



A step forward in EU forest policy: the Mediterranean perspective



Aligning forest-related Mediterranean LIFE projects with EU climate and biodiversity targets in the frame of the European Forest Strategy

1. The presentation of the New EU Forest Strategy for 2030¹ (EFS) by the European Commission was a major milestone in the effort to align EU forest policies² with the overall objectives of the European Green Deal. In doing so, it aims to turn European forests into a major contributor to the biodiversity and climate goals and to put the forest economy at the service of the construction of a new bioeconomy.
2. The future of EU forest-related policies is of paramount importance for Mediterranean forests, which are particularly vulnerable to climate change, and whose resilience is key to contributing to the EU bioeconomy, climate, and biodiversity targets³.
3. LIFE program is one of the key EU instruments for environment and climate action. In particular, it aims “to act as a catalyst for changes in policy development and implementation by providing and disseminating solutions and best practices to achieve environmental and climate goals, and by promoting innovative environmental and climate change technologies”⁴. In other words, LIFE projects have both the commitment and the potential to provide sound and ground-based evidence to enrich policymaking towards sustainability.
4. From these points of departure, eight forest-focused LIFE projects in the Mediterranean area have joined forces to co-produce this position paper. It is based on the shared and diverse knowledge stemming from their respective activities. It aims to call attention to the specificities of Mediterranean forests in fitting into the approaches adopted on the EFS. It also seeks to constructively contribute to an effective and fair implementation of the EU, national and regional interventions based

¹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. New EU Forest Strategy for 2030. COM (2021) 572 final.

² Although the EU lacks a Common Forest Policy and forest policy remains under the sovereign competence of Member States, the increase of the forest-related norms and measures included in other EU policies has led scholars to properly argue that the EU has indeed a real forest policy (Wolfslehner et al., 2020).

³ Mediterranean European forests are home to 290 woody species compared to only 135 for non-Mediterranean Europe, they also host the 20% of the flowering plants and fern species in the world, of which 50% are endemic. Regarding to the Habitat Directive 92/43 of the European community, 117 out of the 199 habitats of community importance are occurring in the Mediterranean region and 93 of them are exclusively found there. Gauquelin et al. 2018. Mediterranean forests, land use and climate change: a social-ecological perspective. Reg Environ Change 18:623–636. <https://doi.org/10.1007/s10113-016-0994-3>

⁴ Regulation (EU) No 1293/2013 of the European Parliament and of the Council of 11 December 2013 on the establishment of a Programme for the Environment and Climate Action (LIFE).

on the EFS 2021 in Mediterranean forests, so that they can contribute to the bioeconomy, climate and biodiversity targets we all share.

Understanding the specificities and needs of SFM in the Mediterranean

1. **Sustainable forest management (SFM)** becomes the backbone of the EFS, which emphasizes that SFM must *take into account the three inter-dependent pillars of sustainability*. The point is that, though it could seem a truism, SFM requires management, i.e., the implementation of forest practices and works aimed to secure the provision of multiple ecosystem services. However, as these LIFE projects show (and it is backed by scientific literature, e.g., Camia et al., 2021⁵), a common feature of Mediterranean forests is precisely the lack of any management and forest abandonment in a very important part of (mainly private) forest and with very low harvest rates⁶. This insufficient or inexistent management leads to forest encroachment causing loss of mosaic habitats and of biodiversity. This is associated with shrublands and grasslands, an increase of fuel load, and a decline of goods and services provisioning. Furthermore, the lack of adaptive management is strongly impairing forest resilience and/or resistance to climate change, aggravating other destructive stressors (in particular drought, pests and diseases, and windstorms), and it also affects forest fire behaviour and regimes.
2. Although there are several factors explaining insufficient management of Mediterranean forest, low or inexistent private economic returns are a key explanation. This is linked -among others- to low forest productivity, highly fragmented and poorly accessible production units, loss of associated wood industry, lack of cooperation among forest owners, and the lack of an appropriate framework of private and public incentives. Moreover, the excessive administrative burden from a not always properly tailored regulatory framework has been found to be an additional constraint to forest management.

⁵ Camia A. et al. (2021) The use of woody biomass for energy purposes in the EU. Publications Office of the European Union, Luxembourg, 2021, ISBN 978-92-76-27867-2, doi:10.2760/831621.

