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Navigating climate change and financial challenges: a study of agricultural finance in Albania

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Summary

This study explores the interplay between climate change perceptions and financial access in Albania's agricultural sector, emphasising the critical challenges faced by farmers in adapting to climate variability.

Agriculture is a cornerstone of Albania's economy but faces growing climate-related risks in the form of erratic precipitation, extreme weather and soil degradation. Simultaneously, financial barriers manifesting as high borrowing costs, strict collateral requirements and limited availability of tailored financial products constrain farmers' capacity to invest in climate-resilient practices. Using a mixed-methods approach, we examine both supply- and demand-side dynamics in agricultural finance to understand farmers' and agribusinesses' perspectives on climate risks and financial accessibility, and the role of financial institutions in supporting climate change mitigation and adaptation.

A comparative analysis with other Western Balkan countries identifies best practice to enhance Albania's financial inclusion and resilience. While climate risk awareness is high, financial constraints remain a significant barrier. Targeted interventions can improve access to credit, transparency and efficiency in agricultural finance. These include climate-smart financial products, green loans, expanded insurance schemes, improved land tenure, streamlined EU funding and the integration of digital financial services such as mobile banking, fintech solutions and blockchain-based land registries.

Addressing the structural challenges – weak farm structures, poor land tenure and limited market access – requires strengthened infrastructure, land consolidation, financial inclusion and policy alignment with climate goals to boost sustainability and food security.

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1. Introduction

1.1. Environmental stress and agricultural finance in Albania

The agricultural sector worldwide is facing unprecedented challenges from climate change and ongoing environmental degradation. These compounding pressures are especially pronounced in Albania, where agriculture is a cornerstone of the economy, contributing significantly to GDP and providing a livelihood for much of the population. The complex interplay between climatic risks, biodiversity loss and financial decision-making in agriculture needs to be investigated thoroughly, given the far-reaching implications for sustainability, agrifood systems and economic resilience.

Albania's agricultural landscape is characterised by smallholder farmers, fragmented land ownership and limited capacity to adopt modern technologies, factors that exacerbate vulnerability to climatic and economic shocks. Rising temperatures, erratic rainfall patterns and more frequent extreme weather events are already reducing farm productivity, straining water resources and destabilising rural incomes. Water scarcity has emerged as a particularly acute challenge for Albanian agriculture, with higher temperatures and irregular precipitation.

Adaptation and mitigation strategies for both climate change and broader environmental challenges are dependent on accessible, inclusive financial services. Yet a persistent gap remains between the agricultural sector's demand for funding and the ability of financial institutions to supply affordable, tailored credit solutions. Farmers and agribusinesses[1] frequently face high borrowing costs, onerous collateral requirements and a lack of specialised financial products suited to the seasonal and risk-laden nature of agriculture. These financial obstacles impede proactive investment in resilience.

The evolving climate and environmental landscape also present a direct threat to food security and economic stability in the wider Western Balkans (World Bank, 2024a). While some neighbouring countries have begun consolidating farms and improving the leveraging of climate finance, Albania has been lagging behind in implementing key reforms to expand access to sustainable, climate-resilient investment in agriculture. Administrative inefficiency, limited technical capacity and weak interministerial collaboration currently hinder the effective management and utilisation of climate funds such as the Green Climate Fund (GCF), the Adaptation Fund and European Union funding mechanisms. The EU's Green Agenda for the Western Balkans (GAWB), alongside efforts to align with EU accession requirements, provides a strategic framework for addressing these issues by linking climate action and biodiversity conservation with development.

This paper examines the intersection of climate change, environmental pressures and agricultural finance in Albania, drawing on recent farmer surveys and comparative regional analysis. As climate variability intensifies and ecosystems continue to deteriorate, understanding farmers' risk perceptions is crucial for developing financial products and services that address the agricultural sector's evolving challenges. This paper identifies how farmers' perceptions of climate and environmental risks influence their financial decisions, and where mismatches exist between the demand for adaptation finance and its supply. The following sections discuss the climate and environmental challenges affecting

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[1] 'Agribusiness' refers to any business/enterprise related to farming, while a farmer is a person who owns or manages a farm.

agriculture, the financial barriers that limit adaptive investments and the observed responses of farmers. The paper then presents policy recommendations aimed at strengthening Albania's agricultural resilience through improved access to finance, enhanced environmental management and better alignment of national efforts with regional and international initiatives.

2. Climate change and agricultural finance in the Western Balkans

2.1. Regional perspectives: context

The Western Balkans, a region characterised by economic transition and environmental vulnerabilities, faces significant challenges in its agricultural sector due to climate change and the increasing frequency and intensity of extreme weather events. These climatic shifts are exacerbating existing structural deficiencies, such as fragmented land holdings, outdated production technologies and reliance on rain-fed farming systems (EEA, 2019).

Water scarcity has become a critical issue, particularly in Albania, North Macedonia and Kosovo, where irrigation is dependent on natural water sources (World Bank, 2024b). Soil degradation and erosion are reducing arable land quality and productivity. Biodiversity across the Western Balkans is under growing pressure and the loss of species such as pollinators is further undermining crop yields and agricultural resilience. Unsustainable land use practices have led to diminished agricultural output across the region (EU4green, 2024).

The livestock sector is also under strain, with heat stress caused by higher temperatures and fluctuating humidity levels affecting dairy and meat production in countries such as Serbia and Montenegro.

These disruptions have broader economic implications, including unstable food prices, shifts in trade balances and increased reliance on imports. In Albania, these issues are particularly acute due to the dominance of small-scale farms with limited access to modern technologies and inefficient irrigation infrastructure (World Bank, 2024b).

The EU integration process has been instrumental in shaping agricultural policies across the Western Balkans. The strict eligibility criteria guide countries toward alignment with EU standards and, with a growing commitment to greening agriculture, one aim is to enhance climate resilience in agriculture. The GAWB, modelled after the European Green Deal, provides a strategic roadmap for transitioning toward sustainable agricultural practices by linking climate finance with policy reforms (EC, 2023; EBRD, 2020). However, despite formal commitments to these policies, implementation remains uneven across countries due to disparities in institutional capacity, financial absorption rates and interinstitutional coordination (Erjavec et al., 2021).

A key aspect of this alignment is the integration of agricultural policies in the Western Balkans with the Common Agricultural Policy (CAP). This is a complex and evolving process with input from both EU accession requirements and domestic political dynamics (Erjavec et al., 2021). The 2023–2027 CAP reform strengthens the environmental focus by introducing eco-schemes, which require that at least 25% of direct

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payments support climate-friendly farming practices, while a minimum of 35% of rural development funds are now allocated to environmental, climate and animal welfare initiatives.

However, Western Balkan countries continue to prioritise production-oriented subsidies, in contrast to the CAP's focus on sustainability and decoupled direct support mechanisms (Gorton et al., 2009; Erjavec and Lovec, 2017). While they have committed to policy harmonisation, implementation remains slow due to weak institutional frameworks, financial constraints and limited investment in agri-environmental measures (AEMs) (World Bank, 2024b).

The dominance of coupled payments across the region presents challenges for post-accession policy shifts (Volk et al., 2019). Despite efforts to introduce rural development and environmental protection measures, these remain marginal compared to production incentives, largely due to political economy constraints and lack of administrative capacity (Gorton et al., 2009; Erjavec and Lovec, 2017). Failure to address these structural gaps may not only delay accession, but also cause economic disruption for farmers adjusting to the CAP framework post-accession (Csáki and Jámbor, 2013).

