



# Improving climate resilience in rural areas

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CAP Implementation Contact Point

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# Energiser: Mapping of climate issues across the EU

**1. Pick the most pressing climate issue for your MS/region**

**2. Exchange with you neighbour why it is the most pressing issue**

**3. Stick your climate issue on the map**



Floods



Heat



Drought



Wildfires



Storms



Hail



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# What is climate resilience?

“Taking action to prepare for the impacts of climate change, both now and in the future”



**Floods**



**Wildfires**



**Heat**



**Storms**



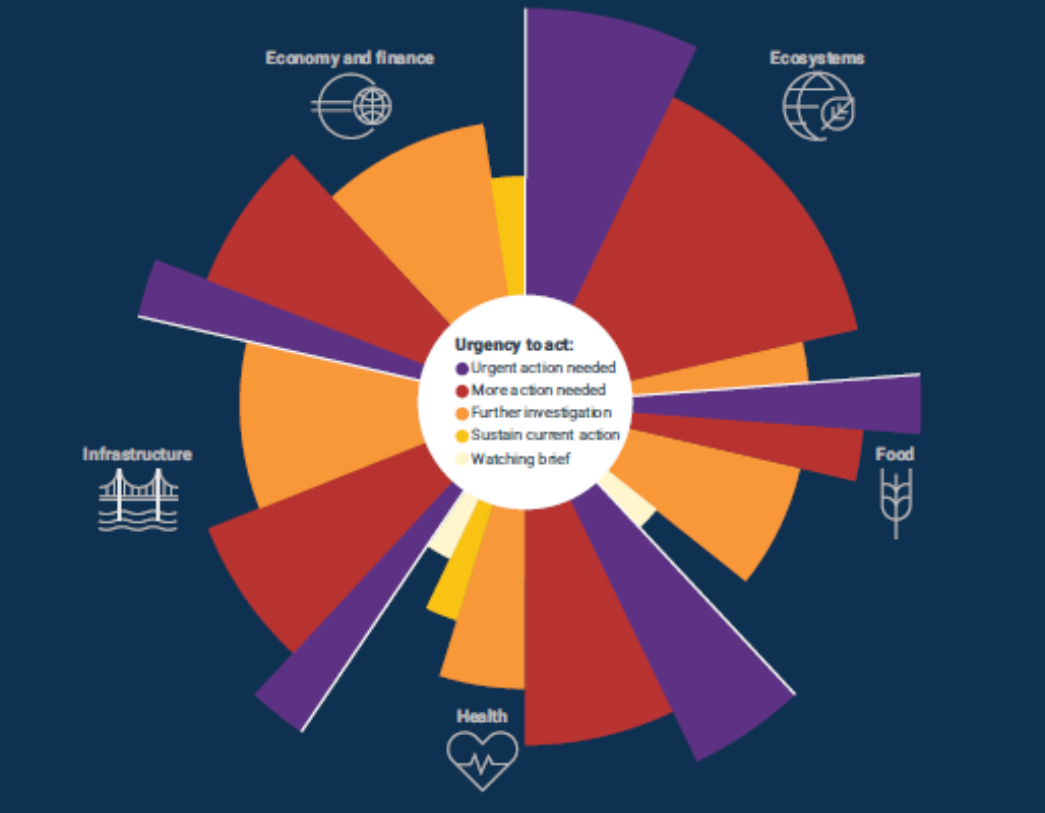
**Drought**



**Hail**

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Climate risks by cluster

- Ecosystems**
- Coastal ecosystems
  - Marine ecosystems
  - Biodiversity/carbon sinks due to wildfires\*
  - Biodiversity/carbon sinks due to wildfires
  - Species distribution shifts
  - Ecosystems/society due to invasive species
  - Soil health
  - Aquatic and wetland ecosystems
  - Biodiversity/carbon sinks due to droughts and pests
  - Cascading impacts from forest disturbances

- Food**
- Crop production\*
  - Crop production
  - Fisheries and aquaculture
  - Food security due to higher food prices
  - Food security due to climate impacts outside Europe
  - Livestock production

- Health**
- Heat stress – general population
  - Population/built environment due to wildfires\*
  - Population/built environment due to wildfires
  - Wellbeing due to non-adapted buildings
  - Heat stress – outdoor workers\*
  - Pathogens in coastal waters
  - Health systems and infrastructure
  - Infectious diseases
  - Heat stress – outdoor workers

