



Sustainability and Resilience Report

PeakED: Environmental Involvement and Education
for young entrepreneurs and volunteers



Co-funded by
the European Union



Innovation Hive



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Introduction

This report presents the sustainability and resilience assessment of the PeakED project, based on the findings of the initial desktop research and the pilot Living Lab. It examines how the project responds to current environmental and socio-economic challenges in mountain areas and evaluates its potential to deliver long-term impact.

The assessment draws on both evidence-based analysis and participatory insights gathered during the Living Lab, where stakeholders exchanged knowledge, experiences and perspectives. These combined inputs provide a comprehensive understanding of the project's effectiveness, adaptability and relevance in real-world conditions.

The report also outlines key recommendations and considerations that can support the further development, scalability and long-term sustainability of the project's outcomes, in alignment with broader environmental and climate goals.



About PeakED

The PeakED project seeks to highlight the importance of conserving mountain ecosystems, recognizing them as vital components of global biodiversity and sustainable development efforts. This project aims to catalyze socio-economic development in these unique landscapes. Utilizing innovative approaches, through the concept of living laboratories (LLs), it seeks to pioneer new methodologies specifically adapted to the particularities of mountain environments. Live Labs is a dynamic platform for collaboration and experimentation, facilitating the co-creation of solutions that address the multifaceted challenges faced by mountain communities. PeakED aims to act as an incubator for environmental citizenship, empowering individuals to actively participate in the management of mountain ecosystems. This holistic approach seamlessly aligns with global initiatives such as the 2030 Agenda for Sustainable Development, which highlights the urgent need to strengthen cooperation to combat desertification, land degradation, and loss of biodiversity.



Our mission:

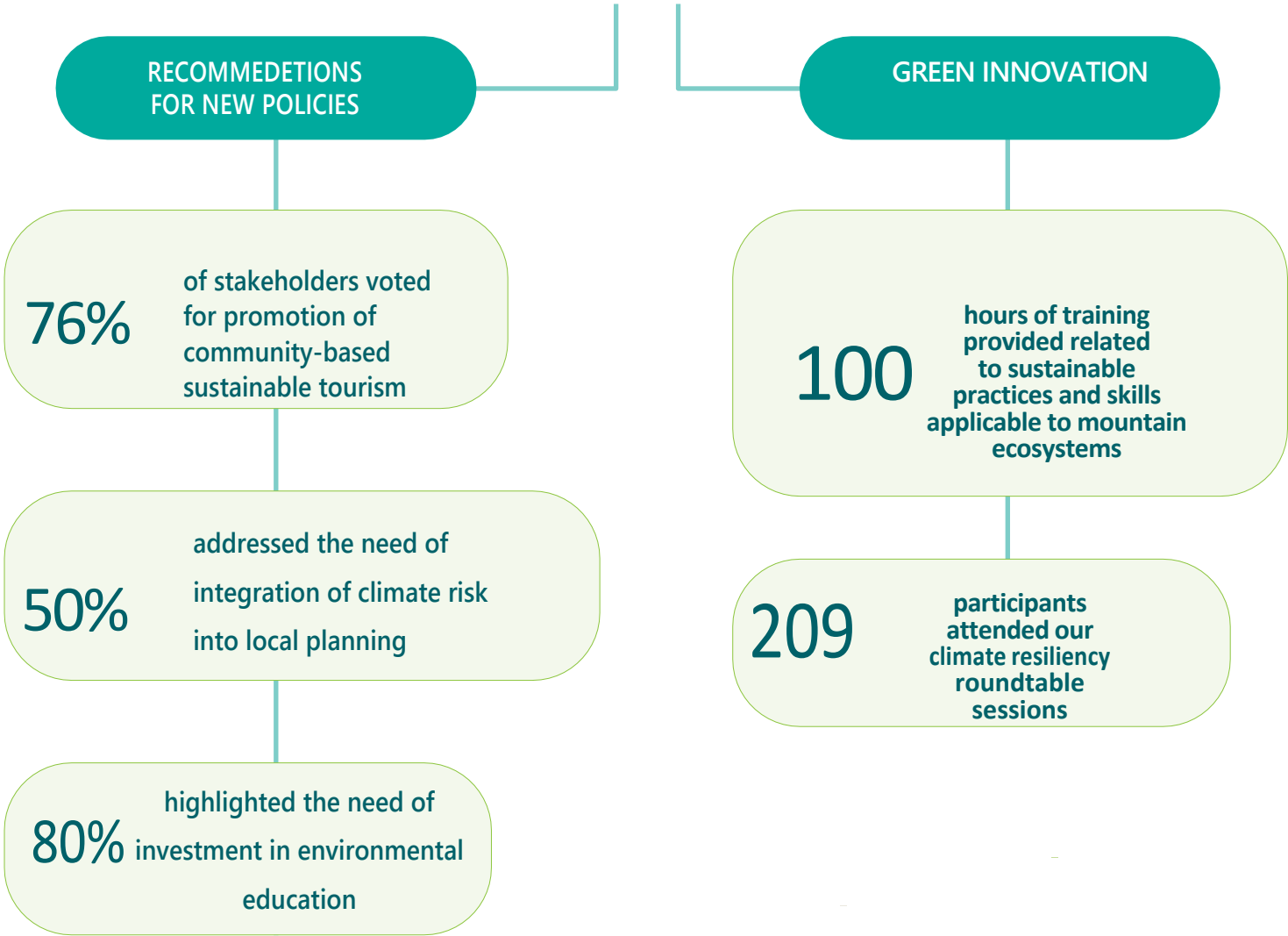
The project aims to achieve several key impacts:

