Restoring Mountain Grasslands in Sibiu County

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MountResilience (Accelerating transformative climate adaptation for higher resilience in European mountain regions) is a Horizon Europe Innovation Action that supports mountain communities toward climate-resilience through six demonstration sites. The project is strategically focused on the development, testing, and scaling up of flexible climate change adaptation strategies and nature-based solutions. This comprehensive approach takes policy considerations, societal requirements, and citizen behaviours into account. It aims to address the diverse impacts of climate change in mountainous regions.

The Râu Sadului Demonstrator in the Southern Carpathians (Sibiu County, Romania) validates cost-efficient strategies to mitigate nutritional losses in mountain pastures by balancing livestock grazing with biodiversity preservation, thereby improving local socio-economic conditions and preventing depopulation.

Stage 1 — Preparing the Ground for Climate Resilient Transformation

Land Mapping & Baseline Analysis
•Drone scanning with NDVI sensors
•Identification of harmful plant species
•Creation of orthophoto maps

Development of Site-Specific Interventions
•Define a rehabilitation strategy based on data
•Establish a technical intervention framework.

Stakeholder Engagement & Training
•Collaboration with local stakeholders to be allign
•Organizing workshops on best practices.

Stage 2 — Social innovation/ nature based solution implementation

Implementation of Restoration Techniques:
•Mulching grasslands
•Overseeding and fertilization with drones
•Rotational grazing

Monitoring and Adaptive Management
•Annual rescanning of intervention plots
•Soil quality assessments
•Adjusting interventions based on feedback

Knowledge Sharing & Regional
•Development of training modules
•Pilot testing to scale successful methods.

Stage 3 — Sustainability and broader take-up

Integration into Regional Policy & Governance
•Good Practices Guide for Grasslands Restoration
•Policy dialogues with authorities

Capacity Building & Community Adoption
•Transfer knowledge to farmers & stakeholders
•Encouraging community-led monitoring programs to sustain grasslands beyond the project

Financial Models for Sustainable Implementation
•Developing funding strategies
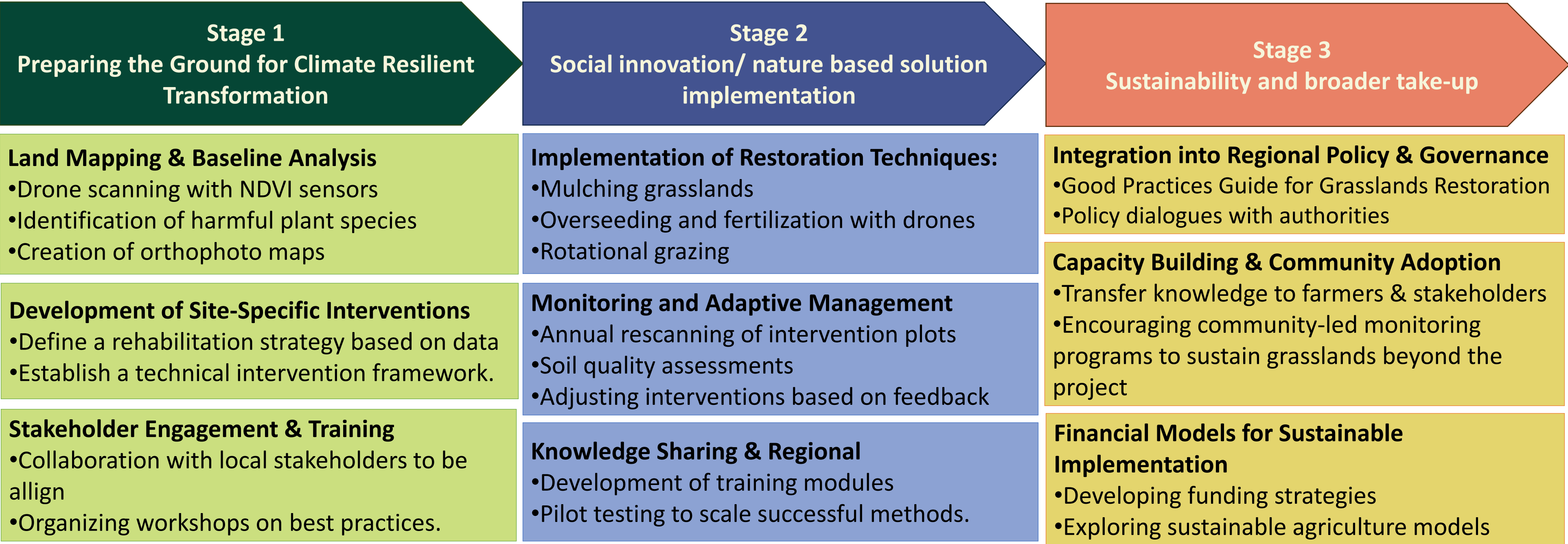•Exploring sustainable agriculture models

Figure 1. Project intervention logic

Figure 2. Land scanning with drone at Cristian demonstration site

Table 1. Commercial mixes used for overseeding (application rate 65 kg/ha)

Commercial Name	Species Composition
Vital Duet	77% *Festuca arundinacea* (two varieties), 10% *Lolium perenne*,, 5% *Trifolium repens*, 8% *Trifolium pratense*
Nutriherb	68% *Festuca arundinacea*, 7% *Phelum pratense*, 2% *Lotus corniculatus*, 3% *Carum carvi*, 4% *Medicago sativa*, 9% *Onobrychis viciifolia*, 2% *Trifolium repens*, 5% *Trifolium pratense*
Kombi white	22% *Festuca pratensis*, 30% *Lolium perenne* (two varieties), 15% *Phelum pratense*, 20% *Lolium perenne*, 13% *Trifolium repens* (two varieties)
Intensiv Plus	12% *Dactylis glomerata*, 20% *Festuca arundinacea (two varieties)*, 25% *Lolium perenne*, 5% *Trifolium repens*, 8% *Trifolium pratense*, 10% *Phelum pratense*
Beefmaster	7% *Dactylis glomerata*, 10% *Festuca rubra rubra*, 37% *Festuca arundinacea*, 25% *Lolium prenne*, 15% *Phelum pratense*, 6% *Trifolium repens* (two varieties)

Figure 3. Preliminary results of overseeding. A. Germination after one week, B. After 3 weeks C. Nutriherb established itself best after 6 weeks, D. Beefmaster was prefered by the animals

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HOLLAND FARMING

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