⁶ For instance, in Spain, harvest rate is about 17%. Rojo-Alboreca A. (2015) El reto de la ordenación de los montes privados en España. Cuadernos de la Sociedad Española de Ciencias Forestales 39: 275-297.

3. In order to avoid a one-fits-all approach with regard to guidelines and regulatory frameworks or the design of incentives for SFM, it is essential to depart from a sound knowledge of the situation, trends and challenges of forest ecosystems. However, there is still insufficient knowledge about the way different Mediterranean forest management models provide multiple ecosystem services. There is also a necessity for long-term monitoring and robust scientific data to see the benefits of forest management in a changing climate context. Some examples stemming from these LIFE projects are: (i) the way **thinning practices** have the potential to increase ecosystem services like water regulation, structural biodiversity or carbon sequestration, (ii) the need to undertake more research on the quality and usefulness of Mediterranean forest to contribute to the **wood-based construction sector** (e.g. the potential of the mechanical properties (MOE) of *Pinus halepensis* for laminated wood) and (iii) the **synergies between trees and grassland** in multi-purpose silvopastoral systems and its economic benefits for rural population. The knowledge gap regarding the influence of forest management on the genetic diversity of tree populations is particularly relevant, as many forest tree species are found to be threatened or subject to genetic erosion due to inappropriate forest management. Silvicultural techniques which enhance genetic diversity must be recognized, introduced, planned, and implemented. Conservation of genetic diversity is one of the main measures to minimize the negative impact of climate change on forest ecosystems. Genetic adaptation and plasticity are key traits that must be considered in adaptive forest management to climate change such as assisted migration.

In any case, further efforts in research and innovation projects are required in the Mediterranean to feed evidence-based policies that avoid the pernicious effects of one-fits-all interventions.

4. LIFE projects operate in close connection with local stakeholders (landowners and foresters, municipalities, local SMEs, associations, etc.), in order to explore and implement territorially tailored forest actions. In the course of this interaction, these actors have frequently expressed a feeling of misunderstanding by (what they perceived as too distant and urban biased) policy-makers. This reveals the necessity for more participatory and territorially fitted decision making, and the shaping and strengthening of spaces of knowledge exchange and co-creation of solutions. Besides transferring this knowledge to national and EU policy makers, this knowledge

needs to be effectively communicated to the whole society, to make it aware of the importance of managing forest heritage in the Mediterranean, particularly, in a context of climate change.

The understanding of actors' perceptions and behaviour is essential to the design of effective policies, particularly in the field of sustainable development⁷. Adaptation to climate change also includes adaptations of social and economic settings, so that obstacles that need to be removed are mainly institutional and political. The development and evaluation of adaptation strategies must be part of a participatory process involving different stakeholders: from decision-makers, foresters, researchers to forest owners and wood end-users.

Tailoring EU Forest Policy to enhance SFM in the Mediterranean

1. **SFM guidelines** are of help to steer foresters. However, it is imperative to avoid one-fits-all approaches. These LIFE projects precisely show the necessity to adapt any recommendations to the specific characteristics and needs of each territory. For instance, thinning can notably and simultaneously increase several ecosystem services like blue water provision, biomass production, carbon storage and forest resilience. Furthermore, appropriate forest management based on decision support tools- has the potential to overcome the trade-offs between biomass production and biodiversity conservation -one of the main concerns of the EFS and allows for win-win solutions.

In Mediterranean forests, climate change mitigation and adaptation are the two sides of the same coin as biophysical changes in mountainous regions (the norm in the Mediterranean) can be very heterogeneous even in reduced areas; here, SFM must be very site-specific to deploy both adaptation and mitigation strategies. SFM guidelines must be consequent with this potential and include reliable forest treatments that address both future habitat change and ecosystem services provision under different scenarios.

⁷ van Bavel, R. (2020). Behavioural Insights for EU Policymaking. In Science for Policy Handbook (pp. 196-205). Elsevier.

