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Introduction

n 2005, the tenth anniversary of the Euro-Mediterranean Partnership, also known as the Barcelona Process, highlighted the need to revitalize the dialogue on regional cooperation in the Mediterranean basin. The political will to do so led to the creation of the Union for the Mediterranean (UfM) at the Paris Summit for the Mediterranean in July 2008. This political commitment to cooperation throughout the region on stability, inclusive development and integration also had an impact in the environmental field. In particular, France reinforced its support to bodies dealing with both marine and terrestrial Mediterranean ecosystems. For the former, stronger support was provided to Plan Bleu, one of the regional activity centres of the Mediterranean Action Plan (MAP) of the United Nations Environment Programme (UNEP). For the latter, two experts from the French Ministry of Agriculture were successively seconded to FAO to support the activities of the Committee on Mediterranean Forestry Ouestions - Silva Mediterranea (hereafter "Silva Mediterranea"). This support to Silva Mediterranea lasted just over a decade, from November 2009 to May 2020.

Silva Mediterranea, which is the continuation of an association created in 1922, has a long history of Mediterranean cooperation in the forest sector. Over such a long period, the committee had to keep reinventing itself and evolving to adapt to new challenges. In 2002, the future of Silva Mediterranea was the main topic on the agenda of the eighteenth session of the committee. Based on an external review of the committee and its networks, a number

of changes were recommended to reinvigorate it. The French support to the secretariat of *Silva Mediterranea* came just after these recommendations. Between 2009 and 2020, four presidents chaired the committee and supervized this revitalization process: Spas Todorov from Bulgaria, ismail Belen from Türkiye, José Manuel Jaquotot Sáenz de Miera from Spain and Chadi Mohanna from Lebanon.

By the end of the 2000s, climate issues had already been incorporated into the agenda on Mediterranean forests. The Mediterranean ecosystems are located between arid and temperate biomes and are highly vulnerable to climate change, which is likely to result in their limits moving northwards. The issue of desertification in the Mediterranean and the role of forest ecosystems as a barrier to degradation processes was raised as early as the 1980s. Furthermore, Mediterranean forests are distinct in that wood is just one among many other goods and services provided and used by the forest sector and local communities. This interplay between diverse

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forest uses that contribute to rural development and global changes has given even more importance to the role that Mediterranean forests can play in the bioeconomy.

This article aims to review the activities that have been implemented between 2009 and 2020 under Silva Mediterranea to support Mediterranean forests. Starting from an agenda dominated by climate issues, this decade has seen the emergence of forest and landscape restoration (FLR) as a way of addressing climate change challenges while simultaneously reaching several other key objectives.

Revitalizing the dynamic around mediterranean forests

Developing a strategic agenda on Mediterranean forests

From the early 2010s, it became clear that the revitalization of the regional agenda on Mediterranean forests required strategic direction to set priorities and coordinate efforts. The development of a strategic agenda on Mediterranean forests was initiated at a workshop in Ramatuelle, France, in November 2011 and continued in 2012-2013 through several meetings in Chania, Greece, Rome, Italy and Tlemcen, Algeria. The resulting Strategic Framework on Mediterranean Forests (SFMF) was endorsed by Mediterranean countries at the high-level segment of the Third Mediterranean Forest Week (MFW) in Tlemcen in March 2013 (Besacier, 2013).

The SFMF set three goals and defined nine strategic approaches for reaching them. The first goal was to develop and promote forests by (1) improving the sustainable production of goods and services by Mediterranean forests, (2) enhancing the role of Mediterranean forests in rural development, and (3) promoting forest governance and land-tenure reforms at the landscape level. The second goal was to promote resilience under global changes by (4) promoting wildfire prevention, (5) managing forest genetic resources and biodiversity to enhance the adaptation of Mediterranean forests, and (6) restoring degraded Mediterranean forest landscapes. The third goal was to enhance capacities and mobilize resources by (7) developing knowledge, training and communication on Mediterranean forests, (8) reinforcing international cooperation, and (9) adapting existing financing schemes and developing innovative funding mechanisms.

