the importance of targeted policies for youth retention in Svaneti.

Similar studies have been conducted in several mountainous regions. A study conducted across Europe has shown promising results, in particular the surveys covered Italy, France, Norway, Poland, Romania, and Spain revealed that young people want to stay in the mountains because they enjoy both the quality of life and the natural environment. Young generation respondents also mentioned that they want to be entrepreneurs and act against climate change. In Romania, the mountain area is particularly attractive to young people (Ivasciuc & Ispas, 2023).

Educational Attainment and Human Capital

In our study area, most respondents (61%) have higher education, which clearly reflects the positive attitude of the region's population towards education; this fact indicates that there is a significant intellectual resource for the development of the region. The educated population plays an important role both in the process of rural development and in the introduction of innovations and improving decision-making. Their involvement is especially important, as higher education helps them to consciously direct their efforts towards the social, economic and cultural development of the region. In addition, the educated population can effectively engage in initiatives aimed at identifying and solving the problems of rural settlements. Accordingly, this group is an important asset for the further development of the region. However, the second question is how much educated people want to return to their usual environment and realise themselves where they see no prospects. As illustrated by fig. 6, respondents with secondary education (33%) are a large group. Their involvement in the activities of the region, through continuing education or retraining programmes, will potentially increase their work capacity. Persons with incomplete secondary and basic education make up 6% of the surveyed population. This

group is relatively small, although their presence may be associated with barriers to access to education in the past. For most respondents (61%), having higher education and a significant number of persons with secondary education (33%) indicate the educational potential of the region's population.

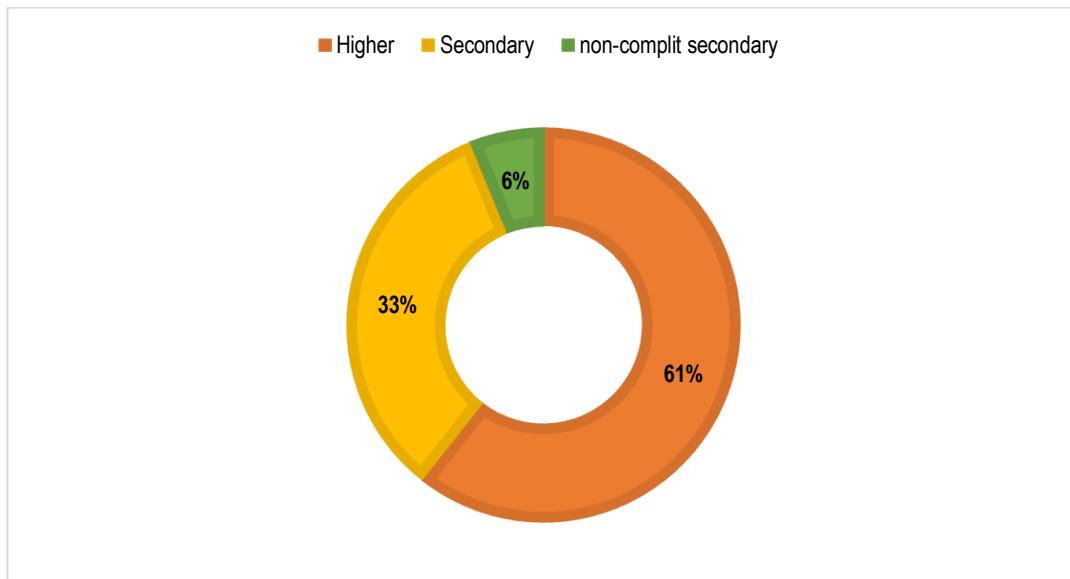


Figure 6. Education level among respondents (percentage distribution)

Data in Appendix B suggest Foreign-language knowledge also reflects the region's socio-economic history and emerging needs. Russian remains the most widely spoken foreign language (46%), reflecting Soviet-era educational legacies. Meanwhile, knowledge of English (24%) and German (10%) is rising, likely due to increased tourism and international exposure. However, 20% of respondents do not speak any foreign language, highlighting a need for targeted language training to support tourism development and strengthen economic diversification.