2. For SFM to be effectively implemented, **foresters' skills** need to be improved as shown by some of the LIFE projects participating in this initiative. This is in line with the invitation that the EFS makes to forest stakeholders to join the Pact of Skills. The development of new skills needs to incorporate territorially adapted knowledge, co-constructed by a diversity of stakeholders: scientific actors, public administrations, private sector and local communities. Skills of those target groups in the field of SFM can be efficiently improved with different decision support and knowledge transfer tools developed within LIFE and other projects (such as GenBioSilvi model, Marteloscopes, etc).
3. **Forest interventions funded by the EAFRD** have been found⁸ to mean the difference with regards to forest intervention (i.e. lack of 'deadweight') and coherent with multiple environmental objectives. In addition, they provide opportunities for efficient joint application in small-scale holdings which dominate Mediterranean forests. However, the heavy administrative burden for beneficiaries keeps being a constraint. Member States should increase the scope of forest EAFRD intervention to shape an enabling framework of incentives (e.g. economic, knowledge transfer and advisory) to promote the mainstreaming of SFM in the Mediterranean. Furthermore, the Common Agricultural Policy might be able to recognise the role of pastures under forests, a widespread model of silvo-pastoralism in the Mediterranean which plays an outstanding role in preventing fire, encroachment and loss of open areas
4. **Collective action** is essential for both economic viability and SFM in settings dominated by small-scale holdings. Public policies -at any level of decision making- should ease the setting up of collective agreements. Thus, guidelines, incentives and regulatory tools would need to adapt and promote collective forest management. For instance, it is necessary to be aware that forest management strategies go beyond the boundaries of individual stands. A key approach to risk management is to increase the diversity mix of tree species, forest structures and forest management approaches between neighbouring stands to increase the adaptability of forests and improve their resilience to climate change in local environment.
5. In order to help preserve genetically diverse forest tree populations, monitoring of the genetic diversity is becoming increasingly important, and it has to be systematically

⁸ ALLIANCE ENVIRONNEMENT EEIG (2017) Evaluation study of the forestry measures under Rural Development. European Commission, Brussels. ISBN 978-92-79-65576-0



incorporated into SFM. To achieve that goal awareness about the importance of **forest genetic monitoring (FGM)** should be raised among policy makers and experts. FGM should be incorporated into long-term strategies, such as the European forest genetic resources strategy, as well as the Biodiversity strategy, and the EFS. In a long term FGM shall allow an improved adaptive forest management system to enhance the resilience of forests to climate change.

6. Finally, forest policy design, implementation and evaluation need to adopt **a cross-sectoral and systemic perspective**, overcoming reductionist and simplistic approaches. This would require an open and inclusive interaction with the several stakeholders, interests and views at stake. For this to be tackled realistically, a territorial focus is necessary. Moreover, this territorial focus must also consider the functional relationships between rural and urban areas, framed into a balanced governance framework able to give rise to an inclusive and fair bioeconomy.

Additional information based on LIFE projects results

- Guías técnicas para la cuantificación y la contabilidad de la absorción de carbono de las técnicas de gestión forestal sobre pinus halepensis y pinus pinaster. LIFE Forest CO2 (2021) - [Link](#)
- Guía práctica dirigida a entidades dedicadas a la implantación de sistemas de compensación voluntaria de carbono. LIFE Forest CO2 (2021) - [Link](#)
- Bajc, M., Aravanopoulos, F., Westergren, M., Fussi, B., Kavaliauskas, D., Alizoti, P., ... Kraigher, H. (Ed.). (2020). Manual for forest genetic monitoring. Ljubljana: Slovenian Forestry Institute, Silva Slovenica Publishing Centre. LIFE GENMON- [Link](#)
- Cantos G, Muñoz J, Pascual D, Borràs G (2022) Analysis of the vulnerability of the midmountain to the impacts of climate change. Deliverable 12. LIFE MIDMACC - [Link](#)
- Coello J, Guitart L, Cervera T, Rovira J, Piqué M (2021) Local policies, climate change and forest management in peri-urban forests: a necessary integration. LIFE MixForChange - [Link](#)
- Coello J, Piqué M, Beltrán M, Coll L, Palero N, Guitart L (2022). Adaptive and close-to-nature management in sub-humid Mediterranean mixed forests: holm oak, chestnut, oak and pine forests. LIFE MixForChange - [Link](#)
- Paffetti D., Travaglini D., Buonamici A., Nocentini S., Giovanni G., Giannini R., Vettori C. (2012). The influence of forest management on beech (*Fagus sylvatica* L.) stand structure and genetic diversity. *Forest Ecology and Management*. 284. 34–44. 10.1016/j.foreco.2012.07.026. - [Link](#)

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