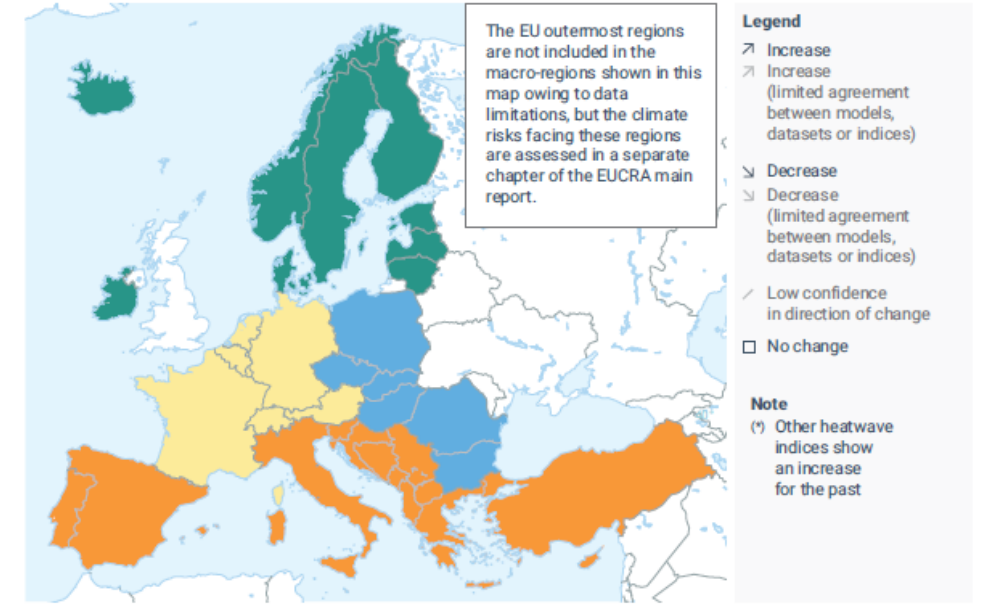
- Infrastructure**
- Fluvial and fluvial flooding
  - Coastal flooding
  - Damage to infrastructure and buildings
  - Energy disruption due to heat and drought\*
  - Energy disruption due to heat and drought
  - Energy disruption due to flooding
  - Marine transport
  - Land-based transport

- Economy and finance**
- European solidarity mechanisms
  - Public finances
  - Property and insurance markets
  - Population/economy due to water scarcity\*
  - Population/economy due to water scarcity
  - Pharmaceutical supply chains
  - Supply chains for raw materials and components
  - Financial markets
  - Winter tourism

Note: \*Hotspot region: southern Europe

Major climate risks in the EU

Land regions	Northern Europe		Western Europe		Central-eastern Europe		Southern Europe		European regional seas	Past	Future
	Past	Future	Past	Future	Past	Future	Past	Future			
	Low	High	Low	High	Low	High	Low	High			
Mean temperature	↗	↗	↗	↗	↗	↗	↗	↗	Sea surface temperature	↗	↗
Heatwave days	☐(*)	↗	↗	↗	↗	↗	↗	↗	Sea level	↗	↗
Total precipitation	↗	↗	↗	↘	↗	↗	↘	↘			
Heavy precipitation	↗	↗	↗	↗	↗	↗	↗	↗			
Drought	↗	↘	↘	↗	↗	↗	↗	↗			



Notes: Underlying climate variables are: heatwaves (days with maximum temperatures above 35°C), heavy precipitation (maximum 1-day precipitation), and drought (using a standardised precipitation evapotranspiration index over 6 months (SPEI-6, Hargreaves' method)). Time periods and scenarios are past (1952-2021); future until the end of the century (2081-2100 relative to 1995-2014); low scenario (SSP1-2.6); and high scenario (SSP3-7.0).

Source: Copernicus Climate Change Service (C3S).