Employment Patterns and Land Ownership

As we can see in Appendix C, a significant part of the respondents (39%) is employed in the private sector, and 25% in the public sector. The low rate of leaving their place of residence for employment (3%) indicates the desire for stability among the local population, despite the existing difficulties.

More than 88% of property is privatized as detailed in Table 1. The fact that 88% of respondents have privatized their land indicates stable land ownership, which is a good basis for long-term investments and development. However, the unpayment of land tax by 67% may indicate a certain financial burden for the population and require a review by local governments. As a result of land privatization after the collapse of the Soviet Union, landowners do not pay taxes on agricultural land. Given that (especially) in Lower Svaneti, there is less resale of agricultural land, it is logical that the number of lands taxpayers is also lower. Similar patterns of smallholder land ownership but limited commercial use are found across the Caucasus (UNECE, 2019).

Table 1. Percentage of privatized property and population paying taxes

	Housing has been privatized (%)	Pays land tax (%)
Yes	88.6	33.3
No	5.7	66.7
Do not know	5.7	-

At the same time the high rate of negative attitude towards the alienation of land to foreigners (88%) indicates the sensitivity of the local population to this issue and the importance of land as a cultural and economic resource (Appendix D). The negative attitude of the Svaneti population (88%) towards the alienation of land to foreigners is due to several deep-rooted factors. Their attitude is likely based on historical, cultural and economic considerations. In Svaneti, as in the mountainous regions of Georgia, land is not simply an economic resource. It is the heritage of ancestors, a spiritual and cultural value that is closely linked to the identity of the family, clan and region. Its alienation is perceived as a betrayal of cultural heritage and roots; due to the mountainous terrain of Svaneti, the area of land for agricultural

purposes is limited (as in mountainous regions in general). The loss of this limited resource poses a direct threat to the economic future and existence of the local population; there is a fear that the land transferred to the ownership of foreigners will lead to a change or loss of the traditional appearance, architecture and way of life of the region. Svan towers and unique villages are part of their cultural identity; the local population, often dependent on agriculture and tourism, fears that foreign investment and large landowners will reduce their competitiveness and ultimately take away their livelihoods; increased demand for land by foreigners may lead to a disproportionate increase in land prices, making it completely unaffordable for local youth and the population. This, in turn, will contribute to increased migration from Svaneti. In addition, it is doubtful that foreign owners will use the land effectively and rationally, considering local interests. Also, land, especially in border regions, is often perceived as an integral part of the country's sovereignty and security. The transfer of a large part of it into foreign hands may be considered a threat to national interests. It is important that the development of the area and the management of resources remain under the control of local government and the community, and not external actors.

Tourism: Perceptions, Participation, and Uneven Development

The priority given to future tourism development (Table 2) by most respondents (60%) demonstrates the potential of this sector in the region. This may be related to the opportunities for increasing income, creating new jobs and promoting the region. The response received confirms the situation not only in Svaneti but also in the mountainous regions of Georgia. In recent years, tourism has become one of the main sources of transformation of the population's economic activities, and the strongest competitor to agriculture in the mountainous regions of Georgia (Salukvadze, 2022). In a pre-pandemic survey, respondents generally had positive attitudes towards the impacts of tourism development. Regarding economic impacts 96.8% believed that tourism development would provide more jobs for local people, 85.5% noted that the tourism industry would play a major economic role in the community. The pandemic has reduced these numbers and locals have clearly seen the need for economic diversification.

Table 2. Percentage of the respondents according to the priority sectors and future training

	Priority sectors for the future	Would like training in
Livestock	27.5 %	5.6 %
Horticulture	5 %	-
Industry	5 %	-
Tourism	60 %	55.6 %
Greenhouse farming		19.4 %
All the above	2.5 %	-
None of the above		19.4 %

The high percentage of those willing to undergo training in the field of tourism (56%) once again emphasises the great interest in the development of this sector. The presence of those interested in greenhouse farming (19%) and livestock farming (6%) also indicates the potential for development of various branches of agriculture. The presence of respondents (19%) who do not believe that they need training in any field may be related to their existing knowledge and experience.