Hence, the restoration of degraded forest landscapes was already considered a priority for the Mediterranean region in the SFMF. Restoration was seen as an answer for addressing desertification in the context of climate change while enhancing environmental and cultural services and strengthening food security and livelihoods. An integrated, long-term approach to restoration at the landscape level was already being advocated.

The SFMF echoed and aligned with several governmental policies on forests in Mediterranean countries, particularly in North Africa and the Near East (Mokhtar, 2014). For instance, in the second half of the 2010s, Algeria initiated a revision of several sustainable management plans for forested landscapes, to deal with increased vulnerability to climate change and existing degradation due to a lack of natural regeneration, and overgrazing. The restoration of cork oak landscapes was elevated to a priority. In Lebanon, a national afforestation and reforestation programme to increase the forest area from 13 percent to 20 percent of the country's land area was initiated at that time, in line with the SFMF. In Portugal, the National Forest Strategy adopted in 2015 tackled 60-70 percent of the SFMF's recommendations (Farcv and Picard, 2015).

The SFMF was also the basis for the development of *Silva Mediterranea*'s strategy, adopted at its twenty-third session in Brummana, Lebanon, in April 2019 and which focused on the restoration of forest landscapes.

Engaging with stakeholders on Mediterranean forests

The implementation of the SFMF required strong multi actor engagement. As early as 2009, the idea of a platform to foster interactions between stakeholders grew as a means

of fulfilling the objectives of the strategic agenda on Mediterranean forests, regularly monitoring progress in the implementation of this agenda, and coordinating countries' efforts and allowing them to share experiences. This platform for stakeholder dialogue and engagement was established along with the MFWs, which are still being regularly organized. From 2009 to 2019, six MFWs were hosted. The First MFW took place in Antalya, Türkiye, from 14 to 16 April 2010. This First MFW, mainly a combination of several meetings, confirmed the need for a regional consultation platform on Mediterranean forests. It also set the format for subsequent MFWs, with a wide range of participant profiles from government, science and academia, and non-governmental and international organizations.

The Second MFW held in Avignon, France, from 5 to 8 April 2011, focused on forest-related water issues, management and conservation of forest biodiversity, territorial approaches to local development based on forests, and wildfire prevention.

The Third MFW, which took place in Tlemcen, Algeria, from 17 to 21 March 2013 was a turning point in the MFWs, with the involvement of high-level representatives from Mediterranean governments. For the first time, there was a direct connection between the Mediterranean forests agenda developed by all stakeholders and the political commitments of Mediterranean countries. The Third MFW focused on sustainable development in rural areas, the value of goods and services provided by Mediterranean forests, and the mitigation and adaptation strategies of specific areas in the face of global changes. It culminated with a high-level segment where the SFMF was formally endorsed by Mediterranean countries in the Tlemcen Declaration. More than 230 participants attended the Third MFW.

The growing success of the MFWs was confirmed with the Fourth MFW in Barcelona, Spain, on 17-20 March 2015, which registered more than 420 participants. The Fourth MFW focused on forest value chains in the Mediterranean region as a way of

improving livelihoods and moving towards a bioeconomy.

Mediterranean FLR was the main topic of the Fifth MFW, which took place in Agadir, Morocco, on 20-24 March 2017. During the high-level segment that concluded the MFW, ten countries adopted the Agadir Commitment to improve FLR, Land Degradation Neutrality (LDN) and biodiversity conservation efforts in the Mediterranean region, with a view to restoring at least 8 million hectares of degraded land by 2030 (i.e. 10 percent of the degraded land in the region). This commitment was supported by several international organizations and contributed to the Bonn Challenge. It relied on four main components: (1) assessing ongoing national efforts on FLR; (2) reinforcing regional cooperation on FLR and LDN; (3) cooperating to develop a consensual and diversified strategy for the financing of FLR efforts and reinforcing national capacities; and (4) assessing efforts through the establishment of a voluntary monitoring and notification system for FLR and LDN efforts in the Mediterranean context.