- Introducing a novel training approach to support youth and local communities in European mountain regions, irrespective of regional differences.
- Fostering transnational partnerships among various organizations and stakeholders to enhance educational efficiency through innovative practices.
- Facilitating future joint projects through establishing stable partner networks, and integrating outcomes into national training initiatives.
- Disseminate project results through multiplier and national dissemination events to raise awareness of pertinent issues on local, regional, and national levels.

PeakED Highlights



GREEN STRATEGIES FOR MOUNTAIN AREAS



Preliminary Research

Mountain tourism significantly contributes to the economic development of regions by generating income, creating jobs, and improving the quality of life for local communities. Our sustainability and resilience goals are organized into three key focus areas:



SUSTAINABLE MOUNTAIN TOURISM AND ECOSYSTEM MANAGEMENT

SCOPE:

The focus of this area is to promote sustainable development in mountain regions by supporting environmentally responsible tourism and the protection of mountain ecosystems. It addresses the need to balance economic growth with environmental preservation.

SUSTAINABILITY and RESILIENCE OBJECTIVE



ENVIRONMENTAL EDUCATION AND CAPACITY

SCOPE:

This area focuses on strengthening knowledge and skills related to sustainability among youth, professionals and local stakeholders in mountain regions. It emphasizes the importance of education and training in fostering environmentally responsible behaviors and supporting the transition towards more sustainable practices.

SUSTAINABILITY and RESILIENCE OBJECTIVE:

The project enhances the capacity of participants by providing targeted training and experiential learning opportunities. By promoting environmental citizenship and lifelong learning, PeakED contributes to building resilient communities that are better equipped to address environmental challenges and adapt to changing conditions.