Some of the studies carried out (studies conducted by the NDI organization) show that examples of successful cooperation between citizens and municipalities are very rare. The main reason for the passivity of the population, along with the lack of information, is the feeling of community members that they cannot influence decisions, and, as a result, citizens are indifferent to cooperation (Public Attitudes...) (Gogorishvili & Zarandia, 2021).

Agriculture: Scale, Practices, and Constraints

Table 3 reveals that, 80% of respondents do not use fertilizers in agriculture, 14% do, and 6% refrained from answering. The high rate of use of machinery in agriculture (60%) indicates a certain modernisation of this sector, although the high rate of non-use of fertilisers (80%) may be related to financial difficulties or traditional approaches.

Table 3. Use of machinery and fertilizers in the study area

	Use of machinery in agriculture (%)	Use of fertilizers in agriculture (%)

Yes	60.0	14.3
No	37.1	80.0
Seldom	2.9	
No answer		5.7

Table 4 summarises that, 61% do not sell products grown on site. They use them themselves. The main sales markets are Kutaisi (17%), Mestia (8%), Lentekhi (5%), and Tskaltubo (3%). The low rate of sales of local products indicates a problem with the market, or the harvest is so small that the population refrains from selling it, consuming it themselves. Respondents use trade facilities in different cities. Among them: Lentekhi (37%), Kutaisi (30%), Mestia (24%), and Tsageri (9%). The geography of use of trade facilities indicates the importance of regional centres (Lentekhi, Mestia) and larger cities (Kutaisi) for the local population.

Table 4. Main marketplaces for the respondents

	Buy Goods (%)	Sell Goods (%)
Kutaisi	30.3	16.7
Lentekhi	36.4	5.6
Mestia	24.2	8.3
Tsageri	9.1	
Tskaltubo		2.8
Do not Sell		61.1
other		5.6

According to the given statistics, the difficulties of the agricultural sector of Svaneti were identified: the fact that 61% of the respondents do not sell their products and only consume them for their own consumption indicates that the agricultural sector of Svaneti has problems with scale and effective access to the market; The low sales rate of local products may be due either to the small harvest, which does not allow for the creation of sales stocks, or to the infrastructural and logistical difficulties of the sales market; For the sale of products, the population of Svaneti is forced to rely on relatively distant markets, such as Kutaisi (17%) and Tskaltubo (3%), which increases transportation costs and logistical challenges, which is especially difficult for a mountainous region; Respondents mainly use shopping facilities in Lentekhi (37%), Kutaisi (30%), and Mestia (24%), which emphasizes the vital importance of these regional centers for the local population, but at the same time indicates internal economic weakness in the area (village).