The Sixth MFW held in Brummana, Lebanon, on 1–5 April 2019 focused on the role of Mediterranean forests in the Paris Agreement. It established a framework for Mediterranean forests to contribute to fulfilling the countries' nationally determined contributions, in combination with the Agadir Commitment. The Sixth MFW also highlighted the importance of youth education and entrepreneurship to address the challenges faced by Mediterranean forestry.

Consolidating knowledge on Mediterranean forests

The development of the SFMF also brought to light the need for systematic consolidation of knowledge on Mediterranean forests to inform public policies based on the latest scientific knowledge and insights on Mediterranean forests. The State of the World's Forests report published by FAO and the State of Europe's Forests report published by Forest Europe were already providing information on forests at the global and European level, but



Sources:

FAO & Plan Bleu. 2013. State of Mediterranean forests 2013. Rome, FAO and Marseille, France, Plan Bleu. https://www.fao.org/4/i3226e/i3226e.pdf

FAO & Plan Bleu. 2018. State of Mediterranean Forests 2018. Rome, FAO and Marseille, France, Plan Bleu. https://openknowledge.fao.org/items/25b72969-96f1-4af8-885b-40e2a07995a1

there lacked a report specific to the Mediterranean region.

The first State of Mediterranean Forests report was published in 2013. Using data from the FAO 2010 Global Forest Resources Assessment (FRA) and other data sources, this report provided the first consolidated account on forests at the regional level. It consisted of three main parts: (1) the status of forest resources, (2) the legal, policy and institutional framework, and (3) forest adaptation to climate change. The report addressed the extent of forest resources in the Mediterranean region, disturbances faced by forests, goods and services provided by forest ecosystems, forest management policy and legal frameworks, public policies, biodiversity and forest genetic resources, adaptive management and restoration practices, and wildfire prevention.

The second edition of the State of Mediterranean Forests was published in 2018. The report covered (1) the importance of forests in the Mediterranean landscape together with the threats that they face, (2) forest-based solutions that can be implemented to

tackle these threats, and (3) the enabling environment needed to scale up these solutions. Using FRA 2015 data, the report outlined the changes in forest resources in the 2010-2015 period. Besides forests, the importance of trees outside forests was also highlighted. Drivers of forest degradation were identified. Forest and landscape restoration was identified as a process with high potential for the region. The report also described the role that Mediterranean forests can play in the bioeconomy, provided an analysis of policy documents guiding forest management, and underlined the relevance of participatory approaches for implementing solutions in the region.

In addition to the State of Mediterranean Forests, several summary reports and articles were published during the 2009–2020 decade to provide a regional view on topics like the vulnerability of forest ecosystems to climate change, the distribution ranges of Mediterranean tree species (Wazen et al., 2020), and the role of Mediterranean forests in contributing to reaching the United Nations Sustainable Development Goals (Picard and Garavaglia, 2021).

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Giving new impetus to cooperation on forests at the level of the North Africa and Near East region

Mediterranean countries had different priorities with regard to their forests. A north-south dichotomy existed whereby forest degradation (in particular, due to overgrazing) was a major issue for countries of the North Africa and Near East region region, whereas land abandonment and lack of management were major challenges for European countries. Moreover, the need for coherent policies, improved knowledge, increased public awareness and adequate funding differed along this north-south gradient. Consequently, in 2010, the Collaborative Partnership on Mediterranean Forests (CPMF) was established between ten international and northern organizations and six targeted countries from North Africa (Algeria, Morocco, Tunisia) and the Near East (Lebanon, the Syrian Arab Republic, Türkiye). Two additional partners joined the CPMF in 2012.

The main objective of the CPMF was to improve the policy framework for the sustainable management of forests and related ecosystem services in the context of climate change in the six selected countries. The CPMF mobilized EUR 10.5 million from its inception to November 2015, the greatest share of this (70 percent) being provided by the German Federal Ministry for Economic Cooperation and Development (BMZ) through projects operated by the German International Cooperation organization (GIZ). The main project implemented by GIZ under the CPMF was a regional project entitled "Adapting the Framework for Forestry Policy to Meet the Needs of Climate Change in the North Africa and Near East Region". This project was key for revitalizing long-term regional cooperation on forestry questions in the six targeted countries and elevating this subregional process to the Mediterranean level. Another major project of the CPMF was funded by the French Facility for Global Environment (FFEM) (see below).

