Climate Financing Instruments in Mediterranean landscapes

How to increase the mobilization of Climate Financing Instruments to support programs and/or projects in forested Mediterranean landscapes

by Valentina GARAVAGLIA & Susan BRAATZ

The objectives of the session on « How to increase the mobilization of Climate Financing Instruments to support programs and/or projects in forested Mediterranean landscapes » at the IV[th] Mediterranean Forest Week were to present the mitigation and adaptation potential in the Mediterranean forest sector and discuss with potential investors, partners and donors the mobilization of financial resources from "Climate Finance" for Sustainable Management of Forests.

Background

Ranging from tangible economic incomes associated with forest and non-forest products to services provided to society, Mediterranean forests furnish a wide range of economic, ecological and social benefits. They have long been known for their multifunctionality and their contribution to rural development, poverty alleviation and food security.

However, Mediterranean forests are under threat both by human-induced pressures (landscape degradation, fragmentation, land-use changes) and climate change (temperature increases and precipitation decreases, changes in the pattern of rainfall distribution, extreme weather events) which effects are expected to be exacerbated in the future.

Mediterranean forests have been widely considered in the context of climate change adaptation [1] measures (e.g. preventing fires, managing invasive species and diseases, managing post-disturbance phases, restoration of degraded landscapes) and their potential for climate change mitigation [2] through afforestation, reforestation, avoided deforestation and degradation has also been highlighted. They are clearly part of the global effort to address climate change.

1 - Adaptation refers to adjustments in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities (IPCC TAR WG2, 2001)

2 - Mitigation refers to any anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases (IPCC TAR WG2, 2001)

3 - REDD: Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries

In occasion of the III[rd] Mediterranean Forest Week (Tlemcen, Algeria, 17-21 March 2013), Mediterranean countries adopted the Tlemcen Declaration, a commitment of policy makers for implementing actions and measures in order to achieve the proposed objectives of the Strategic Framework on Mediterranean Forests (SFMF), namely: i) developing and promoting goods and services provided by forest ecosystems and other wooded lands in the Mediterranean; ii) promoting resilience of forest ecosystems and other wooded lands in the Mediterranean to face global changes; iii) enhancing capacity of stakeholders and the resources mobilization necessary for the sustainable management of forest ecosystems and other wooded lands in the Mediterranean.

More in detail, the Strategic Line 9 of the SFMF highlighted focuses on innovative instruments with clear links to new "Climate Financing Instruments":

– Recommendation 4: Adapt to the Mediterranean context Innovative Financing Mechanisms (IFM) and instruments such as Payments for Ecosystem Services (PES) schemes, REDD+[3] and compensation mechanisms;

– Recommendation 5: Create the enabling environment for the development of Innovative Financing Mechanisms (IFM):

∗ Improve the understanding of these mechanisms through capacity development;

∗ Learn good practices from other regions;

∗ Communicate widely on the importance of forest ecosystems, goods and services and the need to raise necessary financial resources for their sustainable management;

∗ Start designing first initiatives of IFM, such as REDD+ pilot projects in selected areas of the region;

– Recommendation 6: Enhance the involvement of the private sector in developing the value chains of wood and non-wood forest products.

The session organized at the IV[th] Mediterranean Forest Week (Barcelona, 16-20 March 2015) on the mobilization of financial resources from "Climate Finance" for the Sustainable Management of Forests was an opportunity to promote the potential of forested Mediterranean landscapes for mitigation and adaptation to climate change. During the session, results from two regional projects one on the production of goods and services of Mediterranean forest ecosystems in the context of global changes funded by the French Global Environmental Facility (FFEM) and the other by the German Cooperation Agency (GIZ), were presented. They represented the starting point for the discussion with potential investors on the regional Road Map adopted in 2013 on "REDD+ and carbon finance in the AFOLU sector" and on mitigation pilot projects and forest-based adaptation innovative projects in the Mediterranean region.