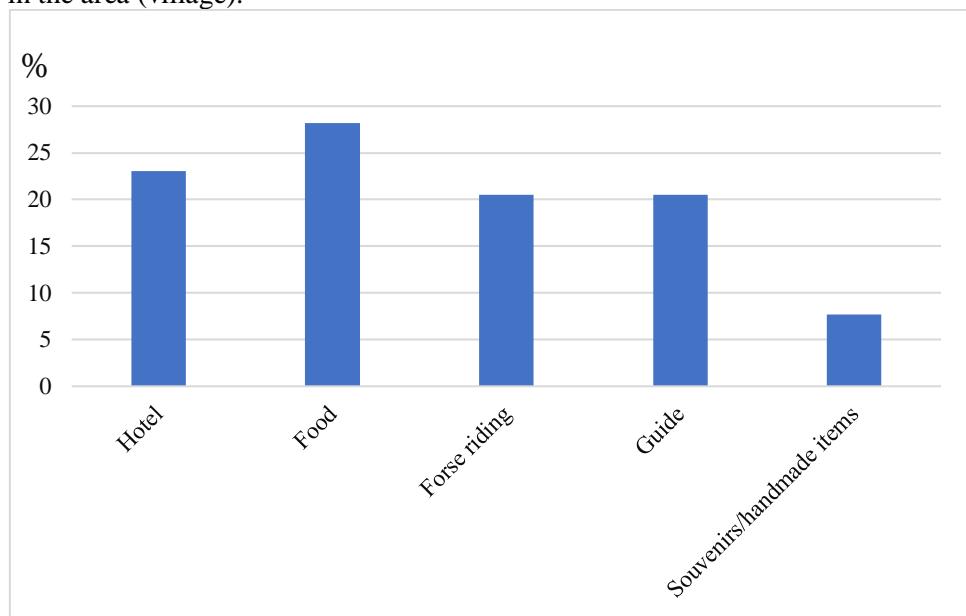


Figure 7. Offer for tourists

Appendix E displays that, 86% of respondents express a positive attitude towards the development of tourism in the region. 8% express a negative attitude, while 6% do not know whether it is good or bad. 8% of respondents are precisely those people who, during the pandemic, clearly saw the negative consequences of switching completely to tourism, when A boom in tourism resulted in abandoned agricultural lands and reduced products (Sharia, 2019). 31% do not benefit from tourism, while 69% do. The high rate of positive attitude towards tourism development (86%) indicates the great potential for the development of this sector and the willingness of the local population to engage in this process. However, a significant number of people who do not benefit from tourism (31%) indicate that the benefits are not distributed equally and more inclusive approaches are needed. The diversity of tourist services (fig. 7) offered by the local population (hotel, meals, horse riding, guides, souvenirs) reflects the diversity of the region's tourist potential. When it comes to the benefits derived from tourism, it is imperative to highlight the stark difference between the two municipalities in this regard. It is no secret that Mestia Municipality (Lower Svaneti) far exceeds Lentekhi Municipality (Lower Svaneti) in terms of the number of tourists and the corresponding services. Appendix F shows that 4 hotels operate in this municipality, while in Mestia Municipality this number is 178.

This is mainly due to the greater development and popularity of Mestia as a tourist center. Mestia is the administrative center of Upper Svaneti and has been developing intensively over the years as a major hub for mountain-skiing and adventure tourism (e.g. Hatsvali, Tetnuldi, museums). This has led to significant investments in tourism infrastructure (hotels, family houses, catering facilities) and a sharp increase in their number, due to the large influx of tourists. Lentekhi (Lower Svaneti) is less developed on the tourist map and, accordingly, the number of hotels and accommodation facilities is much smaller at present.