The CPMF also supported action that extended beyond the six targeted countries to the entire Mediterranean region, by developing the SFMF, the 2013 edition of the State of Mediterranean Forests and the first three MFWs. When the GIZ regional project ended in November 2015, the North Africa and Near East region cooperation on forests aligned with the Mediterranean cooperation, and the CPMF's work programme was integrated into that of *Silva Mediterranea*.

From planning to action

Supporting the working groups of Silva Mediterranea

The priorities set in the SFMF were turned into action via several working groups of Silva Mediterranea. The Working Group on Forest Fires coordinated by Spain organized a workshop on "Assessment of Forest Fire Risks and Innovative Strategies for Fire Prevention" in Rhodes, Greece, in May 2010. The outcome of this workshop and of a previous workshop held in 2008 was condensed into a position paper entitled "Wildfire prevention in the Mediterranean: a key issue to reduce the increasing risks of Mediterranean wildfires in the context of climate change", published in 2011. The working group also facilitated the extension of the European Forest Fire Information System (EFFIS) to the countries of the southern Mediterranean shore. The working group hosted another workshop in November 2018 in Leon, Spain. Its outcome was a statement on wildfires in the Mediterranean region presented at the 2019 International Wildland Fire Conference.

Until 2016, the Working Group on Forest Genetic Resources coordinated by Italy implemented its programme of work through COST Action FP1202, entitled "Strengthening Conservation: a Key Issue for Adaptation of Marginal/Peripheral Populations of Forest Trees to Climate Change in Europe". This project focused on marginal forest tree populations as a key genetic asset for improving the resilience of European forests to global changes. The project characterized the genetic diversity and geographic distribution

of marginal populations for eight Mediterranean tree species. Its main conclusions were summarized in a policy brief published in 2015 (Core Group of COST Action FP1202, 2015). Given the importance of having forest reproductive material available, the working group then refocused its work programme on an inventory of Mediterranean seed stands and in 2019 established an International Union of Forest Research Organizations (IUFRO) Task Force on "Strengthening Mediterranean Nursery Systems for Forest Reproductive Material Procurement to Adapt to the Effects of Climate Change".

The Working Group on Cork Oak and Non-Timber Forest Products promoted the development of cork oak by participating in conferences and symposia, while the Working Group on Mediterranean Forests and Sustainable Development supported the writing-up of the State of Mediterranean Forests report and the organization of the MFWs. Two additional working groups were established in 2012: one on urban and peri-urban forestry coordinated by Italy, and the other one on restoration and desertification of drylands coordinated by Türkiye.

The Working Group on Urban and Peri-urban Forestry published a systematic review on urban forest research in the Mediterranean (Kraiter Ostoić et al., 2018), developed a COST Action project proposal on "Implementing Food Forest Systems in the Mediterranean Region", drafted a policy brief on urban forestry in the Mediterranean, developed a list of indicators for the assessment of the state of urban and peri-urban forests in the Mediterranean, and lastly, developed a collection of case studies and good practices on urban and peri-urban forestry in the Mediterranean region. This working group was active in promoting the experiences of the Mediterranean region on urban and peri-urban forestry at the global level.

The Working Group on **Restoration** and **Desertification of Drylands** organized a workshop on "Desertification and Restoration in Mediterranean Drylands" at the twelfth Conference of the Parties of the United Nations

Convention to Combat Desertification (UNCCD) in October 2015 in Ankara, Türkiye, promoted the issue of restoring Mediterranean drylands at the international level, supported the Agadir Commitment taken at the Fifth MFW, participated in the global assessment of forests in drylands (Bastin *et al.*, 2017; FAO, 2019), and lastly, contributed to two reference books on the restoration of degraded dryland forests and landscapes (Berrahmouni, Regato and Parfondry, 2015; Haddad, Ariza and Malmer, 2021).