Source: EU Climate Risk Assessment (EUCRA), 2024





# Climate impacts and adaptation options in the agri-food sector

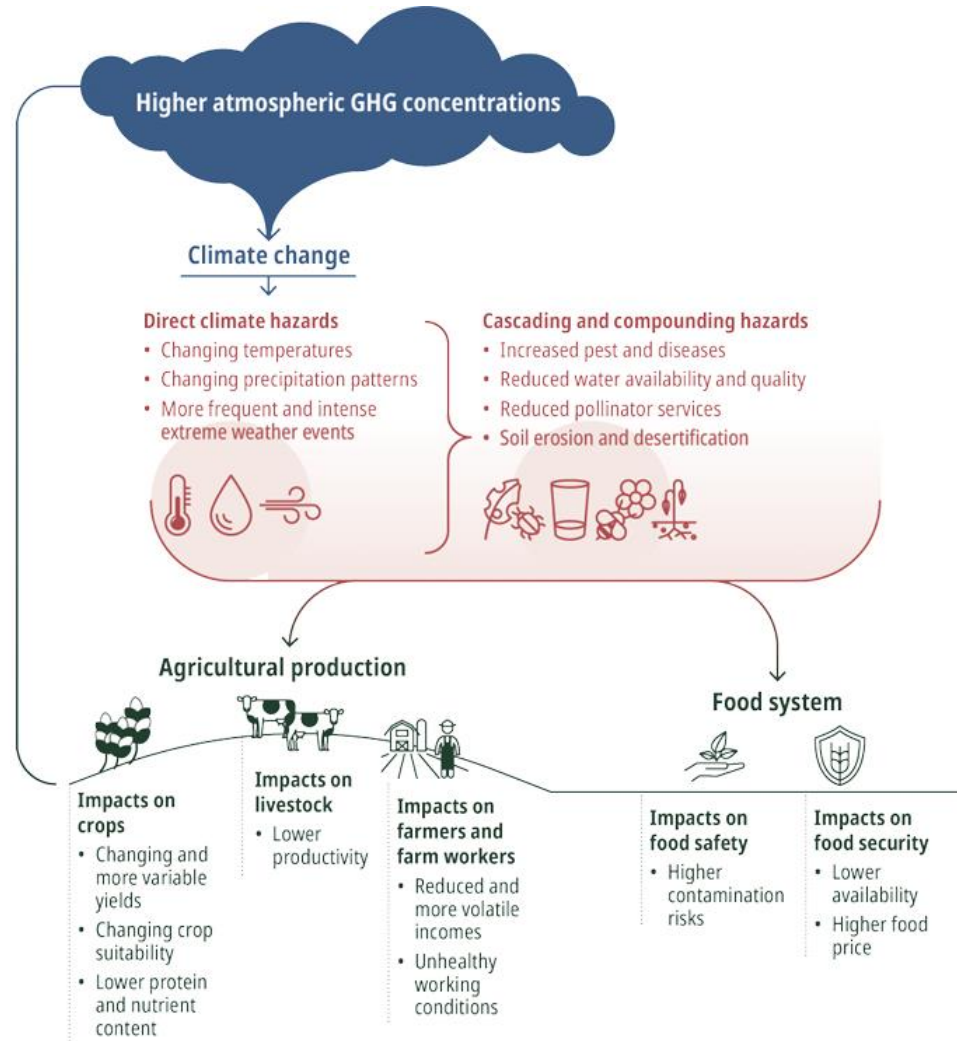


Table 5 Various climate adaptation options across different scales

Overall categorisation	← More technical		→ More structural		
Spatial scales	<b>Crop and livestock</b>	<b>Soil and field</b>	<b>Farm and livelihood</b>	<b>Land sector</b>	<b>Agri-food system</b>
	Physical protection	Increased inputs	Adjusted timings	Improved water management	Climate information
	Change in crop or livestock type	Increased input efficiency	Change in what is produced	Integrated landscape planning	Risk transfer and management
		Improved soil management	Farm-level diversification	Regional economic diversification	System-wide land conversion
					Plant-based value chain
					Food waste reductions

Source: European Scientific Advisory Board on Climate Change (2026) Climate Adaptation and mitigation in the agri-food system: Recommendations for coherent EU policies





# Why is action on climate resilience necessary?

Environmental, climatic, and sustainability-related factors determine whether stability and resilience can endure. In Europe, we need to invest in overall security, including into measures to protect people from extreme climate events.



Environmental degradation, climate change and unsustainable practices threaten resources, socio-economic stability and public health, and cause geopolitical conflicts.



We need to shift towards proactive climate resilience in our economy, society and infrastructure to enhance European competitiveness.



Europe must prioritise climate resilience as urgently as economic competitiveness and food and energy security. The costs of inaction will exceed today's investment.