Picture 1: Mediterranean forest landscape in Algeria: the Senalba forest. © *V. Garavaglia*

Results

The session on Climate Financing Instruments in Mediterranean landscapes attracted several participants, project partners and international donors. The discussion was inspired by several presentations focusing on the initiatives undertaken at the pilot site, national and regional level in the framework of two regional projects: FFEM and GIZ, and on mitigation pilot projects and forest-based adaptation innovative projects in the Mediterranean region. They clearly showed the potential for accessing mitigation and adaptation financing mechanisms for the Mediterranean forest sector but also the complexity of the subject in the region.

Climate change negotiations in the forest sector

Nicolas Chenet from *Office national des forêts International* (ONFi) focused his intervention on the regional context concerning climate change negotiations in the forest sec-

tor with a focus on key issues for the Mediterranean region. He highlighted the major drivers of deforestation and degradation in the Mediterranean, such as expansion of agro-pastoral activities, extraction of forest products, expansion of infrastructures, impacts of climate change, insect pests and diseases, fires. He also outlined mitigation options in Mediterranean landscapes, including reducing emissions from forest degradation, enhancing carbon sequestration in existing forest land (reforestation, restoration of degraded lands, enhancing forest management) and "new" forests (afforestation, development of silvopastoral and agroforestry systems). Methodologies exist for certifying that a project achieves its emissions reductions (e.g. under the Verified Carbon Standard -VCS). It is important, however, to assess at the outset the viability of a forest carbon project. The value of carbon payments will be offset by implementation and transaction costs (i.e. registration and monitoring).

In the case of Mediterranean forests, mitigation potential is relatively low due to the low carbon content of the forest.

The Paris agreement during COP21 [4] will certainly include adaptation. It is important for Mediterranean countries to be able to highlight the specific role and benefits of their forest, using for example the economical evaluations made during the project funded by the FFEM. It is suggested that countries should value their current management practices wherever possible in the UNFCCC [5] negotiations rather than trying to change them solely to fit the international framework.

The regional road map, "REDD+ and carbon finance in the AFOLU sector

Valentina Garavaglia from the FAO Secretariat of Silva Mediterranea presented the regional road map, "REDD+ and carbon finance in the AFOLU [6] sector". The regional road map proposes actions to be implemented at different scales: international negotiations (e.g. improve capacity building on forests and agriculture issues in the context of international negotiations under the UNFCCC), national mitigation strategies in the forestry sector (e.g. support to the development of National REDD+ Strategies in Mediterranean countries) and at the level of pilot sites of the regional project "Maximize the production of goods and services of Mediterranean forest ecosystems in the context of global changes" (e.g. analysis of agents and drivers of deforestation and degradation of forest ecosystems in the pilot sites (and other mitigation potentials).

The role of this road map is to identify key priorities on REDD+ and carbon finance in the AFOLU sector, to strengthen the coordination between technical and financial partners, and to support the communication between UNFCCC focal points. It has been designed as a flexible tool which content can be implemented based on results and achievements.

Cost-benefit analysis of REDD+ in Lebanon, Morocco and Tunisia

Ludwig Liagre presented cost-benefit analyses (CBA) of REDD+ in Lebanon, Morocco and Tunisia, promoting REDD+ potential and recognizing the importance of non-carbon co-benefits. The series of CBA studies were conducted in the framework of the Regional Project GIZ-CPMF on "Adapting forest policy conditions to climate change in Middle East North Africa [7]" with the support of the Forest Governance Programme (BMZ) and the consulting firm SalvaTerra. The objectives of these studies concern two levels: 1) at the national level, the CBA aimed at : a) developing capacities of national institutions on the REDD+ concepts ; b) raising awareness among policy makers from various sectors about the feasibility of REDD+ implementation, and related

4 - The 21st yearly session of the Conference of the Parties that will take place from November 30th to December 11th 2015, in Paris.

5 - UNFCCC: United Nations Framework Convention on Climate Change

6 - AFOLU: agriculture, forestry, and other land uses.