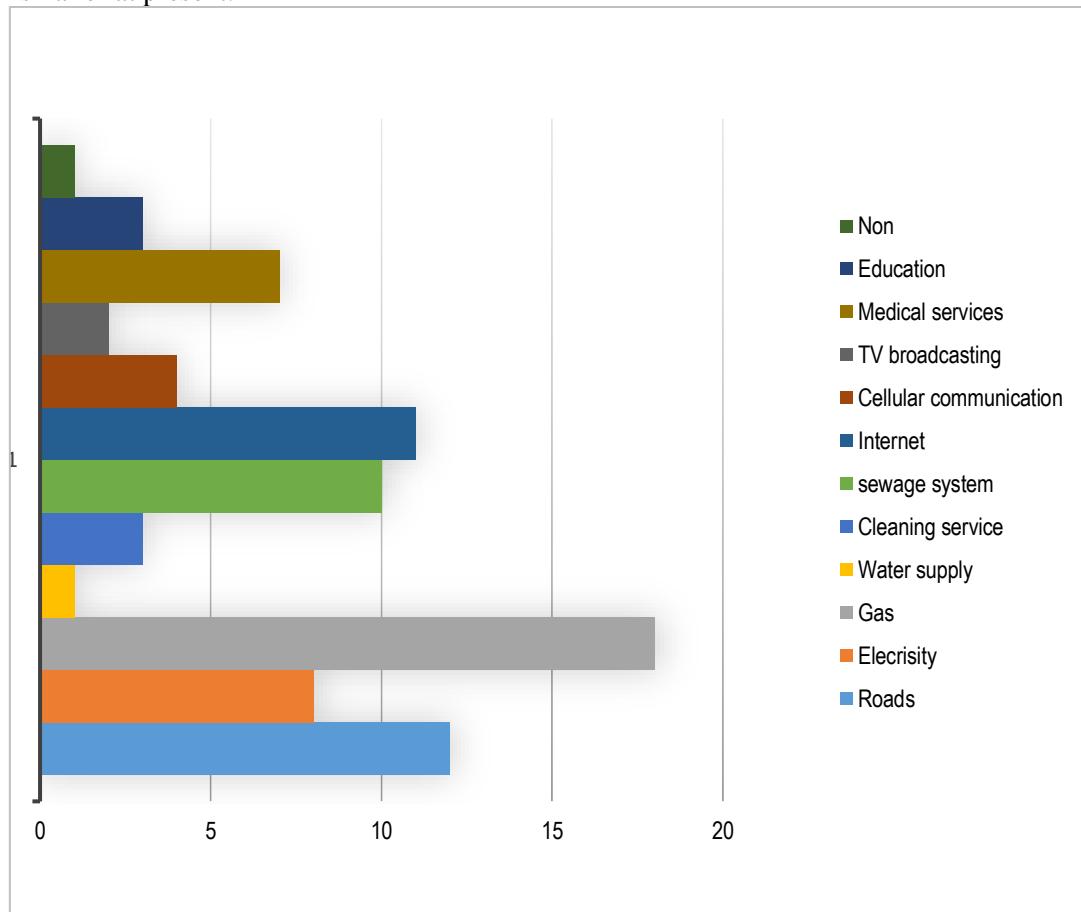


Figure 8. Socio-economic challenges

Infrastructure, Services, and Quality of Life

As listed in fig. 8, mountainous regions are characterised by many socio-economic problems. The surveyed population is concerned about the lack of roads (15%), lack of electricity (10%), lack of gas (22%), lack of water (1%), lack of cleaning services (4%), unregulated sewage system (12%), lack of internet (14%), lack of telephone connection (5%), lack of satellite dishes (3%), inadequate medical services (9%), and lack of access to education (4%). Surprisingly, 1% stated that they are not concerned

about any of the above socio-economic problems. The list of socio-economic problems identified by the respondents (no roads, no electricity, no gas, no water, no cleaning service, unregulated sewage system, no internet, problems with telephone connection, access to medical services, access to education) clearly reflects the infrastructural and service problems in the region.

As mentioned above, the population of the study area is elderly, and therefore their medical needs are diverse. It is logical that the respondents 94% use medical services, while 6% do not use these services. They mainly use them in Lentekhi (44%), Kutaisi (2%), Mestia (32%), and the local medical station (16%). From table 5 43 per cent of the respondents consider the number of medical stations and doctors sufficient. The high rate of use of medical services (94%) and access mainly to regional centres and local stations indicate the challenges in this area.

Table 5. Use and satisfactory rate of medical services

	Use medical services	Are there enough medical facilities and doctors?
Yes	94.3	43.2
No	5.7	56.8

Most respondents (80%) consider the number of schools and kindergartens sufficient to be a positive factor; against the backdrop of acute migration and depopulation, schools and kindergartens are indeed sufficient. However, the dissatisfaction of 20% requires study. In this case, we can assume that these respondents are not permanent residents and did not fully understand the question asked.

Energy Perceptions and Environmental Concerns

Rational use of natural resources is important in mountainous regions. Our respondents noted that the construction of hydroelectric power plants in the region is important, although dangerous; therefore, they consider the construction of hydroelectric power plants wrong (54%). However, 54% believe that it is necessary. Some (20%) do not know and cannot understand this issue. It would be good to raise awareness among the local population in this direction. 83% of respondents support the use of renewable energy, while 17% do not.

Table 6. Percentage distribution of population by use of new hydropower plants and renewable energies

	Build new HPPs in the region (%)	Is the use of renewable energy acceptable? (%)
Yes	28.6	82.9
No	51.4	17.1
Do not know	20.0	