CLIMATE RESILIENCE AND RISK ADAPTATION

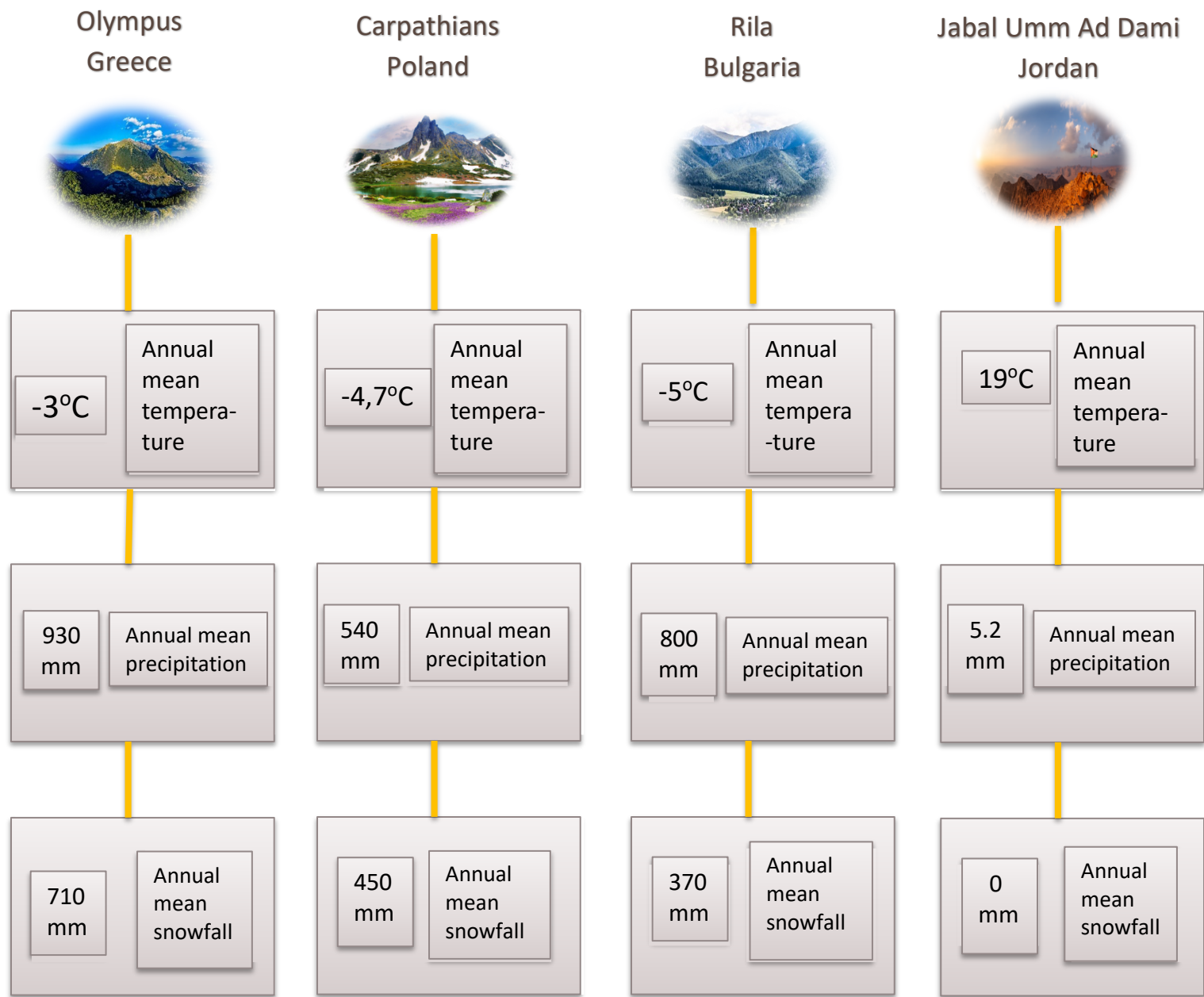
SCOPE:

This area focuses on identifying and addressing environmental and climate-related risks affecting mountain regions, such as biodiversity loss, land degradation and extreme weather conditions. It aims to support adaptive strategies that reduce vulnerability and enhance resilience.