7 - www.giz-cpmf.org

Picture 2:
Aleppo pines affected by a forest fire in Tunisia.
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direct and indirect costs and benefits ; c) identifying the cost-efficiency of REDD+ options and highlighting possible priorities for action ; 2) at the regional level, the CBA process targeted : a) the identification of convergence points between CPMF partner countries about the REDD+ options to be implemented ; b) the consensus on key messages regarding direct and indirect costs and benefits, such as the importance of non-carbon benefits (i.e. co-benefits of REDD+).

In each country study, key deforestation and forest degradation drivers have been selected in a participatory process. For each one of these drivers, REDD+ options were proposed and their cost determined (Table 1).

Based on these first results, some key messages can be pointed out: i) even though REDD+ result-based payments would not cover implementation costs of all REDD+ options particularly when carbon prices are low, they could provide some co-financing; ii) generating REDD+ co-benefits would help adaptation goals for Mediterranean forests and joint adaptation/mitigation strategies; iii) more targeted support is needed in the Middle East/North African low forest cover countries for seizing the forests' contributions, particularly for adaptation strategies.

Ecosystem-based adaptation to climate change in Algeria: the case of Beni Salah Massif

A. Azzi presented the case of Beni Salah massif in Algeria as an example of forest ecosystem-based adaptation to climate change. The effects of climate change are already affecting agriculture, livestock, ecotourism, forest products, water and soil of the study area. The potential effects on the region, including socio-economic consequences if no action is taken are serious, and forest ecosystem-based adaptation solutions have been proposed. They include the management of rangelands, the promotion of value chains of forest and local products, enhancing ecotourism, restoration of degraded lands that would protect soils and water, promoting participative forest management plans, and improvement of scientific research. This study is part of the study cases promoted by GIZ in Lebanon, Morocco, Tunisia and Turkey[8].

8 - http://www.giz-cpmf.org/thematic-issues/climate-change-adaptation/forest-ecosystem-based-adaptation

Cork oak landscapes, their products and climate change policies

"Cork oak landscapes, their products and climate change policies" were presented by **Paulo Canaveira** from the NGO Terraprima. He provided information on promoting soil carbon sequestration in Portugal, the substitution effects of forest products with the example of promoting the use of cork stoppers instead of aluminum and plastic stoppers. He highlighted that climate policy is not only addressing the emission (mitigation) but also addressing the consequences (adaptation) and that they are strongly linked (Table 2).

REDD+ options	Lebanon	Morocco	Tunisia
Fighting against forest fires	31.8 USD/tCO2e	49.2 USD/tCO2e	494 USD/tCO2e**
Afforestation and reforestation*	266.6 USD/tCO2e	87 USD/tCO2e	45.7 USD/tCO2e to 229.9 tCO2e/ha
Reducing needs for woodfuel	-	The potential has been estimated but not the costs of the activities	-
Producing sustainable woodfuel	56.9 USD/tCO2e	-	-
Reducing overgrazing	-	17 to 43.6 USD/tCO2e	30 à 81 USD/tCO2e
Managing forests	-	-	The cost of forest management has been estimated but not its impact
Controlling agricultural and urban expansion	No promising activity has been identified	-	-

Table 1: Abatement costs of selected REDD+ options

* Calculation based on the carbon storage in 2030. On a longer term, abatement costs decrease.
** Very high operational costs, but several discussions with the concerned services confirmed this estimate.

P. Canaveira mentioned also that carbon markets are not the only option for climate finance. The following options exist for non-Annex I countries: the Clean Development Mechanism can be used to promote afforestation and reforestation projects, finance for REDD+ can be used to finance capacity building and "reward" emission reductions in forest landscapes, NAMA [9] finance can be used to finance climate mitigation resulting from activities that reduce emissions or increase sequestration in the forest, agriculture and grazing sectors, adaptation finance can be used to promote forest resilience and resistance to climate change, Common Agriculture Policy finance can be used for both mitigation and adaptation (in European countries), Life Programme finance can be used to promote best practices and demonstration projects in both mitigation and adaptation (in European countries) and voluntary carbon market finance can so far be used only for a limited number of practices (in all countries).