The mixed attitude towards the construction of hydroelectric power plants (54% in favour, 54% against) and the lack of awareness of 20% of the population on this issue indicate the need to improve communication with the public. Support for the use of renewable energy (83%) creates a perspective for the ecological sustainability of the region. The local population considers the natural conditions and resources (nature, fresh water, mineral springs, forests, wood), ecologically clean environment and products, historical past and cultural heritage to be the region's strengths. According to the local population, the following factors hinder development: harsh geographical environment, poorly maintained internal rural roads, low population, employment problems, unresolved social problems, no gasification, no Internet, unregulated sewage system, and lack of sports fields. In their opinion, for the development of tourism, it is necessary to arrange ski slopes and cottages and improve winter resorts. It is necessary to improve the resort of Muashi (fig. 9) with an entertainment area for children and swings. Creation of a rafting infrastructure on the river. Improvement of public gathering places, promotion of education, promotion of a healthy lifestyle, construction of a ritual hall. Development of farming, gardening, greenhouse farming, production of wild fruits, and potato growing. Factors identified by the local population as the strengths of the region (historical past and cultural heritage, ecologically clean environment, water resources, and potential for tourism development) create a solid foundation for the sustainable development of the region. The identified negative factors (unmaintained roads, harsh winters, low population, employment problems, social problems, lack of internet) require a systematic and consistent solution. Initiatives considered as development prospects (creation of ski slopes, improvement of resorts, development of farming, improvement of tourism infrastructure, arrangement of public spaces, promotion of education) reflect the local population's vision of the future of the region.



Figure 9. Resort Muashi (Photo: M. Tsitsagi)

Local Perceptions of Strengths, Weaknesses, and Development Priorities

Residents identify the following as the region's key strengths:

- pristine natural landscapes and clean environment
- abundant water and forest resources
- cultural heritage, including Svan towers and unique architecture
- untapped tourism potential

This mirrors widely recognized attributes of mountain cultural landscapes (Debarbieux & Rudaz, 2015; Price, 2013).

Key constraints include:

- poor internal roads and winter isolation
- depopulation and outmigration
- limited employment opportunities
- insufficient social and public services
- lack of gasification and inadequate internet
- underdeveloped tourism infrastructure in Lentekhi
- Residents prioritize several development directions, including:
- improved tourism infrastructure (ski slopes, resorts, cottages)
- rehabilitation of Muashi resort
- development of rafting and other adventure activities
- enhancement of education and public spaces
- expansion of farming, gardening, greenhouse production

Such locally grounded priorities align closely with contemporary concepts of place-based rural development, which emphasize integrating local knowledge, cultural identity, and environmental sustainability (Ray, 1998; OECD, 2020).

Conclusion

The findings of this study demonstrate that Svaneti is undergoing significant demographic transformations, characterized by population ageing, youth outmigration, and a gender imbalance driven largely by male-dominated labor migration. These trends pose substantial risks to the region's long-term demographic sustainability and social cohesion. Seasonal mobility and the fragmentation of family structures reflect broader socio-economic vulnerabilities that are typical of peripheral mountain regions.

Despite these challenges, Svaneti retains considerable human capital. The high proportion of residents with higher education indicates an important resource for future development, although the mismatch between educational attainment and local employment opportunities continues to contribute to outmigration. Foreign language proficiency—particularly in English—remains insufficient for the effective expansion of the tourism sector, underscoring the need for targeted capacity-building programs.

Tourism is widely viewed by the local population as the primary avenue for economic development, and its growth has already reshaped livelihood strategies in parts of the region. However, the benefits of tourism remain unevenly distributed, especially between Mestia and Lentekhi, and more inclusive development models are required to avoid deepening intra-regional disparities. Agriculture is undergoing gradual modernization, yet structural constraints—including limited market access, small-scale production, and infrastructural shortcomings—continue to limit its economic potential. Enhancing market linkages for local products could play a significant role in improving household incomes.

The land question emerged as a particularly sensitive issue, reflecting the cultural, historical, and economic significance of land ownership in Svaneti. Strong opposition to land alienation to foreigners highlights concern regarding cultural preservation, long-term security, and equitable development. Similarly, attitudes toward hydropower projects reveal ambivalence and a need for improved communication, transparency, and community engagement. In contrast, strong support for renewable energy indicates an opportunity to advance environmentally sustainable development pathways.