While the importance of agriculture has declined across much of the Western Balkans due to economic diversification into industry and services, Albania remains heavily reliant on it. Approximately 18% of its GDP comes from the agricultural sector, which is significantly higher than for its regional counterparts. Despite a gradual decline from 41.3% employment in agriculture in 2015 to 34.9% in 2023, the sector remains a cornerstone of rural livelihoods, where alternative employment opportunities are scarce (EUROSTAT, 2024).

Figure 1 shows the contribution made by the agricultural sector to Western Balkan economies and employment, as well as the budgetary support it receives. The sector is more important for GDP and employment in Albania than in any other country in the region, and yet receives the least support.

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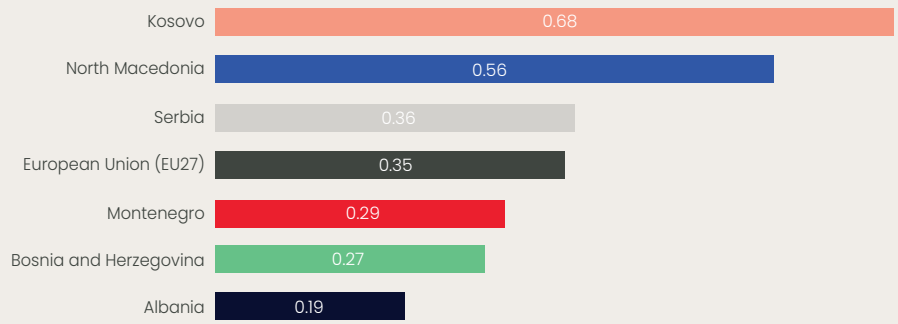
Figure 1. Contribution of agriculture to GDP in the Western Balkans

Source: EUROSTAT (2024)

Figure 2. Budgetary support for agriculture in 2021 (% of GDP) in the Western Balkans



Sources: World Bank (2024b) and EUROSTAT (2024)

Albanian agricultural budget support falls far below the regional average for Western Balkan countries and the EU27 benchmark (World Bank, 2024b) (Figure 2). Unlike other Western Balkan 6 (WB6) countries that favour direct coupled payments,[2] Albania provides minimal production-based subsidies, which may further constrain the sector's ability to modernise and compete regionally.

2.2. Agricultural capacity in the Western Balkans

Farms in the Western Balkans are predominantly small and family-owned, with significant variations in size and productivity across countries (Table 1). Land fragmentation, low market integration and limited mechanisation are common challenges throughout the region.

Albania, Bosnia and Herzegovina, and North Macedonia are particularly affected by fragmented farmland, which impedes mechanisation, economies of scale and the adoption of modern technologies. Serbia has larger than average farms and economies of scale have enabled greater investment in advanced farming techniques.

Table 1. Comparison with other Western Balkan countries

Country	Farm size and structure	Key challenges
Albania	1.9 ha average farm size, highly fragmented plots (~0.26 ha per plot)	Land fragmentation, outdated farm data, rural depopulation
Bosnia and Herzegovina	3.5 ha average farm size; ~360,000 rural households engaged in farming, but only 55,000 commercial farms	No agricultural census since 1960, generational transfer failure
Kosovo	1.7 ha average farm size; ~60% of farms under 5 ha	Low market integration, only 5% of direct payment applicants are women
Montenegro	2.1 ha average farm size; 43,791 farms (2017) but only 19,622 registered farms (2023)	Ageing workforce, limited female farm ownership (15.15%)
North Macedonia	1.8 ha average farm size; 61% of farms under 1 ha	Low income and adaptation capacity, only 10% of farm managers are women
Serbia	6.2 ha average farm size; 564,541 farms, 84% family-run	High land concentration; 43% of farm holders over 65 years old

Source: EU4Green (2024)

"Land fragmentation, low market integration and limited mechanisation are common challenges throughout the region."

[2]'Direct coupled payments' are agricultural subsidies linked directly to the volume or type of production (e.g. number of livestock or amount of crop produced).

Beyond land fragmentation, key agricultural challenges across the Western Balkans include outdated machinery, insufficient data for policymaking, slow progress in land consolidation and gender disparities that undermine both economic inclusion and the sector's resilience to climate change.

2.3. Regional financial mechanisms and agricultural policies

Western Balkan economies have increasingly incorporated environmental and climate-related objectives into their policy frameworks. However, implementation and funding remain insufficient. Farmers across the region struggle with limited access to formal credit due to high collateral requirements, underdeveloped rural banking networks and the reluctance of financial institutions to lend to the agricultural sector, which is often considered to be 'high risk'.

The absence of specialised financial instruments, such as weather-indexed insurance and green credit lines, further exacerbates farmers' vulnerability to climatic shocks, leaving them with limited means to recover losses or invest in adaptive strategies. Such instruments have shown promise in other contexts, particularly when tailored to the specific risks and needs of agricultural borrowers (CGAP and IFAD, 2006). More developed European agricultural systems benefit from robust financial support mechanisms, including subsidies and targeted grants that facilitate farm modernisation and climate adaptation.

In Albania and Kosovo, there are no specific budgetary allocations for agricultural measures addressing environmental and climate challenges. Similarly, in North Macedonia and Montenegro, funding for such initiatives only constitutes approximately 2% of the total agricultural budget (Martinovska Stojcheska et al., 2024). This lack of financial commitment undermines the adoption of climate adaptation strategies and limits the development of sustainable agricultural practices. Broader rural development efforts, including non-agricultural business creation, infrastructure improvements and essential village services, also suffer from inadequate financial support.

Despite formal commitments to sustainable agriculture, financial constraints remain a major obstacle. For instance, Albania lacks a fully functional Farm Accountancy Data Network (FADN), which limits access to structured financial data critical for informed policymaking and investment planning. This data deficiency makes it difficult for both public and private investors to assess risks and returns in the agricultural sector, exacerbating the financing gap.

The EU Instrument for Pre-Accession in Agriculture and Rural Development (IPARD) 2021–2027 is a key source of funding for farm diversification, modernisation and business development across eligible economies, such as those of Albania, Montenegro, North Macedonia and Serbia. IPARD also supports climate adaptation and mitigation efforts. Some targeted measures still await accreditation in these countries but, once approved, could provide funding for agri-environmental practices, organic farming, advisory services, knowledge transfer and local development strategies. These are critical areas for enhancing sustainability in agriculture.

These mechanisms align with the CAP by promoting good agricultural practices that conserve soil and foster rural development. In North Macedonia, for instance, subsidies are linked directly to compliance with

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sustainable farming practices. Rural development programmes also play a key role in supporting investment in agricultural infrastructure such as modern irrigation systems and advanced machinery, enhancing productivity while reducing environmental impacts.

However, despite the availability of European financing, the slow adoption of green agricultural investment mechanisms in Albania has discouraged private sector engagement in sustainability initiatives. Similar challenges exist in Kosovo and Montenegro, where small-scale production structures and weak financial mechanisms constrain agricultural investments. Addressing these barriers requires not only financial support, but also stronger technical capacity and knowledge-sharing infrastructure. Specialised training facilities and agricultural research centres play a crucial role in equipping farmers with the necessary skills to transition toward climate-resilient farming models, ensuring long-term sustainability in the sector.

3. Spotlighting Albania's agriculture: climate challenges and opportunities

3.1. Impacts of climate change and environmental degradation

Climate change has already begun to disrupt production through rising average temperatures, shifting precipitation patterns, more frequent droughts and extreme weather events. These trends exacerbate environment-related risks such as soil erosion and pest pressures, while worsening water shortages. Crop yields and livestock productivity suffer as a result. In Albania, higher temperatures combined with irregular rainfall are projected to create significantly drier growing conditions, straining water supplies for irrigation. Unaddressed, such climatic stresses could undermine national food security and rural incomes.