Implementing regional projects

The activities of the Silva Mediterranea working groups were complemented by regional projects coordinated by the committee's secretariat. A regional project funded by the FFEM started in 2012. Entitled "Optimizing the Production of Goods and Services by Mediterranean Forests in the Context of Global Changes" and co-coordinated with Plan Bleu, this project aimed to (1) integrate the impacts of climate change into forest management policies (by producing data and tools on the vulnerability and adaptive capacity of forests); (2) estimate the economic and social value of the goods and services provided by Mediterranean forest ecosystems; (3) improve forest ecosystem governance approaches at the local level by promoting participatory approaches; (4) optimize and enhance the mitigation role of Mediterranean forests (carbon sinks) through the development of methodological tools that enable the promotion of local efforts to protect or restore ecosystems; and (5) strengthen coordination and sharing of experiences among actors by supporting the CPMF.

The FFEM regional project relied on eight pilot sites in five North Africa and Near East countries, namely the target countries of the CPMF, except the Syrian Arab Republic. The project mainly aimed to explore the potential of Mediterranean forests to mitigate climate change under the REDD+ mechanism. Together, the first three components of the project aimed to contribute to developing REDD+ scenarios that could be implemented in the target countries, while the fourth component focused on evaluating the

impact of REDD+ projects in the context of each scenario. However, the project found that the REDD+ mechanism was of limited interest for Mediterranean countries unless co-benefits were produced alongside carbon benefits. Nevertheless, the project helped the target countries carve out a role for forests in their national climate strategies, in particular with regard to adaptation to climate change (FAO, 2015; Torres and Martinet, 2016). The project also enabled the countries to identify FLR a major tool to reach climate objectives in the region.

Subsequent regional projects focused specifically on FLR. As part of the development of the seventh replenishment cycle of the Global Environment Facility (GEF) and its Impact Program on Food Systems, Land Use and Restoration, a Technical Cooperation Program (TCP) project entitled "Enhancing Forest and Landscape Restoration in Mediterranean Landscapes: Improving Resilience for the Benefit of People and Environment" was set up by FAO. The objective of this TCP project was to develop GEF project proposals in Algeria, Egypt, the Islamic Republic of Iran, Jordan, Lebanon, Morocco, the Sudan and Tunisia.

Another regional project focusing on FLR was the Mediterranean component of the IKI-funded project "The Paris Agreement in Action: Upscaling Forest and Landscape Restoration to Achieve Nationally Determined Contributions", developed by the Forest and Landscape Restoration Mechanism of FAO.

Conclusion

A decade of French support to Mediterranean forests under the FAO committee *Silva Mediterranea* has resulted in establishing strategic approaches for Mediterranean forests, improving stakeholder engagement, consolidating information on Mediterranean forests, and developing and implementing several regional projects in line with the priorities set out under the SFMF. One key priority that emerged during this decade is the restoration of forest landscapes in the Mediterranean. Current developments both at

the regional level (e.g. the EU proposal for a Nature Restoration Law) and global level (e.g. the United Nations Decade on Ecosystem Restoration) have confirmed its relevance and have resulted in the Mediterranean region being nominated as a World Restoration Flagship in the context of the United Nations Decade on Ecosystem Restoration.

Moreover, this decade has resulted in stronger connections between climate and restoration objectives involving Mediterranean forests. In the context of global change, the features of Mediterranean forests make them particularly relevant to implementing good restoration practices. Many Mediterranean forests are degraded, thus offering large restoration opportunities. The balanced distribution of the value of Mediterranean forests across a wide range of goods and services, while other, more productive forest ecosystems often have a narrower distribution peaking on wood products, make Mediterranean forests particularly relevant for landscape approaches. However, there is still a dichotomy between the northwestern and southeastern shores of the Mediterranean that needs to be resolved, requiring efforts on regional integration to be maintained and reinforced.

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