The sustainable management of cork oak forests: the case of the Maâmora forest in Morocco

The "Sustainable management of Moroccan cork oak forests in a context of global changes: the case of the Maâmora forest" was presented by **Adelmoula Lefhaili** from the Moroccan High Commissariat of Water, Forest and Combating Desertification. The Maâmora Forest, pilot site of the project "Maximize the production of goods and services of Mediterranean forest ecosystems in the context of global changes" is a state-managed forest of 132 000 ha located North-West of Morocco. Its forest vegetation is mainly composed by cork oak ecosystems and some broadleaved species introduced by plantations.

The Maâmora forest management plan is aimed at implementing conservation, recovering coppice functionality (rejuvenation), and promoting the sustainability of cork oak ecosystems. Main factors of vulnerability are anthropogenic pressures (overgrazing, high population density, wood removals), climate change impacts (water deficit, insect outbreaks), the current state of the forest (old tree population) and soil characteristics. An additional factor is represented by historical land-use changes: a reduction of cork oak area of 7 000 ha between 1987 and 2000 was related to past forest management plans which promoted the introduction of new broadleaved species. This reduction of surface was then followed by reforestation interventions that increased the cork oak area of 4 500 ha.

Action	Mitigation	Adaptation
Eliminate soil tillage	Improves soil sequestration Reduces fuel emissions	Improves resistance to drought
Increase fire prevention management	Reduces fire emissions	Improves resistance to fire Improves post-fire resilience
Eliminate over grazing	Improves soil and tree sequestration Reduces animal emissions	Improves resistance to climate change

Table 2:
Links between adaptation and mitigation.

A new management plan for the Maâmora forest was developed for the period 2015-2034. Main objectives are: i) to preserve and restore cork oak ecosystems according to land sustainability and vocation, ii) to improve timber and forage production, iii) to improve the wellbeing of local populations, iv) to preserve the biodiversity and promote eco-tourism, v) to promote partnerships and involve local communities in forest management, vi) improve recreational infrastructures.

Additional actions will be also undertaken: the creation of a "forage reserve" by planting of forage species outside forests; the intensification of sustainable livestock production, the promotion of income-generating activities in the sector of non-timber forest products and the improvement of forest policies monitoring. In order to minimize the risks arising from pressures and the vulnerability of the site, a participatory approach of the Maâmora forest management will be promoted, to establish a sustainable pastoral management, to support adequately the intensified livestock and develop alternatives to firewood energy. Depending also on the results of the different components of the project « Maximize the production of goods and services of Mediterranean forest ecosystems in the context of global changes", the maximization of the mitigation role of the Maâmora forest will be taken into account through the analysis of drivers and causes of degradation, the consequent introduction in the national forest policy, especially flagging the need to be proactive on climate change

9 - NAMA: National Appropriate Mitigation Actions.

issues, streamlining of forest use rights, ecosystems restoration based on local species, the strengthening and improvement of the management plan, the development of a mitigation baseline scenario, projects and a methodology for the evaluation.

Maximize the production of goods and services in the context of global changes: the case of Siliana in Tunisia

An additional example that comes from the pilot sites selected for the project "Maximize the production of goods and services of Mediterranean forest ecosystems in the context of global changes" was presented by **S. El Mensi** for the General Directorate of Forests of Tunisia, which focused his presentation on site of Siliana (Tunisia). The site includes 65 968 ha of forest mainly composed by Aleppo pines and different broadleaved species. Climatic projections suggest an increase in temperature up to 2.5°C and a decrease in precipitation up to -25% in the period 2046-2065, compared to the current situation. The vulnerability assessment projected to the horizon 2046-2065 (based on different scenarios) showed that the impact of climate change in some sectors of the pilot sites is going to be exacerbated. Therefore it seems strategic to adapt the management of the forest sector in the pilot site of Siliana taking into account changes in climate and anthropogenic pressures. Future activities could include afforestation and reforestation projects, the promotion of assisted natural regeneration, improved energy efficiency, the promotion of non wood forest products value chains, the intensification and improvement livestock productivity.