Svaneti's unique natural landscapes, cultural heritage, and traditional knowledge systems constitute major assets for its future development. However, realizing this potential requires addressing persistent infrastructural deficits—such as inadequate roads, limited telecommunication networks, and insufficient healthcare services—that constrain mobility, economic diversification, and quality of life. A comprehensive regional development strategy should therefore integrate local perspectives, support community-driven initiatives, and ensure that development interventions align with the needs, values, and aspirations of the population.

Overall, the study underscores the critical importance of place-based, participatory, and multi-sectoral approaches for promoting sustainable development in Svaneti. Strengthening human capital, improving infrastructure, diversifying economic opportunities, and ensuring equitable distribution of tourism benefits will be essential for fostering resilience and enhancing the socio-economic well-being of this distinctive mountain region.

Competing interests

The authors declare that they have no competing interests.

Authors' contribution

All authors provided critical feedback and helped shape the research, analysis, and manuscript.

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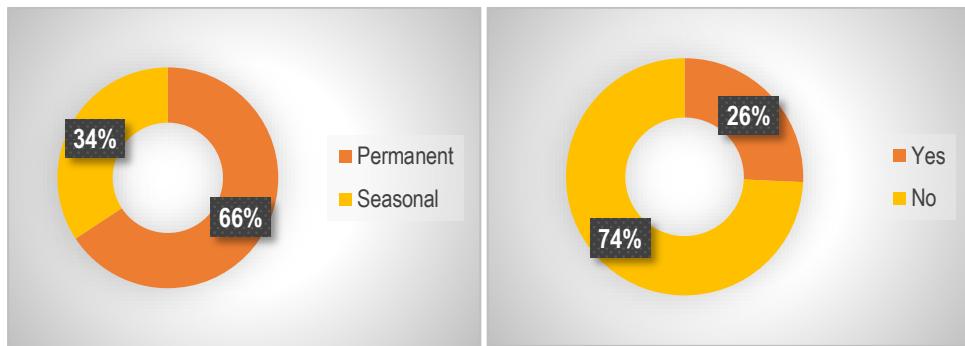
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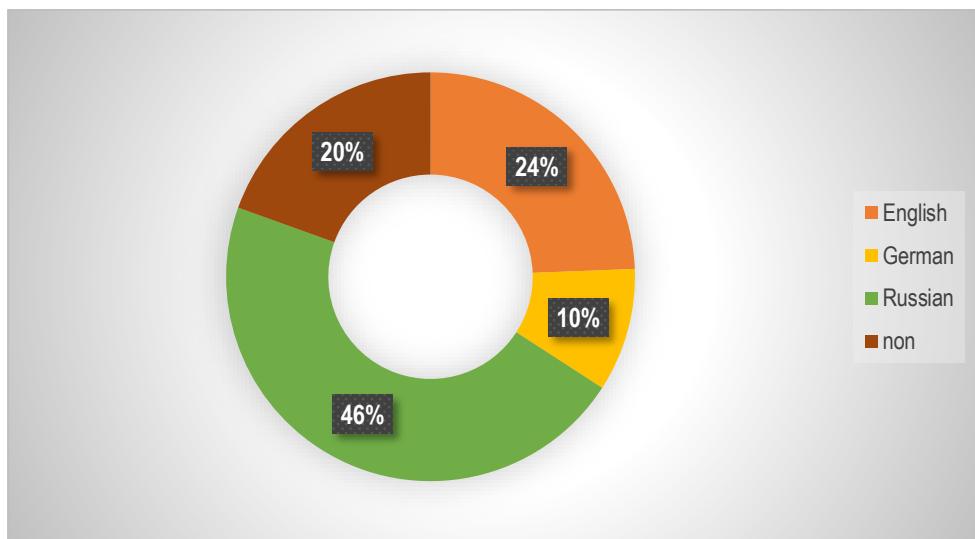
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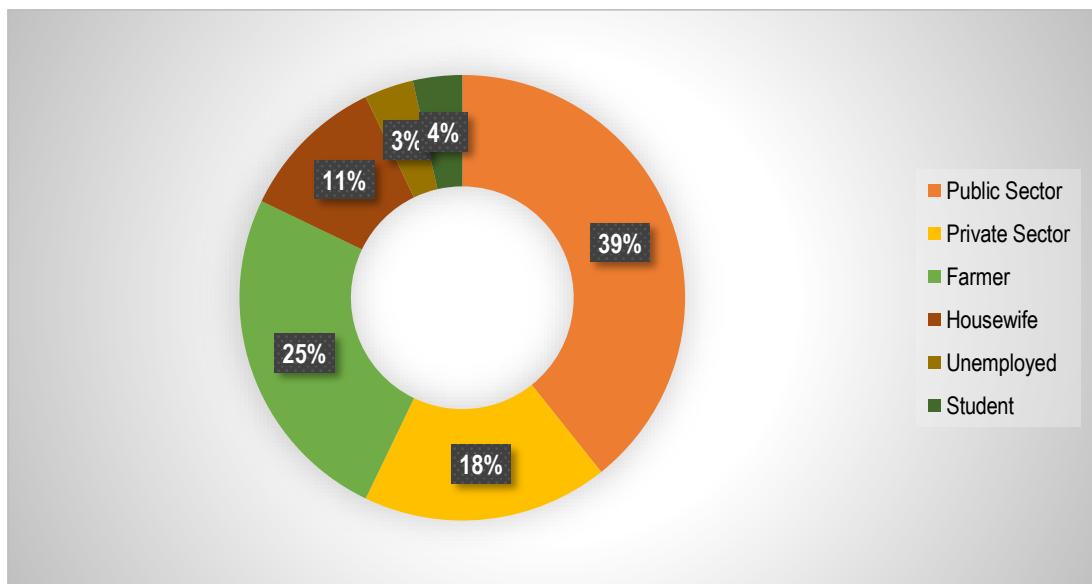
Appendix A: Residential status (left), Percentage distribution of respondents who have a family member in emigration (right)