Beyond climate change, Albania faces severe environmental degradation. Deforestation, unsustainable land use, salinity and pollution have resulted in one of the highest rates of biodiversity decline in Europe. Soil fertility has plummeted in many areas due to overuse and poor land management, and approximately 24% of Albania's arable land is now classified as severely eroded. Degraded ecosystems provide less pollination, water regulation and climate buffering, weakening agricultural resilience and increasing economic risk.

Recognising these threats, the government has committed to various climate and conservation targets,[3] but financing gaps are a severe constraint on implementation. Limited funding is dedicated to helping farmers adopt climate-adaptive or biodiversity-friendly practices, and environmental considerations have yet to be fully mainstreamed into agricultural policy.

Water availability is a critical challenge at the nexus of climate, nature and finance. Approximately half of Albania's farmland still relies on traditional flood irrigation, an inefficient method that is highly vulnerable to drought (World Bank, 2024a). While the government has prioritised investment in modern drip and sprinkler irrigation to boost water use efficiency, several projects have faced implementation challenges. Modern systems could increase water efficiency by up to 60%, reducing vulnerability to dry conditions and improving overall productivity. It is estimated that €300 million of investment is needed by 2030 (EU4green, 2024). Restoring and

"Deforestation, unsustainable land use, salinity and pollution have resulted in one of the highest rates of biodiversity decline in Europe."

[3]Such as the NAP, National Biodiversity Strategy, Nationally Determined Contribution (under the Paris Agreement) and NECP.

expanding funding for such infrastructure is essential to safeguard yields against a drier future.

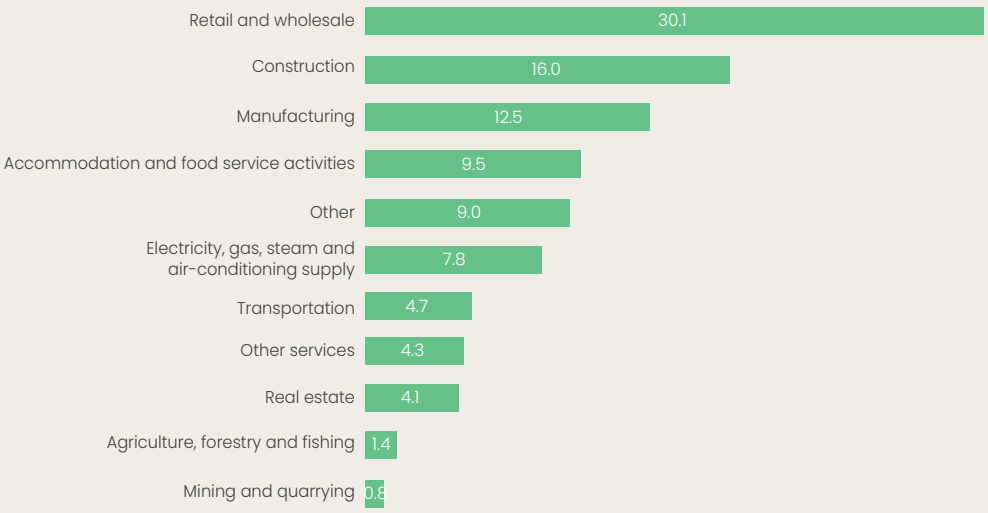
The National Adaptation Plan (NAP) and National Energy and Climate Plan (NECP) emphasise regenerative agriculture techniques such as crop rotation, conservation tillage and agroforestry to restore soil health and long-term productivity (World Bank, 2024a). Sustainable soil conservation programmes require an estimated investment of €120 million by 2030.

3.2. Financial constraints

Financial barriers continue to impede farmers in adapting to climate and environmental risks (Figure 3). Around 75% of Albanian farmers consider limited access to finance to be the greatest obstacle to implementing climate adaptation measures (EU4Green, 2024). Commercial banks dominate rural lending, providing roughly two-thirds of total rural credit, yet rural loans constitute only a small fraction of their overall portfolios at approximately 1.5% (Table 2). This reflects a persistent reluctance to finance what is perceived to be a high-risk, low-return sector. The banks' dominance stems from their substantial asset base, accounting for nearly 88% of GDP. From the banking perspective, the unpredictability of climate change and ongoing environmental degradation translates into heightened perceived risk, further deterring lenders from financing agriculture. This results in high interest rates and strict collateral requirements that make formal loans unattainable for many smallholders. In addition, the financial products available are rarely tailored to the seasonal cash flows and unique risk profile of agriculture.[4]

Non-bank financial institutions (NBFIs) play a more targeted role in rural finance, with a higher proportion of their portfolios allocated to agriculture. Savings and loan associations (SLAs) are the most agriculture-focused lenders, dedicating a significant share of their portfolios to rural finance. These institutions probably serve small-scale farmers who struggle to access credit from commercial banks. However, their contribution remains limited by their smaller asset sizes, which have remained marginal over time.

Figure 3. Total lending by economic sector in 2024 (%)



Sources: Bank of Albania (2024) and authors' calculations

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[4]It is also worth noting that the penetration of agricultural insurance is below 3%, leaving most farmers highly exposed to climate-related losses (Albanian Insurers Association, 2021).

Table 2. Characteristics of financial providers in Albanian rural lending

Type of finance provider	Total number	Share of total rural lending (%)				Rural loans as a percentage of total loans for the respective financial sectors				Assets as a percentage of GDP			
		2020	2021	2022	2023	2020	2021	2022	2023	2019	2020	2021	2022*
Commercial banks	11	64.6	75.0	74.7	68.0	1.6	1.6	1.7	1.5	87.2	97.8	93.9	87.9
NBFIs	39	30.7	20.8	21.6	27.5	10.4	9.6	9.6	8.5	3.9	4.2	4.0	3.7
SLAs and their unions	17	4.7	4.2	3.7	4.5	35.2	27.1	24.7	20.5	0.6	0.7	0.7	0.7

*Note: *2022 assets data are from Q3.*
Sources: AAB (2024), AMA (2021), Bank of Albania (2024) and authors' calculations

While microfinance institutions and credit unions provide some support in rural areas, their loans are typically small and expensive. This is consistent with broader global findings, where microcredit programmes have shown mixed impacts on poverty reduction and investment, depending on context and programme design (Banerjee et al., 2015; Morduch and Haley, 2002).

The Rural Credit Guarantee Foundation (RCGF) collaborates with commercial banks, NBFIs and SLAs to provide credit guarantees. However, these initiatives often struggle to reach the small-scale farmers most in need of financing because of the inherent risks and low return expectations associated with agricultural lending. While associations for agricultural cooperation (AACs) are legally permitted to offer funding to farmers,[5] in practice they do not, largely due to a lack of cooperation among members. This creates a vicious cycle whereby limited access to finance hampers climate adaptation and agricultural resilience, perpetuating the financial challenges that farmers face.

3.3. Structural issues

Albania's agricultural sector has to grapple with structural issues such as highly fragmented landholdings stemming from the post-1991 land reforms[6] while striving for modernisation and financial sustainability. Neighbouring countries have shown that progress is possible, but Albania continues to face major hurdles in policy implementation and resource mobilisation.