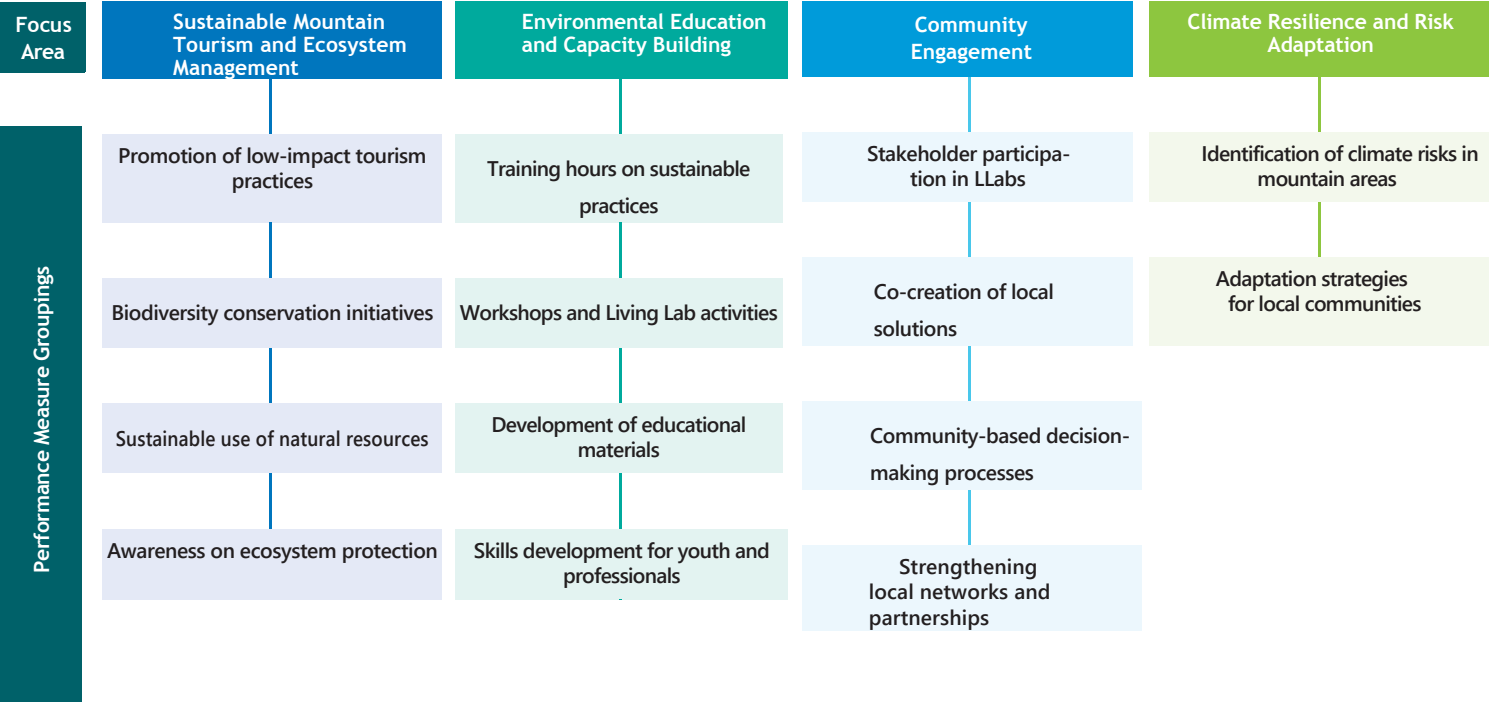
SUSTAINABILITY and RESILIENCE OBJECTIVE:

The project promotes awareness and integration of climate adaptation measures into local practices and planning. By encouraging proactive approaches and flexible solutions, PeakED supports communities and stakeholders in building resilience and ensuring the long-term sustainability of mountain ecosystems.

Cross-mountain climate analysis



The following sections of the report are organized by each of the four focus areas. They present overall sustainability & resilience objectives, 2024/25 results tables, and details of each measure and actions taken.





Sustainable Mountain Tourism and Ecosystem Management

PeakED promotes sustainable, low-impact and resilient practices in mountain areas, supporting ecosystem protection, community well-being and long-term environmental balance. It fosters inclusive approaches that empower local communities and ensure that mountain ecosystems continue to provide value over time.

This focus area is about improving outcomes in mountain regions through resilient and sustainable tourism practices. It includes activities and initiatives that promote environmentally responsible tourism, biodiversity conservation and the sustainable use of natural resources. It also addresses the role of local communities, stakeholders and tourism operators in maintaining the balance between economic development and ecosystem protection. This area further refers to the adoption of practices that minimize environmental impact while enhancing the long-term viability and resilience of mountain ecosystems.