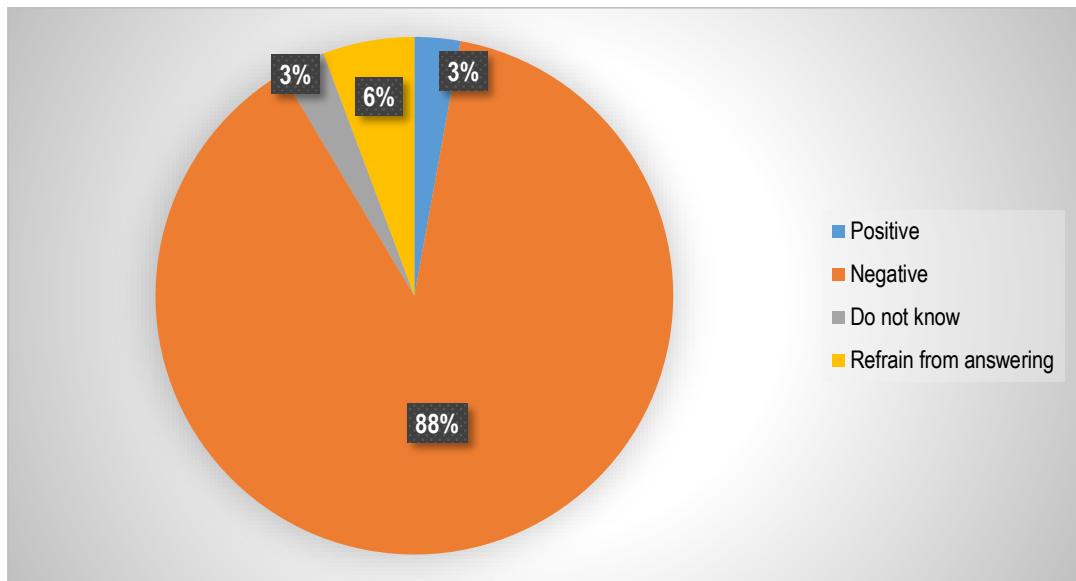
Appendix B: Knowledge of foreign language



Appendix C: Employment



Appendix D: Privatized residential area



Appendix E: Attitude towards tourism development in the region (left); Benefits from the tourist (right)



Appendix F: Number of hotels

Municipality	Number of hotels
Lentekhi	4
Mestia	178
sum	182