## Activities related to climate resilience

### Thematic groups

- › Improving Water Resilience in Rural Areas through the CAP
- › Enhancing Biodiversity on Farmland for Improved Resilience
- › Supporting Sustainable and Competitive Livestock Systems
- › Farm Diversification
- › Economic Vulnerability of Farming
- › Green Architecture: Designing Green Strategies
- › Landscape Features and Biodiversity
- › Carbon Farming

### Policy Insights

- › Livestock, 2040 climate targets and the CAP: it's a numbers game
- › Diversify to thrive

### Factsheets / Analytical Reports

- › Green Architecture – Member States' approaches to designing green strategies in their CAP Strategic Plans
- › Supporting the maintenance, restoration, or establishment of agroforestry systems



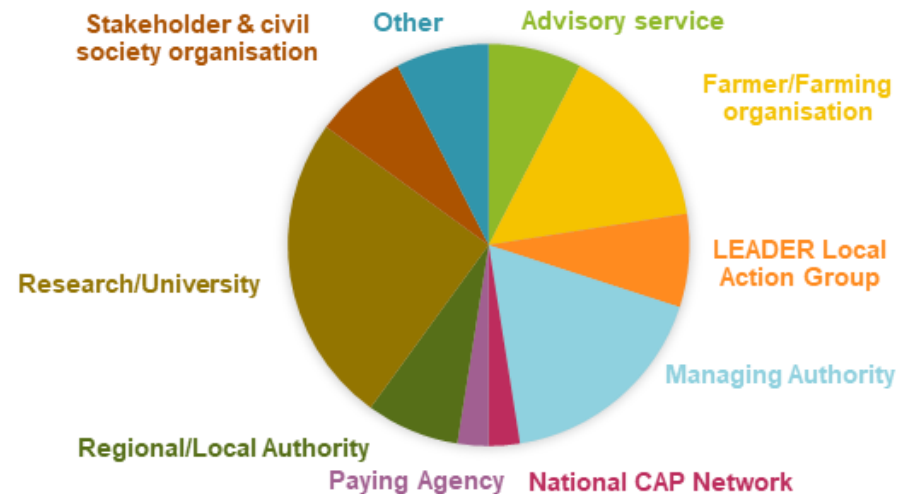


# Thematic Group on Improving Water Resilience in Rural Areas through the CAP

**Overall aim:** to examine how to best utilise the CAP's potential for improving water resilience in rural areas and promote more systemic transformative changes in the way water and land are managed to enable rural areas to withstand climate extremes better and how this can be best supported through the CSPs.



## STAKEHOLDER GROUPS



- 40 members from 20 countries and EU
- [Website](#)





# Outputs from the TG

- › [Background paper](#)
- › Highlights reports of [first](#) and [second](#) meeting
- › Compendium of good practice examples (publication pending)
  - › CSP Interventions
  - › Catchment scale / landscape scale approaches
  - › Improved water governance / collaborative approaches
  - › Technical solutions
  - › Advice and knowledge sharing
- › Policy Insight: [Climate risk to resilience – shaping a water-smart Europe](#)



# Improving rural resilience to climate change

Sharing outcomes of the EU CAP Network work  
focused on Innovation & Knowledge exchange | EIP-AGRI

Pacôme Elouna Eyenga, EU CAP Network -  
EIP-AGRI Support Facility

7<sup>th</sup> NNs Meeting | Malta, 25-26 March 2026



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## Focus Group on Nature-Based Solutions for water Management under climate change – October 2022

- To promote a better understanding of NBS and facilitate knowledge and innovation exchange between farmers, farm advisors, researchers and other relevant actors at local, regional and national levels.
- Identified existing NBS in different farming systems and in different climate zones, highlighting the socio-economic and environmental benefits of each of these measures.



### How nature-based solutions could have an impact on water management and water availability at farm level and contribute to sustainable farming under climate change?

Water is increasingly a major challenge for the agricultural sector. Agriculture is the main user of fresh water both in Europe and around the world. The sector also contributes significantly to water pollution. At the same time, we are experiencing higher temperatures and rainfall variability. On top of that, a growing global population means a growing demand for food, therefore farmers are having to rethink how they produce their crops. Water and agricultural policies can support farmers, particularly in areas which are specifically impacted by water challenges. Innovation projects can foster competitive, sustainable farming by developing solutions to address issues relating to, for example, water scarcity and the degradation of the quality of water.

This Focus Group was about the deployment of nature-based solutions (NBS) at farm level and how they can provide solutions to water challenges. The aim was to promote a better understanding of NBS and to facilitate knowledge and innovation exchange between farmers, farm advisors, researchers and other relevant actors at local, regional and national levels. The experts identified existing NBS in different farming systems and in different climate zones, highlighting the socio-economic and environmental benefits of each of these measures.