REPORT ON OUR PROGRESS

The following table presents the key sustainability and resilience performance measures of the PeakED project, along with the corresponding targets and achieved results. It provides an overview of the project’s progress across the four main focus areas, highlighting the extent to which planned objectives have been met. The indicators are based on both the findings of the desktop research and the insights gathered during the pilot Living Lab, reflecting real conditions, stakeholder engagement and the practical impact of the project’s activities.

AREA	PERFORMANCE MEASURE		2024/25	2025/26
1) Sustainable Mountain Tourism and Ecosystem Management	Adoption of sustainable tourism practices by local stakeholders	Target	50% of participants engaged	60% of participants engaged
		Result	60% of participants engaged	65% of participants engaged
	Awareness level on biodiversity and ecosystem protection	Target	Medium to High improvement	High improvement
		Result	High improvement observed	High improvement
AREA	PERFORMANCE MEASURE		2024/25	2025/26
2) Climate Resilience Assessment	Integration of resilience into local practices	Target	Initial integration	Measure Under Review
		Result	Moderate integration achieved	NA
3) Waste Management	Percentage of waste generated in mountain areas that is properly managed through recycling, reuse or environmentally responsible disposal practices.	Target	50	60
		Result	60%	65%
4) Community Engagement and Participatory Governance	Number of stakeholders participating in Living Labs	Target	N/A	15
		Result	N/A	20
	Level of stakeholder engagement and active contribution throughout the project lifecycle	Target	Moderate engagement	High engagement
		Result	Moderate engagement	High and consistent engagement observed
	Number of multi-stakeholder partnerships established (local authorities, NGOs, private sector)	Target	3 partnerships	7 partnerships
		Result	5 partnerships established	7 partnerships established
	Hours of structured consultation and feedback sessions conducted	Target	100 hours	200 hours
		Result	150 hours	200 hours

ACTIVITIES AND PROGRAMS IN 2025

ACTION TYPE	DESCRIPTION	ACTIVITIES	IMPACT
Program	Living Lab implementation for sustainable mountain development	Pilot Living Lab sessions with stakeholders	Enhanced stakeholder collaboration and co-creation of locally adapted solutions
	Training program on sustainable practices in mountain areas	Workshops, training sessions and educational modules	Improved knowledge and skills on sustainability and environmental management
Assessment	Desktop research on mountain ecosystems and community needs	Analysis of policies, best practices and regional challenges	Identified opportunities for energy & GHG savings.
	Stakeholder needs and perception analysis	Feedback collected during Living Lab activities	Better understanding of local needs and priorities
Project	Environmental awareness and community engagement actions	Local events, discussions and participatory activities	Strengthened environmental awareness and community involvement
		Identification of risks and proposed adaptation strategies	Improved capacity to respond to environmental and climate challenges

KEY ACTIONS TAKEN:

PeakED supported the implementation of Living Labs as collaborative spaces for sustainable mountain development:

- In 2026, pilot Living Labs were conducted, engaging more than 70 stakeholders from local communities, public authorities and the tourism sector.

- These activities led to the co-creation of five locally adapted solutions addressing environmental and socio-economic challenges in mountain areas.

► The project delivered targeted training activities to enhance sustainability-related knowledge and skills:

- More than 100 hours of training were provided to over 60 participants, including youth, professionals and local stakeholders.
- The training focused on sustainable tourism, biodiversity protection and climate adaptation practices in mountain ecosystems.

► PeakED conducted research and analysis to better understand sustainability challenges in mountain regions:

- Desktop research was carried out to examine existing policies, risks and best practices across partner countries.
- This process contributed to the identification of key gaps and opportunities for sustainable and resilient development.

► Stakeholder consultation and feedback were integrated into the project development process:

- Six structured consultation sessions were organized within the Living Labs.
- These sessions ensured that project outcomes were aligned with local needs and realities, strengthening their relevance and applicability.

► The project promoted climate resilience and adaptive approaches in mountain areas:

- Environmental risks such as biodiversity loss, land degradation and climate pressures were identified and analyzed.
- Five adaptation strategies were proposed to enhance the resilience of local communities and ecosystems.