While a few staple crops dominate the sector, the farms are mostly small and diffuse: 86% operate on less than two hectares. Furthermore, Albanian producers fail to meet the criteria required by the EU market, including standards for product quality, consistency and competitiveness, hindering their integration into global value chains (World Bank, 2018).

The country has also experienced significant rural-to-urban migration since 2011, driven by declining education and healthcare services in rural areas (Tema et al., 2023). This demographic shift has reduced the labour force available for farming while increasing the challenges associated with generational succession. Gender disparities further exacerbate these issues. Men generally have greater access to knowledge and resources for crop cultivation and water management, while women are more engaged in livestock adaptation strategies (Zhllima, 2021).

Rural areas also lag behind in educational attainment, with a median time in education of 7.5 years compared to 14.4 years for urban areas (INSTAT,

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[5]For further information on this, please see Law No. 38/2012 on Associations for Agricultural Cooperation.

[6]Law 7501. This land reform brought about a radical change in land tenure and property rights on agricultural land (from state to private ownership). Each family was given land in various locations in order to have plots of the same quality of soil, in terms of fertility, irrigation capacity and cropland type.

2019). This is undermining modernisation efforts and the ability to adapt to economic and environmental challenges.

These region-wide challenges set the stage for a closer examination of Albania's own agricultural climate risks and financial constraints below. Encouraging farmers to shift to high-value, climate-resilient crops will require financial incentives and targeted capacity-building programmes, with an estimated investment of €250 million required by 2030.

Despite the considerable challenges brought by climate change, there are also opportunities for Albanian agriculture to capitalise on. Key advantages include longer growing seasons, the ability to grow new crops in previously unsuitable areas and the potential to expand high-value agricultural sectors such as viticulture and olive production. Agricultural insurance is a critical tool for protecting farmers from financial losses, yet Albania lacks a comprehensive crop insurance programme (World Bank, 2024a). Expanding index-based insurance schemes could provide a scalable solution to derisk agriculture.

4. Methodology

A mixed-methods approach was adopted to analyse Albanian farmers' perceptions of climate change and environmental degradation and their implications for agricultural finance. Data was collected through desk research complemented by qualitative and quantitative analyses. A survey was conducted to capture the perspectives of a diverse cohort of agribusinesses and farmers throughout Albania regarding climate change awareness, vulnerabilities, economic impacts and adaptive strategies. The survey targeted approximately 150 farms and agribusinesses to ensure statistical significance. A total of 76 responses were received from 54 farms and 22 agribusinesses. Preliminary interviews were conducted to refine the survey's relevance and content.

The survey instrument was structured into six sections: (1) the socioeconomic and demographic characteristics of farmers and rural enterprises; (2) financial needs and products; (3) cost structures and debt characteristics, including loan types and conditions, informal funding and government/donor support; (4) financial challenges faced by farmers and agribusinesses; (5) the characteristics of future loan applications; and (6) perceptions and awareness of climate change and environmental degradation.

The next section presents an overview of the demand for and supply of finance within the Albanian agricultural sector. Supply side analysis provides information on the financial intermediaries that offer funding to agriculture and the main financial products available to farmers and rural enterprises, as well as the financial instruments targeting agriculture, with national or foreign funds. This section also analyses the conditions for accessing finance, focusing on interest rates, maturity and collateral requirements, and the availability of funding for rural producers. It examines potential differences in the availability and characteristics of financial products across various types of rural producers. Demand side analysis explores the driving factors behind the demand for finance in the agricultural sector, aiming to identify key demand characteristics such as interest rates, collateral requirements, geographical distance, costs, savings and insurance. Supply and demand analyses set the foundation for assessing survey results and developing recommendations.

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5. Analysis and results

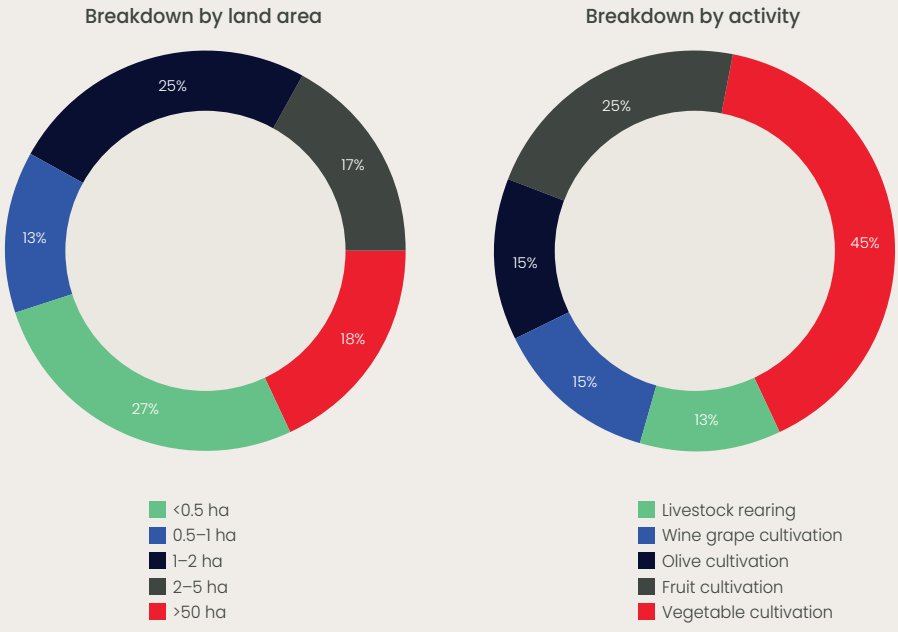
5.1. Sample characteristics

The survey revealed that over 95% of the respondent farmers were male,[7] with most having approximately 20 years of experience in the agricultural sector. Approximately 90% of them were not registered in the National Business Center and did not possess a NUIS (NIPT)[8] certificate, while 40% were subsistence farmers who primarily produced for household consumption due to their small landholdings and low production capacity.

Figure 4 breaks down Albanian farmers by land size and activity. Only 18% of the survey respondents owned more than 50 ha of land, with most having small plots. The main crops under cultivation were fruits and vegetables, including olives and wine grapes, which were recorded separately. Small livestock farms were also relatively common.

Approximately 78% of the farmers had never taken out a loan from a commercial bank or other financial institution. Around 88% of those who had never taken out a loan owned less than 5 ha of land, while more than 50% of those who had taken out a loan owned more than 5 ha. The largest share of borrowers appeared to be among those who cultivated fruits and vegetables, probably due to higher consumer demand for these. Farmers in peripheral areas also faced challenges because of their greater geographical distance from financial institutions. Approximately 54% of the surveyed agribusinesses had taken out at least one loan from a financial institution, and 72% reported that financial institutions are located near or very near to their businesses, suggesting relatively good geographical access to finance. However, this proximity does not necessarily translate into greater access to appropriate or affordable financial products.

Figure 4. Survey respondent characteristics: farmers



Note: The right-hand chart shows the breakdown of farming activities, with percentages not adding up to 100% as some farmers cultivate more than one type of crop.