The Focus Group defined NBS for agricultural water management as "solutions that, inspired and supported by nature, improve the availability of water and its quality, the efficiency of its use and/or the protection of the farm against flooding or excess water." These solutions must:

- be cost-effective, simultaneously provide environmental, social and economic benefits, help build resilience, and contribute to good water governance;
- bring more diverse natural features and processes into farms and landscapes, through locally adapted, resource-efficient and systemic interventions;
- benefit biodiversity and support the delivery of a range of ecosystem services.

*"It is very important that agricultural production and NBS support each other and can be combined with daily farm life in a cost-effective manner. We need win-win solutions."*

- Aini Kulmala (Finland) expert from the EIP-AGRI Focus Group on Nature-based solutions for water management under climate change.

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## Workshop on Enhancing food security under changing weather patterns: farm adaptation – March 2023

- Identify and share farm adaptation solutions regarding climate change and extreme weather events.
- Exchange knowledge on successful practices, opportunities, and tools relevant for adapting farming to changing weather patterns, while increasing farm resilience and enhancing cooperation at both farm and local level.
- Identify needs from practice and possible knowledge gaps that may be informed by research.

➤ Chapter 2 of the workshop report.

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## Workshop on Circular water management – March 2024

- Sharing knowledge and encouraging the adoption of solutions for reusing and recycling water in agricultural production.
- Identified solutions to challenges related to capturing and managing runoff water effectively, since the climate change is leading to more extreme events, including severe droughts and flooding from intensive rains.
  - Chapter 4 of the workshop report

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# Focus Group on Production of protein crops under climate change – December 2025

Summary of barriers and opportunities for PC production in the EU

- How to increase European plant protein self-sufficiency by integrating the sustainable production of plant-based protein in different value chains and regions, taking climate change into account?



**How to increase European plant protein self-sufficiency by integrating the sustainable production of plant-based protein in different value chains and regions, taking climate change into account?**

Protein crops have received increasing interest for food, feed, soil health and climate resilience. However, their adoption remains limited due to agronomic and economic constraints. Climate change adds further challenges. A Focus Group of 20 experts discussed how to increase the European production of protein crops under climate change.

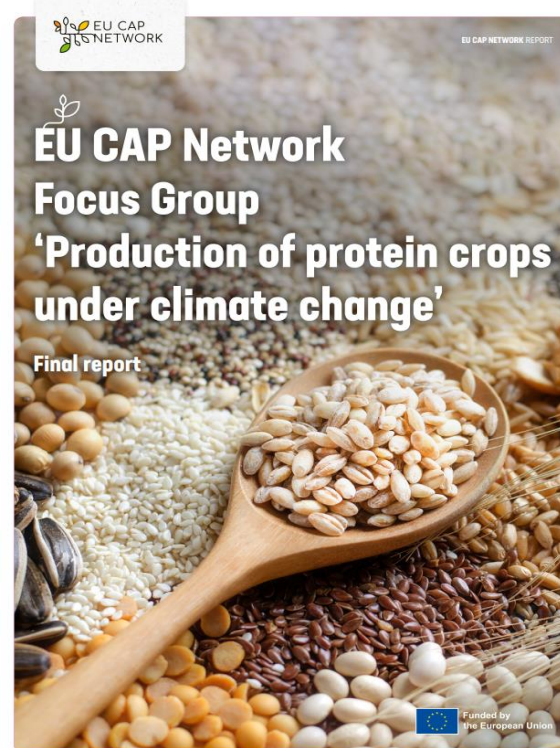
Their key findings:

- ▶ building diverse value chains: value chains range from direct marketing to industrial processing, all of which can contribute to higher protein crop production.
- ▶ support farmers' choice of protein crop: as climatic conditions shift, protein crops cultivated in one region may perform well in other regions.
- ▶ generating environmental benefits: protein crops improve soil health and make farming more resilient to climate extremes. Practices such as mixed cropping and improved water retention methods can strengthen these benefits. For these measures to gain wider implementation, their advantages must be recognised and rewarded.
- ▶ developing value chains collaboratively: producer groups, cooperatives, and regional branding can motivate and support innovative solutions for protein crop processing and marketing.

- ▶ improving access to infrastructure: shared processing and storage equipment, particularly at the local level, reduces costs.
- ▶ exchanging knowledge: peer-to-peer learning, farmer groups, demonstration farms, and advisory services help identify problems, reduce uncertainties, and co-develop solutions.
- ▶ improving choice and development of varieties: farmers need better access to seeds and information on protein crop species and their varieties. At the same time, breeding efforts should focus on traits relevant for processing and adaptation to changing climatic conditions.