Climate Resilience Assessment

Mountain ecosystems are increasingly exposed to the impacts of climate change, including rising temperatures, biodiversity loss, land degradation and extreme weather events. These changes pose significant risks not only to the natural environment but also to the socio-economic stability of mountain communities.

Within this context, the Climate Resilience Assessment of the PeakED project aims to evaluate the capacity of mountain regions and local stakeholders to anticipate, respond to and adapt to climate-related challenges. The assessment is based on findings from the initial desktop research, as well as insights gathered through the pilot Living Lab, where participants shared experiences, identified risks and explored potential solutions.

The analysis highlights key climate-related pressures affecting mountain areas, such as increased vulnerability to extreme weather conditions, shifts in ecosystem balance and growing pressure from tourism activities. It also identifies existing gaps in preparedness, awareness and local planning, particularly in relation to the integration of climate risks into decision-making processes.

Performance measure:

Level of integration of climate resilience and adaptation strategies into local practices and planning

Target:

Moderate level of integration

Result:

Moderate to high level of integration achieved through pilot activities



KEY ACTIONS TAKEN:

- ▶ PeakED supported the identification and analysis of climate-related risks in mountain regions:
 - Key risks such as biodiversity loss, land degradation and extreme weather conditions were assessed through desktop research.
 - Cross-regional insights were gathered from different mountain areas, including Olympus (Greece), Rila (Bulgaria) and the Carpathians (Poland).

► The project promoted participatory approaches to climate resilience:

- Living Labs engaged more than 70 stakeholders in identifying local challenges and co-developing adaptation strategies.
- Six structured sessions enabled knowledge exchange and collaborative problem-solving.

► PeakED contributed to the development of locally relevant adaptation strategies:

- Five adaptation strategies were co-created, focusing on sustainable tourism, ecosystem protection and climate risk mitigation.
- These strategies reflect both scientific knowledge and local experience.

► The project strengthened awareness and capacity on climate resilience:

- Training activities and discussions increased understanding of climate risks and adaptive practices among participants.
- Stakeholders demonstrated increased readiness to integrate resilience into their activities and decision-making processes.

CASE EXAMPLE – CROSS-MOUNTAIN INSIGHTS

As part of the Climate Resilience Assessment, PeakED explored climate-related challenges across different mountain regions. In Mount Olympus (Greece), participants highlighted increasing pressure from tourism and seasonal environmental stress. In the Rila Mountains (Bulgaria), concerns focused on biodiversity loss and ecosystem imbalance, while in the Carpathians (Poland), stakeholders emphasized the impact of changing weather patterns on local livelihoods.

In Jabal Umm Ad Dami (Jordan), discussions revealed challenges related to water scarcity, extreme temperatures and the increasing vulnerability of fragile desert-mountain ecosystems. Despite regional differences, common challenges emerged across all areas, including the need for better integration of climate risks into planning, increased environmental awareness and stronger collaboration among stakeholders. These findings confirm that while climate impacts vary geographically, shared approaches such as participatory governance, education and sustainable practices can effectively support resilience across mountain ecosystems.



Waste Management

Waste management in mountain areas represents a critical challenge due to increasing tourism activity, limited infrastructure and the ecological sensitivity of these environments. Improper waste disposal can lead to soil and water contamination, biodiversity loss and long-term environmental degradation. Within the framework of the PeakED project, waste management is approached as a key component of sustainability and resilience in mountain ecosystems. The assessment focuses on the extent to which sustainable waste practices—such as reduction, reuse and recycling—are adopted by local stakeholders and communities.

PERFORMANCE MEASURE:

Percentage of waste generated in mountain areas that is diverted from landfills through recycling, reuse or environmentally responsible disposal practices

KEY ACTIONS TAKEN:

PeakED promoted awareness on sustainable waste management practices:

- Living Lab discussions and activities highlighted the environmental impact of waste in mountain ecosystems.
- Participants exchanged experiences and good practices related to recycling and waste reduction.
- The project encouraged responsible behaviors among stakeholders and local communities:
 - Awareness-raising activities supported the adoption of environmentally friendly practices.
 - Participants demonstrated increased willingness to reduce waste and improve waste handling practices.