Source: Authors' calculations

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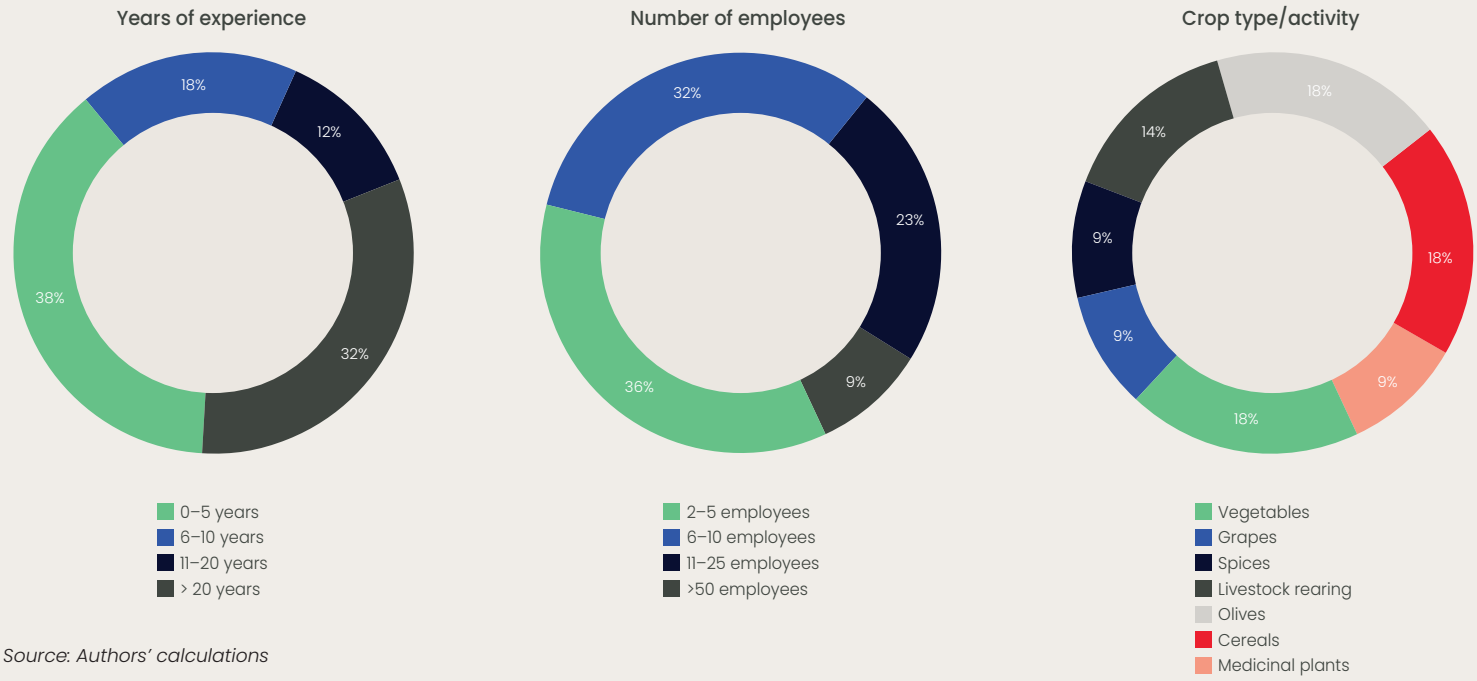
[7]Most farmers are male, as they are commonly the managers of rural activity, whereas rural women are mostly engaged in domestic activity, including caring for children and dependents; manual work in agricultural production and processing; animal care; milking; and cheese production. For further information, see FAO (2016).

[8]The NUIS (NIPT) is a unique tax identification number in Albania, which is assigned to all individuals and entities registered for tax purposes, and is similar to a TIN (tax identification number).

Figure 5. Survey respondent characteristics: agribusinesses



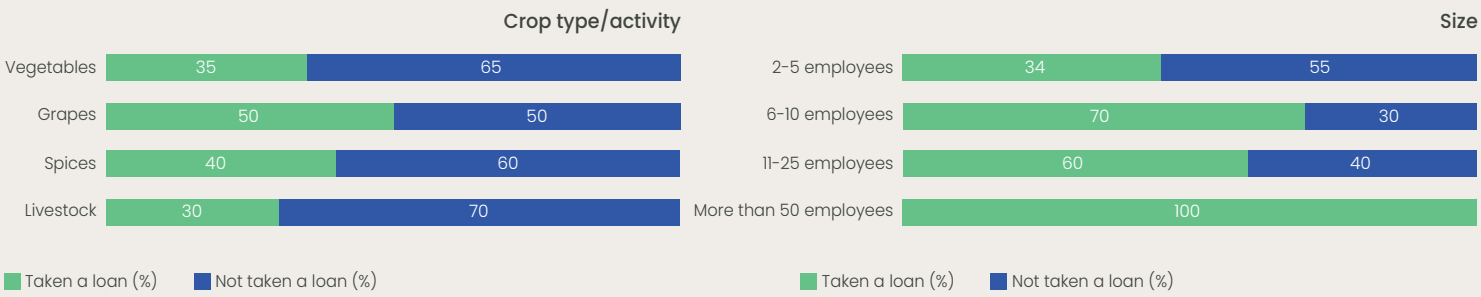
Source: Authors' calculations

Figure 5 breaks down Albanian agribusinesses by years of experience in the market, size as measured by number of employees, and crop type. Approximately 32% of the survey respondents had more than 20 years' experience operating in the agricultural sector, demonstrating a degree of established presence, while around 38% were relatively new, with less than 5 years' experience, signalling dynamism and new business creation. Only 9% were large, with more than 50 employees, while 36% were small, with 2–5 employees, reflecting the dominance of smaller-scale operations. The primary activities included processing, packaging, food production and commercial operations. Most produced vegetables, wine and other grape beverages, and olive oil, indicating key product areas within the sector. Unlike the majority of farmers, these agribusinesses were all registered at the National Business Center.

Figure 6 indicates how many agribusinesses had taken out at least one loan from a financial institution as a proportion of the total number by crop type and size (number of employees). A higher proportion of large enterprises and those producing wine/beverage grapes and spices had taken out loans. However, it is important to acknowledge that this result

"Approximately 32% of the survey respondents had more than 20 years' experience while around 38% were relatively new, with less than 5 years' experience."

Figure 6. Borrowers and non-borrowers as a proportion of the total number of agribusinesses by crop type and size



Source: Authors' calculations

is subject to sample selection, and the findings might differ with another group of interviewed businesses.

Financial needs by cost structure during the post-2019 earthquake and COVID-19 pandemic period

The survey examined the financial challenges agribusinesses faced after the 2019 earthquake and the COVID-19 pandemic. Approximately 25% of respondents, mainly those near the affected areas, reported damage to their homes and, to a lesser extent, their agricultural activities. The primary financial need was to meet investment costs (41%), followed by operational costs (36%). Additionally, 32% of agribusinesses struggled with reduced sales and profits due to the pandemic. Many affected businesses received government aid for repairs or relied on savings and family support. While some noted that floods, exacerbated by deforestation and extreme weather, caused more damage than the earthquake, the pandemic also led to reduced sales. Since the earthquake, rural producers, especially in remote areas, have required additional financial resources for farm restructuring and recovery from damage.

Preferred finance providers and lending conditions

The survey sought to understand the preferences of agribusinesses when selecting a financial service provider. When asked which institution they would borrow credit from in case of need, 63% responded that they would prefer a commercial bank because they trusted banks more than other financial institutions and they were more familiar to them. Approximately 18% would only accept funds from the government, such as grants under the IPARD or other agricultural financing programmes, while 19% would approach NBFIs or SLAs for a loan, due to their specialised financial products for the agriculture sector, including microcredit.

There were also some trends for different business sizes. Typically, medium to large ones preferred banks, while small enterprises (two to ten employees) favoured other financial institutions or government grants. This is because small businesses find banks' bureaucratic procedures harder to deal with. For 90% of agribusinesses the ideal loan had the lowest possible interest rate and cost. Secondary preferences included loans with long maturity and easier application procedures.

