



Brief Private Sector

European Alliance for Regenerative Agriculture

Regenerating Systemic Risk

A Case Study in the Valencia Watershed on the Impact Potential of Regenerative Agriculture

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Valencia

Embedded Risk in Your Portfolio

On 29 October 2024, certain regions in Valencia received over 400mm of rainfall in under 24 hours. Extreme floods led to the death of 230 people and estimated damages over €20 billion, one of the most costly natural disasters in Spanish history. Yet the rainfall alone did not cause this level of destruction. A systematically degraded agricultural landscape, stripped of its capacity to absorb and regulate water, translated an extreme weather event into a catastrophe.

This is not an isolated case. It is the clearest recent example of a structural and intensifying pattern across Europe and beyond.

Systemic Exposure

Natural catastrophes in Europe are increasing in both frequency and severity. Economic losses from climate extremes have risen by approximately €10 billion every 12 years¹ since the 1980s, with water-related events accounting for nearly half of all recorded disasters. The financial consequences are already visible across portfolios:

→ **Europe faces €100 trillion in total climate risk exposure². Of that, more than a quarter, €28.9 trillion, is specifically at risk from river flooding³**

→ **35%: Insured climate disaster losses in Europe, leaving €65 in every €100 of losses unrecovered and weighing directly on the real economy⁴**

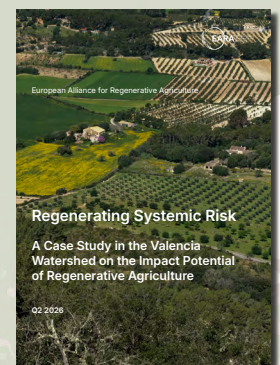
→ **Spain's agricultural insurance loss ratio exceeds 100%, paying out more than it takes in. Annual losses average €2–3 billion, and a 1-in-50-year event could surpass €20 billion by 2050⁵.**

How Landscapes Influence Loss Ratios

In Valencia, 87% of the agricultural land under analysis is allocated to permanent crops, the majority managed with bare soil between rows that generate high levels of **surface runoff**. Water that cannot enter the soil accelerates across slopes, overwhelms drainage infrastructure, and arrives in urban areas as a destructive flood.

As this degradation compounds year by year, so does the financial exposure of every institution with assets, loans, or liabilities tied to that **landscape**. Stranded agricultural assets, rising catastrophe claims, deteriorating supply chains, and mounting public recovery costs are not future risks but material facts.

Please find the full report to read or download [here](#) or visit our website eara.farm.



¹ Data sourced from European Environment Agency (2023). Economic Losses from weather- and climate-related Extremes in Europe - 8th EAP. [\(LINK\)](#)
² EIOPA. (2022). [\(LINK\)](#)
³ EIOPA. (2022). [\(LINK\)](#)
⁴ EIOPA. (2022). [\(LINK\)](#)
⁵ FI Compass 2025, Insurance and Risk Management Tools for Agriculture in the EU [\(LINK\)](#)

The Solution: Living Infrastructure at Landscape Scale

Regenerative agricultural management restores the soil’s hydrological function. The evidence from Valencia’s own landscape and from published literature shows a stark difference against conventionally managed land. Introducing permanent cover crops between orchard rows fundamentally changes the runoff response of the landscape. Under a 200mm rainfall event:

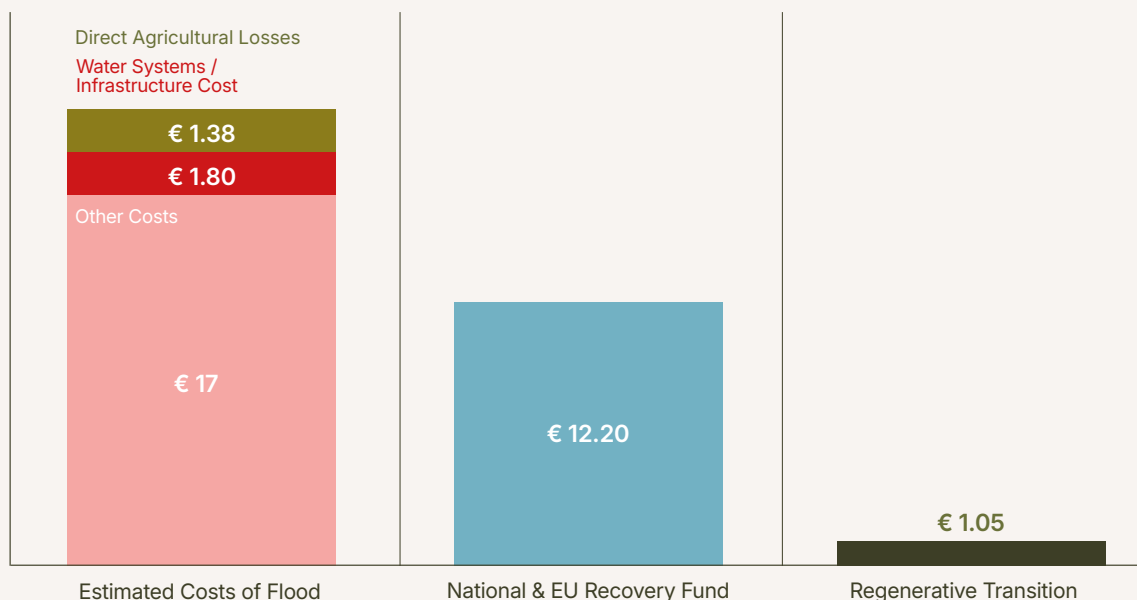
- **Surface runoff decreases by up to 60% compared to current systems**
- **At landscape scale across Valencia’s 316,000 hectares of perennial crop systems, this corresponds to an additional 212 billion litres retained in soils rather than contributing to surface flows and erosion**
- **Water infiltration rates in well-managed regenerative systems reach over 70mm per hour, against 20mm or below in conventional systems, effectively absorbing up to 60% of peak hourly rainfall, massively reducing mudslides, erosion, and downstream flood impact**