► Waste management challenges were identified and analyzed across regions:

- Key issues included lack of infrastructure, seasonal waste increase due to tourism and limited coordination between stakeholders.
- These findings were validated through both desktop research and stakeholder input.

► PeakED supported the exploration of locally adapted solutions:

- Stakeholders proposed practical approaches such as community-based waste collection, awareness campaigns and improved recycling systems.
- These solutions reflect local conditions and capacities in different mountain regions.



Community engagement

Community engagement is a fundamental pillar for achieving sustainability and resilience in mountain areas. Active participation of local communities, stakeholders and institutions enhances the relevance, ownership and long-term impact of environmental initiatives.

Within the PeakED project, community engagement is promoted through participatory approaches such as Living Labs, which provide a collaborative space for dialogue, knowledge exchange and co-creation of solutions. This approach enables stakeholders to actively contribute to identifying challenges and shaping locally adapted responses.

Findings from the desktop research and the pilot Living Lab indicate that strong community involvement significantly improves the effectiveness and sustainability of interventions. In Jabal Umm Ad Dami (Jordan), engagement focused on raising awareness and involving local actors in identifying practical solutions adapted to fragile ecosystems. Overall, the results demonstrate that fostering participatory governance models strengthens social cohesion, builds trust among stakeholders and enhances the resilience of mountain communities.



AREA	PERFORMANCE MEASURE		2024/25	2025/26
1) Stakeholder Participation in Living Labs	Number of stakeholders actively participating in Living Lab activities	Target	Baseline Year	50
		Result	N/A	72
2) Co-creation of Solutions	Level of stakeholder contribution in solution development	Target	Moderate	High
		Result	Moderate	High and consistent engagement
	Number of solutions developed through participatory processes	Target	Baseline Year	3
		Result	N/A	5
3) Stakeholder Consultation and Engagement	Percentage of participants reporting active involvement in discussions	Target	60%	70%
		Result	60%	75%
4) Partnerships and Network Building	Number of multi-stakeholder partnerships established	Target	3	5
		Result	3	9
5) Community Engagement Impact	Level of community awareness and participation in sustainability actions	Target	Moderate	High
		Result	Moderate	Strong collaboration observed
	Integration of stakeholder input into project outcome	Target	Partial integration	substantial integration
		Result	Partial	substantial integration achieved
	Level of long-term stakeholder engagement beyond project activities	Target	Mid - level	High - level
		Result	Mid – level	High - level



PeakED Sustainability and Resilience Assessment

The PeakED project demonstrates strong potential for long-term sustainability and resilience, based on the results and activities implemented throughout its lifecycle. The combination of evidence-based research and participatory approaches, such as the Living Labs, has ensured that project outcomes are both relevant and adaptable to real-world conditions. The project has successfully built a foundation of knowledge, capacity and collaboration among stakeholders in mountain regions. Through training activities, community engagement and the co-creation of solutions, PeakED has strengthened the ability of local actors to adopt sustainable practices and respond to environmental challenges. A key factor contributing to the project's sustainability is the active involvement of diverse stakeholders, including youth, professionals, local communities and institutions. This inclusive approach has fostered a sense of ownership and increased the likelihood that project results will continue to be used and developed beyond the project's duration.

In terms of resilience, PeakED has addressed critical environmental and climate-related challenges by promoting adaptive strategies and raising awareness on key risks affecting mountain ecosystems. The project's flexible and participatory methodology allows for the continuous adjustment of approaches based on local needs and changing conditions.

Furthermore, the establishment of partnerships and networks among participating organizations creates opportunities for future collaboration and the development of new initiatives. The integration of project outcomes into training activities and local practices further supports their long-term impact.

Overall, the findings indicate that PeakED is well-positioned to remain both sustainable and resilient over time, contributing to the protection of mountain ecosystems and the empowerment of communities in the face of ongoing environmental challenges.