*"Legumes are not the star of the farm, but they are a valuable complement. They bring soil health, biodiversity and resilience, and often thrive in areas where other crops struggle."*

**Francesca Riva**  
Expert at the EU CAP Network Focus Group  
Production of protein crops under climate change



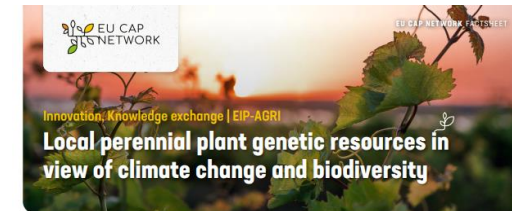
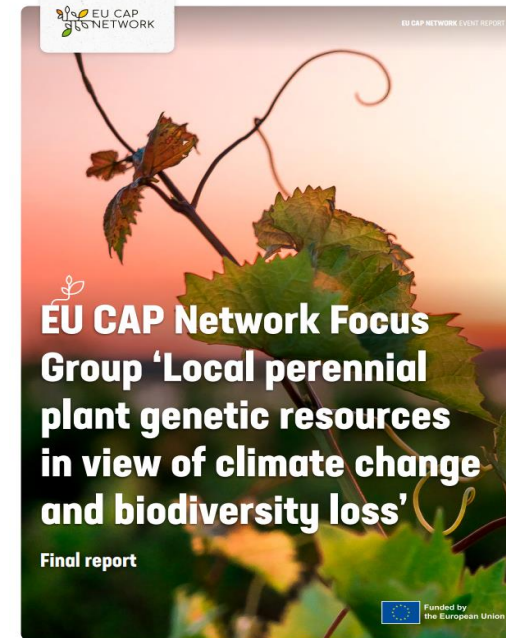
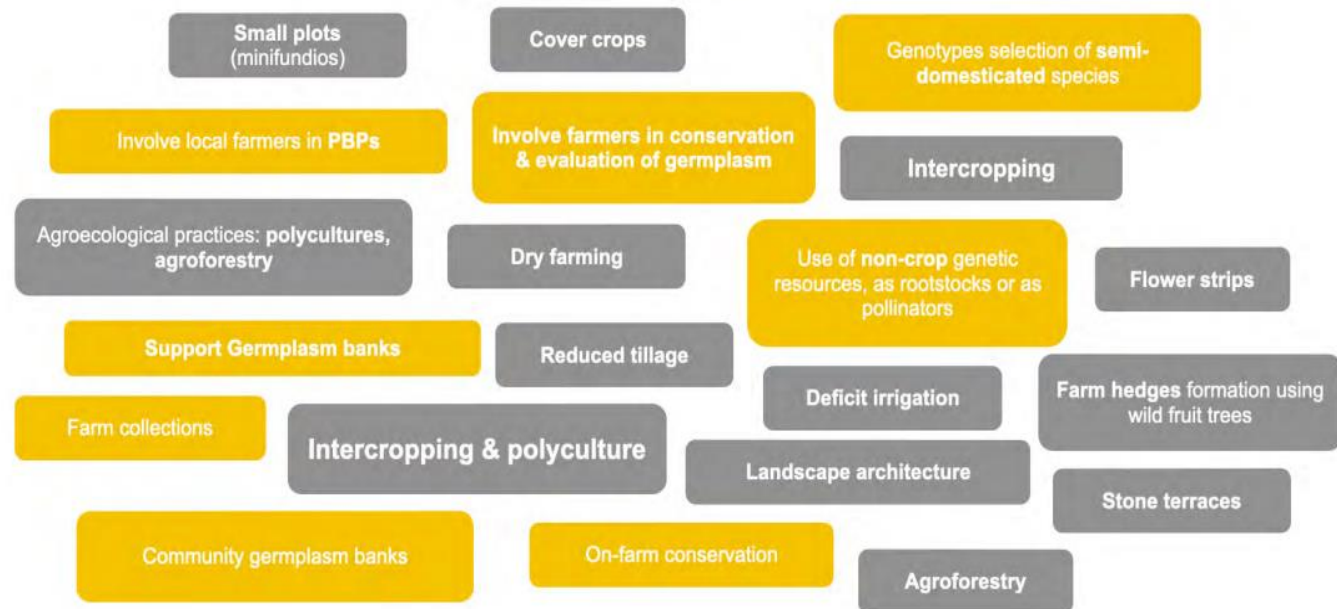
Upstream farm level	Farm level	Downstream farm level
<p><b>Lack of suitable PC species and cultivars</b></p> <ul style="list-style-type: none"> <li>▶ Develop and provide a wider range of suitable species and cultivars, breed varieties with improved traits tailored to specific market demands</li> <li>▶ Select and test species and varieties under local growing conditions, including less productive areas</li> <li>▶ Strengthen participatory variety selection to ensure local adaptation and foster uptake by value chains</li> <li>▶ Explore innovative breeding methods (e.g. genomic tools, organic heterogeneous material) within the framework of EU law</li> <li>▶ Propagate and conserve local varieties and landraces, ensuring seed availability for farmers</li> </ul>	<p><b>Lack of agronomic knowledge and knowledge creation</b></p> <ul style="list-style-type: none"> <li>▶ Develop practical recommendations for PC cultivation, including machinery use, intercropping, and mechanical weed control</li> <li>▶ Demonstrate best practices for PC cultivation through on-farm trials</li> <li>▶ Create user-friendly guidelines for integrating PCs into farm systems and crop rotations</li> </ul> <p><b>Low profitability of grain legume production</b></p> <ul style="list-style-type: none"> <li>▶ Enhance resource efficiency and productivity of PC production by optimising