Cost structure by crop type

Table 3 looks at the cost side of the sector. The main components of the cost structure for the interviewed farmers and agribusinesses were measured based on crop type. For farmers cultivating field vegetables, most of the expenses are operational, mainly involving seedlings and other agricultural inputs. However, for farmers cultivating vegetables in greenhouses, the most significant costs are for start-up and investment. They must procure greenhouses, seedlings, irrigation systems, fertilisers and so on. For farmers and agribusinesses cultivating permanent trees, medical plants, cereals or spices, or those with livestock farms, both investment and operational expenses are considered to be fundamental.

This data provides an understanding of the needs and challenges faced by Albanian agribusinesses, offering guidance for tailoring financial interventions to support their growth, resilience and contribution to the overall economy.

"When asked which institution they would borrow credit from in case of need, 63% responded that they would prefer a commercial bank because they trusted banks more than other financial institutions and they were more familiar to them."

Table 3. Financial needs and products and cost structure by crop type

Crop type/ activity	Start-up cost	Investment cost	Operational cost
Greenhouse vegetables	Greenhouses	Buildings (construction) Machines and other equipment/facilities Purchase of land Working capital investments Transport	Labour
Field vegetables	Seedlings	Machines and other equipment/facilities Purchase of land Transport	Labour
Permanent trees	Tree seedlings	Buildings (construction) Machines and other equipment/facilities	Seedlings
Medicinal plants	Greenhouse	Buildings (construction) Machines and other equipment/facilities Purchase of land Transport	Labour
Cereals		Buildings (construction) Machines and other equipment/facilities Repairs	Purchase of raw materials Electricity Labour
Spices	Greenhouse	Buildings (construction) Machines and other equipment/facilities Purchase of land Transport	Labour
Livestock rearing	Animals	Stalls Machines and other equipment/facilities	Animals Feed and medicine

Source: Authors

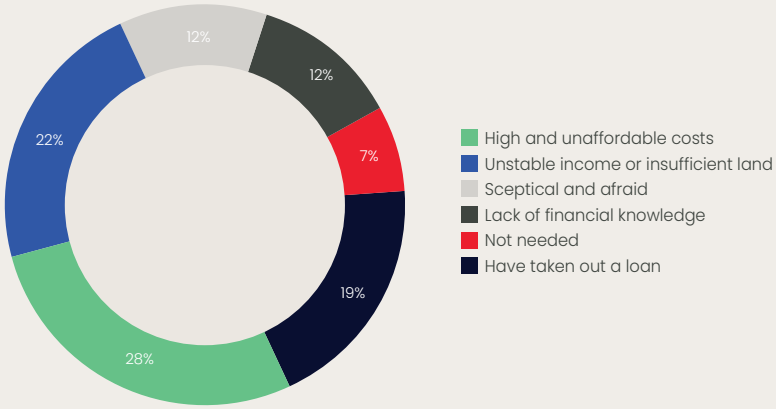
5.2. Demand for finance and major challenges in accessing it

Farmers' perceptions of financial institutions and their products highlight a significant barrier to growth: limited financial inclusion, especially among smallholders. A substantial proportion of farmers are reluctant to engage with formal financial institutions, primarily because of concerns about affordability, accessibility and perceived risks. The survey data indicates that approximately 81% of farmers have never considered applying for a loan from a financial institution. There are a number of reasons for this low uptake (see Figure 7):

- **High costs**: approximately 28% of respondents indicated that they would never consider applying for a loan because of the perceived high and unaffordable costs.
- **Lack of stable income and collateral**: approximately 22% of respondents cited concerns about the instability of their income stream due to the seasonal nature of agricultural production, making them doubt their ability to repay the loan. Some farmers lacked sufficient land to meet financial institutions' collateral requirements.

"The survey data indicates that approximately 81% of farmers have never considered applying for a loan from a financial institution."

Figure 7. Explaining farmers' low level of borrowing



Source: Authors' calculations

- **Scepticism and fear**: approximately 12% expressed scepticism and general apprehension about engaging with financial institutions.
- **Lack of knowledge**: approximately 12% reported that they lacked the necessary knowledge and understanding of banking procedures to prepare the documents required for loan applications. The effectiveness of microfinance depends not only on access, but also on the financial literacy and capacity of borrowers (Goldberg, 2005).
- **Alternative financing**: approximately 7% stated that they had never needed a loan, as they had historically relied on personal savings or financial support from relatives and friends to finance their activities.

Notably, even among the 19% of farmers who had previously taken out a loan, 75% indicated that they would not consider another loan because of the high costs involved. Twenty-five per cent expressed willingness to take another loan to expand their activities, despite the unfavourable terms.

Among farmers who had borrowed at least once from a financial institution, 70% had used a commercial bank and 30% an NBFI. Those who would never consider applying for a loan from a financial institution mostly owned small pieces of land that could not be used as collateral or only generated small profits and therefore did not have the capacity to repay a loan. By contrast, those who had taken out at least one loan in the past had more land and generated higher profits. However, most of these farmers, including some of those whose activities generated a satisfactory profit, would still avoid taking out another loan because of the high costs and other problems.

"I do not trust banks or other financial institutions. They are cheaters since they care only about their own profits. Furthermore, they set extremely high interest rates, which are unaffordable for us, especially given the unstable nature of our income."
Lezha, vegetable farmer

Banks are greatly preferred as a finance provider. Commercial banks seem more trustworthy to rural producers and attract more confidence, hence most farmers and agribusinesses would prefer to take out a loan from one rather than an NBFI or SLA. Furthermore, they say that banks take lower commissions than NBFIs and SLAs. However, they have much more complicated application procedures than NBFIs and SLAs. Consequently, farmers would only consider taking a loan from an NBFI or SLA when:

"The effectiveness of microfinance depends not only on access, but also on the financial literacy and capacity of borrowers."

- They do not fulfil banks' requirements.
- They do not understand banks' procedures and cannot prepare the required documents.
- They require funding for immediate necessities and cannot spend time on complicated procedures.

