EMILIA-ROMAGNA, ITALY

The Success Story focuses on the Emilia-Romagna region proactively addressing climate challenges, particularly flooding, as part of its ambitious goal to achieve climate neutrality by 2050. The region employs comprehensive spatial planning to integrate water-resilient activities, aiming not only to mitigate the immediate impacts of flooding but also contribute to long-term environmental sustainability and resilience against future climate-related threats.

EU MISSION IMPACT

The Mission has been instrumental in enabling the region to exchange knowledge with other regions, identify and adopt best practices, and raise awareness among our policymakers about climate adaptation in addition to the more familiar climate mitigation efforts.

Our direct participation in a Mission-funded project (ARCADIA) as a leading demonstration site also allows us to finance a study aimed at improving water network management and its interactions with infrastructure and vegetation management practices.

> *Public investment is better and much more efficiently spent in prevention rather than in repairing damages caused by climate change, when observing the medium-long term perspective. In our regional plans, we estimate approximately EUR 275 million is needed to protect our territory from hydrogeological risks. There is a need for a paradigm shift, and the attention on adaptation will be beneficial to address such kind of investment needs at the EU level.*
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> PAOLO FERRECCHI
> DG for Land and Environment, Emilia-Romagna

REGIONAL PROFILE

Situated on Italy's north-south axis, Emilia-Romagna is a highly innovative and industrialised region. Its agrifood production and processing value chain is among the most vital in the country, with precision agriculture enhancing water resource efficiency. Tourism, particularly in coastal areas, contributes significantly to the regional GDP.

CLIMATE CHALLENGES

The region often faces water-related challenges, going between extremes of too little or too much water. This includes intensified and increased frequency of extreme weather events such as droughts in 2012, 2017, and 2022, and flooding, like the notable events along the Trebbia, Paganza, and Reno rivers, as well as two major floods in May 2023.

The May 2023 flood events were exceptionally severe. Affecting seven out of nine provinces, the events flooded over 540 km^2, and caused 80,000 new landslides, doubling the number of known landslides. The estimated damage is EUR 8.5 billion, with more than half related to public assets.

SOLUTIONS

Emilia-Romagna was one of the first regions in Italy to adopt a climate adaptation strategy in 2017. It is now working on extending it with a comprehensive climate strategy aimed at achieving climate neutrality by 2050. An innovative approach has been developed to build a water-resilient region and facilitate reconstruction after the recent floods across all affected provinces.

This approach is based on integrated planning, starting with a moratorium on all building developments in flooded areas until the territory is remapped to identify climate vulnerabilities and risks. New buffer zones will be designated along all rivers to serve as the foundation for new spatial planning. This planning will incorporate enhanced management practices to protect infrastructure in hydrogeologically risky areas and slopes.

Measures include managing vegetation to provide rivers with more space, ensuring biodiversity protection while maintaining clear water flow areas, and controlling fauna such as fossorial animals that create tunnels in riverbanks, compromising flood resilience. Additionally, controlled flooding will be used as a strategy to mitigate residual risks.

As a result of the new spatial planning and remapping of flood-prone areas, some activities will need to be relocated, with incentives provided to support this transition.

OUTPUTS

It is too early to estimate the impact of the integrated spatial planning approach on reducing territorial vulnerabilities. In the short term, this approach may face resistance from citizens due to the halt on all construction permits until climate risk mapping is completed. However, as integrated spatial planning becomes standard practice for both reconstruction and new developments, we are confident that it will significantly enhance our region's ability to cope with intensifying and more frequent extreme weather events in the medium to long term.

LESSONS LEARNED

It is key to bring all key partners and stakeholders around the same table in an integrated governance for an integrated planning.

Secondly, we have piloted some best practices on how to manage the aftermath of the emergency phase (such as how to deal with a huge amount of waste, separating urban waste and sludges from rural waste) and we have been already able to disseminate those to other regions (i.e. Tuscany was also affected by flooding six months later).

Finally, we have created a technical scientific commission to understand and assess the risks of climate change in detail as this knowledge is key to prepare adequate plans to rethink the daily operations, such as redesign and dimension the water storage capacities).