input use and cultivation techniques</li> <li>▶ Highlight the economic and ecosystem benefits of PCs, such as cost savings from biological nitrogen fixation</li> <li>▶ Demonstrate market opportunities for replacing imported PCs with EU-produced alternatives in feed and food chains</li> </ul>	<p><b>Lack of supply chains</b></p> <ul style="list-style-type: none"> <li>▶ Develop infrastructure for local and on-farm PC processing, including protein extraction for food and feed</li> <li>▶ Define and harmonise quality standards for PC processing</li> </ul> <p><b>Lack of novel PC products</b></p> <ul style="list-style-type: none"> <li>▶ Process PCs into innovative foods</li> <li>▶ Identify new markets for PC-processing by-products</li> <li>▶ Characterise PCs for feed use, highlighting their specific nutritional values for animals</li> </ul> <p><b>Unutilised potential of collaboration</b></p> <ul style="list-style-type: none"> <li>▶ Support cooperatives and producer groups to share machinery, aggregate volumes, and market PCs collectively</li> <li>▶ Encourage farmer working groups to experiment with PCs and exchange experiences</li> </ul> <p><b>Lack of consumer awareness</b></p> <ul style="list-style-type: none"> <li>▶ Link PC production with healthy diets, promoting the nutritional benefits of plant-based eating</li> </ul>
<b>Climate change</b>		
<ul style="list-style-type: none"> <li>▶ Develop varieties with improved traits that are relevant to climate change adaptation</li> </ul>	<ul style="list-style-type: none"> <li>▶ Develop practices for growing PCs under temperature and water-stressed conditions</li> </ul>	<ul style="list-style-type: none"> <li>▶ Increase resilience and adaptability of regional value chains to unpredicted climatic changes</li> </ul>