Agribusinesses' financing sources by cost structure

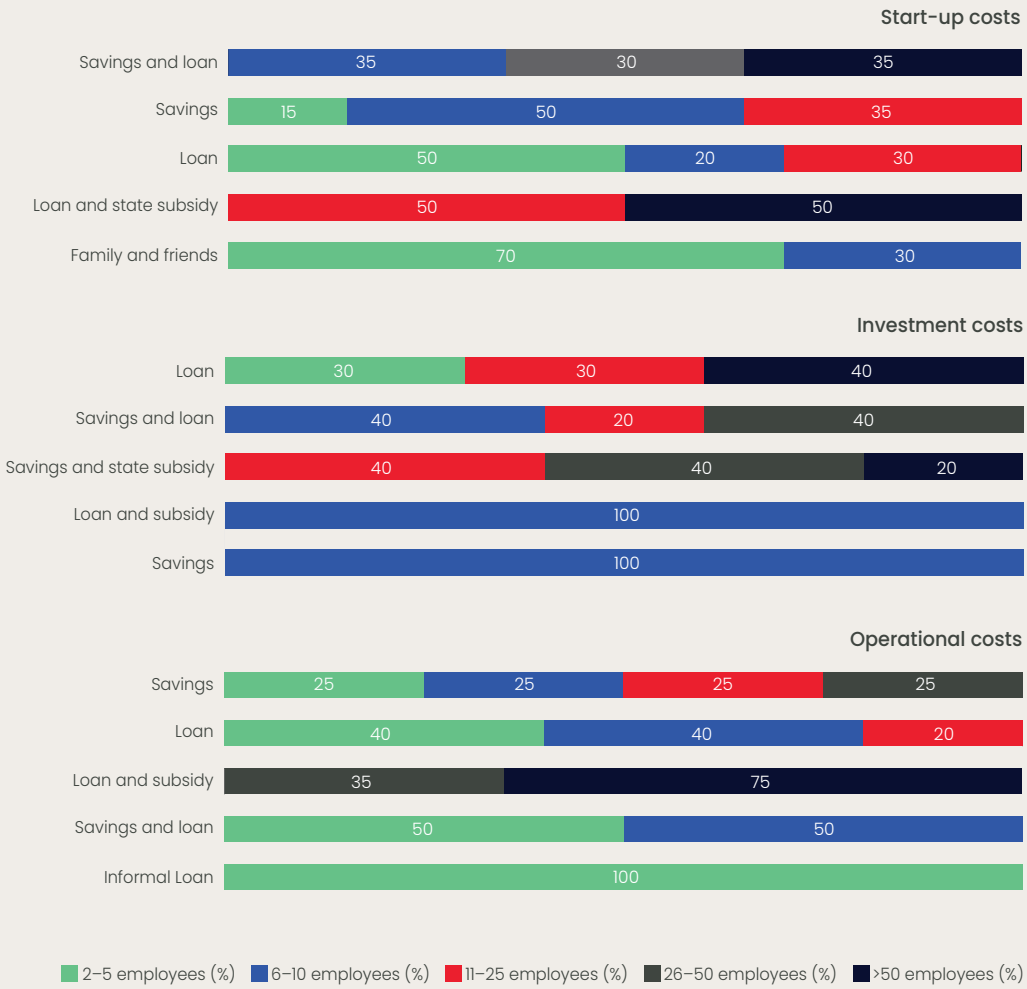
Approximately 27% of the agribusiness respondents financed their start-up costs using their own savings and a loan from a financial institution; 32% used their own savings alone; 18% used a loan from a financial institution; 9% used a loan and a governmental subsidy; and 14% were helped by family and friends.

Approximately 27% financed investment costs through a loan; 23% through savings and a loan; 23% through savings and a state subsidy; 18% through personal savings; and 9% through a loan and state subsidy.

Approximately 36% financed operational costs through personal savings; 23% through a loan; 18% though their own savings and a loan; 14% through a loan and a public subsidy; and 9% through an informal loan. Figure 8 provides details on the financing sources of agribusinesses according to cost structure and number of employees.

"Approximately 27% of the agribusiness respondents financed their start-up costs using their own savings and a loan from a financial institution."

Figure 8. Financing sources by cost structure and enterprise size (no. of employees)



Source: Authors' calculations

Rural producers' experiences with financial institutions

Approximately 18% of agribusinesses have limited information about banking products and 14% have never applied for a loan. Among those who have, 73% obtained loans from commercial banks, while the rest turned to NBFIs or SLAs. Some respondents expressed a preference for grants or government financial support due to negative experiences with banks.

"I am categorically against credit. I seek financial support from the state through government grants and, as a regular business, correct according to the state rules, I deserve a government grant to help me in my good intentions to grow my business by investing in my state, to offer traditional and high-quality food to the citizens of this country."
Tirana, cereal farmer

Financial products used by rural producers

Farmers face challenging financing conditions, with interest rates as high as 20% and collateral requirements of up to 120% of the loan value, as shown in Table 4. Most are dissatisfied with loans because of their high cost and lenders' complicated procedures, yet they lack better alternatives.

Sources of loan repayment

Most agribusinesses repaid loans through the profits generated by their economic activity, despite the instability and uncertainty of these revenues. Farmers who were unable to pay loan instalments through profits sought financial support from family and relatives, primarily those working abroad, or themselves worked abroad as seasonal workers to earn additional income. Approximately 15% had not yet been able to repay their loans.

Financial knowledge of agricultural producers

Most rural producers had a general understanding of the available financial sources and products, and were not at all interested in what was offered. Rural producers tended to be suspicious of financial institutions because of their lack of knowledge in this area, and had difficulty in understanding the complex application procedures and preparing the required documentation. It was also their opinion that financial products are offered at extremely high cost and with terms that are inconvenient for them because of their unstable income. NBFIs and SLAs are not as well-known or popular as commercial banks, even though they may offer more agriculture-targeted products.

Table 4. Financial products used by rural producers

Loan amount	Interest rate	Loan maturity	Collateral (% of loan)	Primary use	Borrowers
5,000,000	11–20%	5 years	50–120%	Long-term investments (e.g. buildings, land, machinery)	36%
1,000,000	6–10%	5 years	50–120%	Mixed use, including machinery	27%
<1,000,000	0–5%	5 years	100% or more	Equipment and machinery	23%

Source: Authors' analysis of survey

"Some respondents expressed a preference for grants or government financial support due to negative experiences with banks."

5.3. Perceptions of environmental impacts and their financial implications

This section examines the Albanian agricultural sector's perceptions of the growing climate-related challenges it faces, based on a comprehensive survey conducted among agribusinesses and farmers. The insights produced are essential to understand the sector's vulnerabilities and develop effective strategies to enhance climate resilience.

Awareness of climate risks

A significant majority (80%) of the survey respondents reported being aware of climate risks. This awareness is a crucial first step in developing and implementing climate change adaptation strategies. However, the survey highlighted that 20% of respondents were not aware of these risks, underscoring the need for targeted educational initiatives to bridge this knowledge gap.

Experience of the impact of climatic and environmental risks

Seventy-five per cent of respondents had already experienced the impact of climate risks on their operations. This tangible experience underscores the reality of climate change as an immediate concern, rather than a distant threat. Agribusinesses and farmers reported facing various challenges, such as temperature extremes, changing rainfall patterns, reduced nutrient quality, increased pest and disease outbreaks, and effects on local ecosystems. These challenges have direct implications for crop yields, water availability and overall productivity.

"Seventy-five per cent of respondents had already experienced the impact of climate risks on their operations."

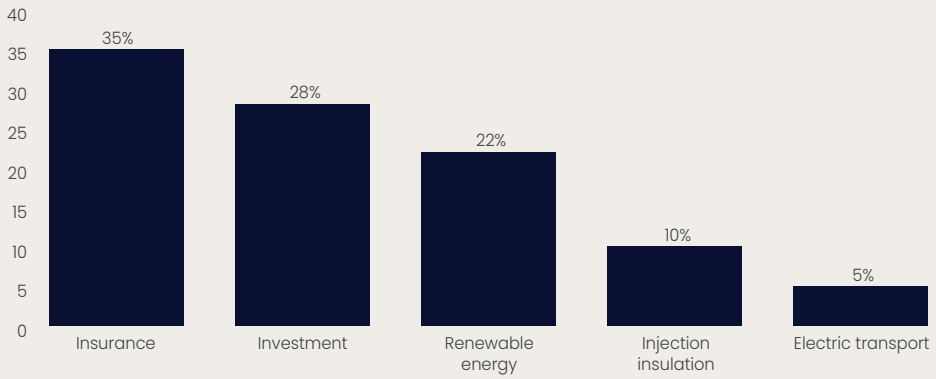
Future expectations and vulnerability

Anticipation of future impacts is evident, with 80% of respondents believing that their businesses will be affected by climate risks in the future. This high percentage reflects a sense of vulnerability among agribusinesses and farmers, highlighting the need for proactive measures to mitigate potential disruptions.