Crucially, these gains do not degrade over time. Unlike grey infrastructure, which requires maintenance and can be overwhelmed as events intensify, regenerative systems improve continuously, building greater resilience with every passing year. According to the experienced network of EARA’s farmers, meaningful improvement in soil hydrological function is achievable **within 4 to 6 years**, a timeline comparable to major flood infrastructure.

The Economics Are Compelling

Transitioning 316,000 hectares of agricultural land would only cost €1.05 billion. A more targeted intervention focusing only on the highest-risk upstream zones like Chiva, Turis, and Utiel would cost approximately **€316 million over 5 years**, less than half the budget proposed for water infrastructure and grants, while delivering disproportionate benefits to downstream communities due to their topographic position within the watershed.

Comparative Costs of Flood Damage to 5-year Regenerative Transition (in Billion €)



What This Means for the Private Sector

The private sector cannot, and should not carry this transition alone. Spain's State Pact on Climate Emergency, the Valencian recovery fund, and existing CAP environmental allocations can provide the public framework. A cohesive response from the private sector is to co-finance, de-risk, and accelerate what public frameworks alone cannot deliver at the pace required.

Banks	Insurers	Supply Chain	Water management
Improved farm profitability and resilience, reduced default risk, increased stability of agricultural lending portfolios	Reduced claims frequency and severity, improved loss ratios, shift toward prevention-based risk management	Increased yield stability, reduced supply risk, improved long-term procurement security	Improved water quality, increased water availability, reduced water treatment costs

Creating a cohesive, collaborative response

1. Join or form a Transition Consortium.

Local or regional consortia bringing together banks, insurers, supply chains, and public bodies can collectively empower farmers during the 4–6 year transition period. By distributing risk across institutions with complementary exposures and shared interests in landscape regeneration, this model makes the transition financially viable for farmers without placing the burden on any single actor. As systems mature and margins improve, farmer support can shift progressively from underwritten guarantees to performance-based payments.

2. Integrate landscape function into lending and underwriting criteria.

Regenerative land management is a measurable, verifiable risk-reduction factor. Incorporating soil health indicators like soil organic carbon, bulk density, and soil cover into agricultural lending assessments and insurance pricing models creates a direct financial incentive for farmers to transition, while more accurately reflecting the true risk profile of the underlying assets. This is not a departure from sound underwriting; it is an improvement of it.

The Cost of Inaction Is Compounding

Every year of delay in transitioning agricultural land toward regenerative management is a year in which landscape degradation deepens, loss ratios rise, and recovery costs compound. While the October 2024 floods are considered a once-in-a-generation event, daily rainfall of 100mm, sufficient to trigger significant runoff on degraded bare soils, has a return period of less than five years in the Valencia region.

The tools exist. The knowledge exists. The funding frameworks are in motion. What is needed now is a regional, proactive, coordinated, and cross-sectoral commitment to act.

To engage EARA's pragmatic, action-oriented network for context-specific analysis, transition support, or consortium development, please contact the team at solutions@eara.farm.

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About the European Alliance for Regenerative Agriculture

The European Alliance for Regenerative Agriculture is the independent, farmer-led coordination, advocacy and collective action organisation of the movement of regenerative agriculture at the European level. EARA is striving to enable the transformation of our agrifood ecosystems through accountable ecologic, economic and social regeneration.

More information can be found on our website at www.eara.farm.