# Focus Group on Local perennial plant genetic resources in view of climate change and biodiversity loss – October 2025

- How can the conservation and use of local underutilised varieties of perennial crops be attractive and profitable for farmers and thereby contribute to biodiversity-friendly sustainable farming under climate change?

**Figure 3. Results of Focus Group experts survey, suggesting good farming practices to enhance conservation and sustainable use of local under-utilised perennial crops in view of climate change and biodiversity loss (Green colour for clustering agroecological and purple for breeding and propagation-related practices)**



**How can the conservation and use of local underutilised varieties of perennial crops be attractive and profitable for farmers and thereby contribute to biodiversity-friendly sustainable farming under climate change?**

Local perennial plant genetic resources (PPGR) are a valuable but underused asset in farming. They are well adapted to specific environments and offer traits that improve resilience to climate stress, reduce input needs, and enhance biodiversity. The Focus Group on local perennial plant genetic resources explored how these varieties can be better conserved and used in practice, contributing to viable farm businesses and agroecological goals.

The key findings of the Focus Group on local perennial plant genetic resources are:

- local and underutilised perennial varieties (e.g. olives, nuts, grapes, herbs) support climate adaptation thanks to traits such as drought resistance and long-term productivity
  - their low-input nature makes them ideal for organic and agroecological farming systems
  - farmers can benefit from their unique market potential: traditional varieties often offer superior taste and cultural value, ideal for short supply chains and local branding
  - conservation must be combined with active use: on-farm maintenance, propagation, and participatory breeding are essential to keeping local varieties alive
  - farmers need support services: identification tools, phyto sanitary protocols, propagation support and advisory networks
- Farmers are encouraged to embrace local underutilised perennial varieties to boost resilience to climate change, enhance biodiversity, and create niche market opportunities.
- Research needs**  
The Focus Group experts identified five key research areas that should be tailored to local contexts:
- improving germplasm propagation, sanitation and transfer of traditional germplasm
  - developing a more efficient knowledge transfer and information system by enhancing digital tools
  - utilising wild relatives in Evolutionary Plant Breeding (EPB) networks
  - integrating stakeholders in the breeding process
  - conserving and monitoring genetic resources
- "If you want to activate traditional varieties, it's best to make a living out of them."*
- Liliana Fernandez**  
Expert in the EU CAP Network Focus Group on local perennial plant genetic resources





## FG 'Forestry and forest health: new and emerging pests and diseases

How to promote the sustainability and resilience of European forests in the face of new and emerging pests and diseases?



## Ongoing activities...

### Workshop on Growing alternative crops for new market opportunities in a changing climate

Provide practical information on crop suitability, cultivation practices and market opportunities for alternative crops → help farmers make well-informed decisions about diversifying their cropping systems in response to climate change in different European regions





**EU CAP Network conference**  
**'Water resilience in agriculture:**  
**innovation in practice'**

19-21 May 2026  
Hamburg, Germany



# Improving rural resilience to climate change

Valdis Kudins, EU CAP Network -  
Evaluation Helpdesk for the CAP

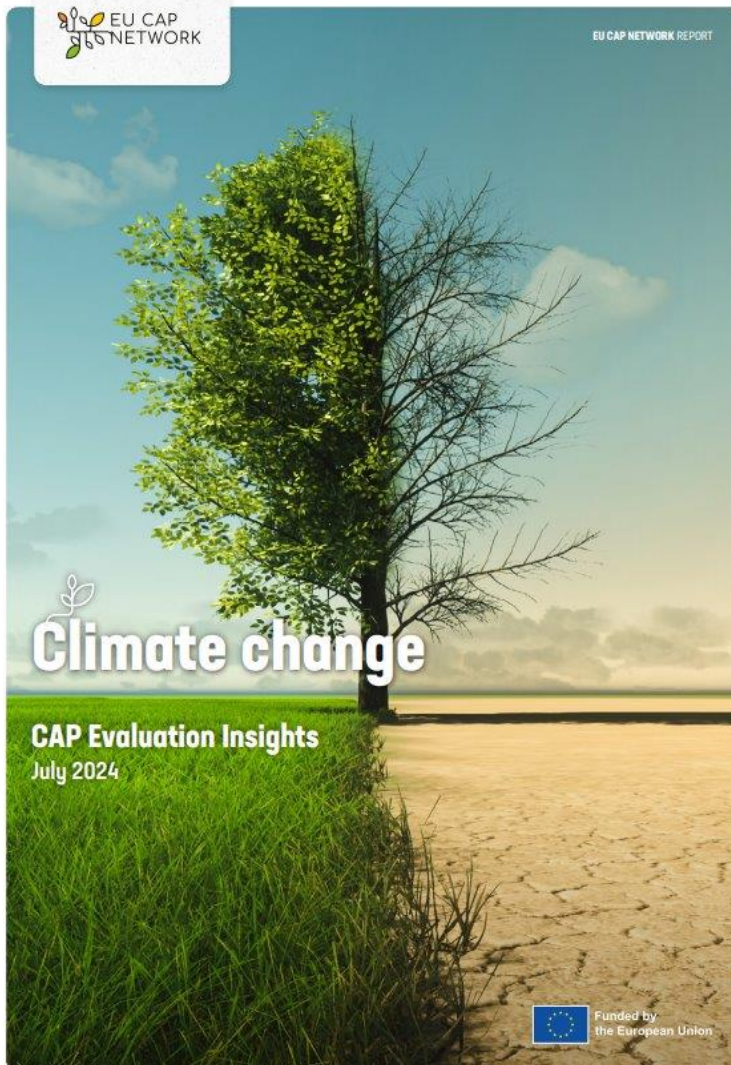
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## Publications | CAP Evaluation Insights



- A review of fifty-five Member State evaluations related to climate change mitigation and adaptation.
- Overview of the frequency of climate change evaluations,
- Key findings on climate change mitigation, adaptation, and renewable energy, and
- Key evaluation challenges and suggestions for overcoming them

Download [here](#)