Conclusion and Next Steps

The implementation of the PeakED project over the past period has demonstrated strong progress in promoting sustainability and resilience in mountain areas. Through a combination of research, training activities and participatory approaches such as Living Labs, the project has successfully addressed key environmental and socio-economic challenges.

Over the course of the project, significant results have been achieved, including:

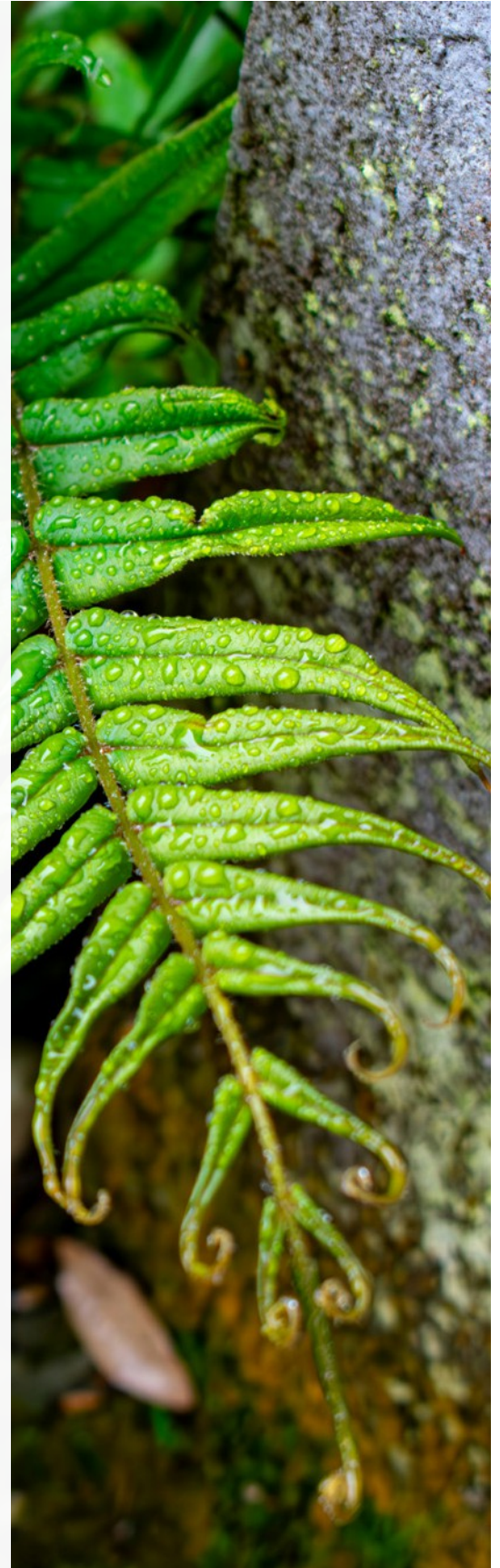
- strengthening stakeholder engagement and collaboration through Living Lab activities
- developing locally adapted solutions for sustainable tourism and ecosystem management
- enhancing knowledge and skills through targeted training and capacity building actions
- raising awareness on climate risks, environmental protection and sustainable practices

These achievements provide a solid foundation for the long-term sustainability of the project. The active involvement of stakeholders, the development of partnerships and the co-creation of solutions have created conditions that support the continuation and further development of project outcomes beyond its official duration.

Despite this progress, ongoing efforts are required to further strengthen impact and ensure continuity. Future actions will focus on expanding stakeholder networks, enhancing the transferability of results to other regions and integrating project outcomes into local practices, policies and training initiatives.

Particular emphasis will be placed on continuing the use of participatory approaches, such as Living Labs, as well as on strengthening capacity building and environmental education efforts. These actions will further support the ability of communities to adapt to climate-related challenges and promote sustainable development in mountain regions.

Overall, the results achieved through PeakED indicate that the project has established a strong and sustainable framework that can continue to evolve over time. The knowledge generated, the partnerships created and the level of engagement achieved ensure that the project's impact will extend beyond its initial implementation phase, contributing to more resilient and sustainable mountain communities.





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This project has been funded with support from the European Commission.

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