Adoption of protective measures

The respondents have adopted various protective measures in response to the perceived risks (Figure 9). Notably, 35% have opted for insurance to mitigate the financial risks associated with climate change. Additionally, 25% have invested in climate-resilient infrastructure and technologies, and 20% have embraced renewable energy solutions. These measures

Figure 9. Protective measures taken by agribusinesses against climate risks



Source: Authors' calculations

indicate recognition of the importance of building resilience in the face of climate uncertainty. However, there is room for growth in adopting more sustainable practices, particularly in the areas of renewable energy and sustainable transportation.

Information gaps and sources

A concerning finding from the survey was that 60% of respondents felt that they lacked sufficient information to protect their businesses from climate risks. This highlights the need for improved dissemination of climate-related information and resources. The media emerged as the primary source of information for 50% of respondents, followed by the Chamber of Commerce (20%) and the enterprises themselves (15%). Ensuring that the information from these sources is reliable and science-based is crucial for informed decision-making.

Support for laws and regulations

A majority (70%) of respondents expressed support for the development of laws and regulations to manage climate risks for citizens and businesses. This indicates recognition of the importance of a structured approach to climate change mitigation and adaptation, and the need for a regulatory framework that incentivises sustainable practices.

The survey also delved into economic losses from climate change, with respondents providing valuable data on the real financial losses experienced in 2022. This information is crucial for assessing the economic effects of climate change on businesses and informing risk management strategies.

Awareness of the financial advantages associated with green initiatives and climate-related risk management is high, with 60% of respondents acknowledging the benefits. However, while half of the respondents are willing to invest in improving their resilience to climate change risks, approximately 35% are not.

The distribution of budget allocation for green initiatives and risk management highlights the diverse approaches to financial preparedness for climate resilience and green initiatives among farmers and agribusinesses. Investment in sustainable initiatives ranged from no budget allocation at all up to an allocation of 25–30% of the total budget.

The survey also revealed that a substantial proportion of agribusinesses have started to take steps to address climate-related risks in the past year, indicating a growing awareness of the importance of managing these. However, further education and awareness efforts may be needed for some businesses. Collaboration with financial institutions offering green financing options and the presence of a dedicated unit responsible for managing climate-related issues are promising signs of organisational commitment to addressing climate concerns.

In conclusion, the survey results reveal a landscape marked by both awareness and vulnerability, with a significant proportion of the sector already experiencing the impacts of climate change. These insights are invaluable for policymakers, stakeholders and businesses in developing strategies to foster climate resilience and sustainability in the agricultural sector. A first set of recommendations are provided in the next section.

"Ensuring that the information from these sources is reliable and science-based is crucial for informed decision-making."

6. Conclusions and recommendations

Albania's agriculture sector is a cornerstone of rural livelihoods and food security, yet it remains highly vulnerable to climate change and financial constraints. This study found that while awareness of climate risks is high among farmers, their capacity to adapt is severely limited by structural and financial barriers. Key obstacles – including prohibitively high lending costs, insufficient collateral, fragmented landholdings, low financial literacy and weak insurance coverage – continue to impede investments in climate-resilient practices. As a result, many farmers rely on personal savings, informal loans and remittances to cope with shocks. Addressing these challenges is imperative to build resilience, enhance productivity and support sustainable growth. To this end, a comprehensive approach is required, focusing on improving financial inclusion, strengthening institutions, prioritising climate-smart investments, advancing policy reforms and fostering regional cooperation.

The following recommendations outline high-priority actions for these areas:

- Enhance financial inclusion. Affordable financing options for smallholders and agribusinesses need to be expanded. This includes developing tailored credit products (e.g. climate-smart loans and microfinance schemes) with lower interest rates and flexible collateral requirements, supported by credit guarantees to reduce risk for lenders. Improved financial literacy and outreach is also crucial to increase confidence in using formal financial services. This can be achieved through training, advisory services and digital banking platforms. Scaling up agricultural insurance and risk-sharing mechanisms will help protect farmers and agribusinesses against climate-related losses and encourage investment in adaptation measures.
- Strengthen institutional capacity. The ability of financial institutions and government agencies to support climate adaptation in agriculture needs to be improved. Banks and microfinance institutions should be encouraged and trained to better assess agricultural projects and integrate climate risk considerations into lending. Public institutions require enhanced technical expertise and coordination to design and implement effective rural finance programmes and fully utilise available climate funds and EU instruments such as IPARD. Streamlining administrative procedures and improving interministerial collaboration will increase the uptake of grants and credits aimed at the agriculture sector. Dedicated units or task forces can be established to oversee climate finance initiatives and provide coordinated support to farmers and agribusinesses.
- Prioritise climate-smart investments. Public and private investment should be directed towards climate-resilient infrastructure and technologies in the agricultural sector. Key priorities include modernising irrigation systems, improving water management and promoting soil conservation to combat droughts and land degradation. Renewable energy and climate-smart technologies can boost productivity while reducing environmental impact. Solar-powered irrigation, farm-level energy systems, drought-tolerant crop varieties, greenhouses and more efficient machinery are potential targets for greater investment. Increasing budget allocations for agricultural adaptation and establishing a dedicated climate adaptation fund for agriculture will signal commitment and help leverage additional resources. Partnerships with international financial

"This study found that while awareness of climate risks is high among farmers, their capacity to adapt is severely limited by structural and financial barriers."

institutions can provide blended finance and grants for large-scale projects that enhance resilience.

- **Advance policy and land reforms**. Policy changes that create an enabling environment for sustainable, climate-friendly agriculture need to be implemented. National agricultural subsidies and support programmes should be aligned with climate objectives by incentivising sustainable farming practices, for example through grants or tax breaks for adopting precision agriculture or organic methods. Enacting land tenure reforms and modernising land registries will secure property rights and enable farmers to use land assets as collateral. Promoting land consolidation and cooperative farming models can help overcome the inefficiencies of fragmented farms and improve access to finance and technology. Developing legal frameworks for innovative financing, for example enabling digital finance, crowdfunding for agri-projects, or public–private insurance schemes, will broaden the financial tools available to rural producers. Strengthening the enforcement of regulations on farm registration will gradually integrate more farmers into official support systems.
- **Foster regional cooperation and knowledge exchange**. Regional initiatives and partnerships should be leveraged to strengthen Albania's climate adaptation and agricultural finance capabilities and practices. Active participation in the Western Balkans Green Agenda and related platforms will facilitate alignment with EU policies and access to green funding opportunities. Albania should exchange best practice with neighbouring countries, for instance adopting successful credit guarantee schemes, climate insurance models and agri-tech innovations that have proven to be effective in the region. Cross-border collaboration in areas such as water resource management, pest/disease monitoring and early warning systems can improve resilience against shared climate threats. Finally, continued cooperation with international organisations such as FAO, IFAD, the World Bank and the EU as well as regional networks will support policy harmonisation and provide technical assistance and investment to accelerate the adoption of climate-smart agriculture.

Implementing these recommendations in a coordinated manner will significantly improve the resilience and competitiveness of Albania's agriculture. Strengthening financial inclusion and institutional support, alongside targeted investments and policy reforms, will empower farmers to adopt sustainable practices and protect their livelihoods against climate risks. Such concerted efforts will not only advance national agricultural development and food security goals, but also help Albania meet its commitments under the EU integration process and global climate agreements, securing a more sustainable future for its rural communities.

"Developing legal frameworks for innovative financing, e.g. enabling digital finance, crowdfunding for agri-projects, or public-private insurance schemes, will broaden the financial tools available to rural producers."

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