Consequently funding opportunities could be i) a project proposal on climate change mitigation in the context of a NAMA (2014) with the aim of reducing deforestation and degradation, increasing forest cover and creating a buffer zone (5 km around the forest area) for activities that meet local needs; ii) the submission of a REDD+ project focused on co-benefits that could be the follow up of the Tunisian submission to UNFCC in 2014.

Picture 3: The site of Düzlerçamı was selected as pilot site in Turkey for the project "Maximize the production of goods and services of Mediterranean forest ecosystems in the context of global changes". © *Murat Turkes.*

Lebanon Mitigation Action: implementation of the national afforestation/reforestation programme

Chadi Mohanna from the Ministry of Agriculture of Lebanon gave an overview on the "Lebanon Mitigation Action: implementation of the national afforestation/reforestation programme (NARP)" launched on 2012. The objective of the programme is to increase the national forest area from 13% to 20% for a period of 20 years starting in 2015. It will require the plantation of 40 million trees on a surface of 70 000 ha and will include five main components: i) the identification of suitable areas for reforestation; ii) the reforestation process; iii) the development and implementation of Measurement, Reporting and Verification (MRV) procedure; iv) the institutional adaptation and capacity building; v) the consultation of stakeholders and participation of local communities.

Additional objectives of the programme are the adaptation of forest and agricultural ecosystems to climate change, restoring and developing forest land and tree cover to enhance ecotourism, enhancing skills of forest and natural resources practitioners and the production of Non Wood Forest Products, the creation of job opportunities, the eradication of hunger and poverty in the region, the support to local populations. The actions that will be undertaken will revitalize the local economy and promote goods and services provided by forest ecosystems. Those co-benefits could be emphasized when looking for external funding.

The NAMA NARP is already funded by national investments and future steps will include collaborations with the World Bank

and the French Development Agency. Nevertheless additional funding is needed: the estimated total cost and maintenance of the programme is 400 million USD.

Based on a study on the mitigation potential of the NARP led by ONFi, the carbon sequestration potential of the programme on a period of 30 years (2014-2043) would be 11.4-13.6 Million tCO2.

The development of a NAMA to support the Lebanese reforestation program is an excellent opportunity to capture additional funding for the NARP programme to strengthen national capacities and in order to recognize at international level the efforts in terms of emission reduction.

Discussion

The round table with potential investors and partners focused on how to implement the regional Road Map on REDD+ and carbon finance in the AFOLU sector with the support of "Climate Financing Instruments", taking into account the mitigation and adaptation potential in Mediterranean forests.

Mediterranean forests are unique dry forest ecosystems in the world that furnish goods and services important for climate resilience and adaptation but relatively low carbon sequestration potential. The discussions flagged the potential for synergies between adaptation and mitigation options in the Mediterranean forest sector and addressed the need for increasing those synergies in the context of the existing and future financial instruments under the UNFCCC.

The need to accurately identify and access the most appropriate financing instruments and to access innovative finance mechanisms to sustain and enhance the values of Mediterranean forests was one of the key messages of the session.

So far Mediterranean countries have obtained little benefit from financing mechanisms based on carbon. While REDD+ projects in the Mediterranean context could be expected to be financially less attractive than in other regions due to a less favourable balance between transaction costs and carbon revenue, the non-carbon benefits (environmental, social, economic or institutional) would be significant. Therefore, in order to promote the access to new financing mechanisms for Mediterranean countries, it seems strategic to support adaptation option and also those co-benefits which guarantee the achievement of positive results in terms of mitigation and carbon stock permanence in the long term while creating synergies between mitigation and adaptation measures. Specifically designing adaptation projects that focus directly on maximizing non-carbon benefits – i.e. ecosystem services that reduce vulnerability and increase resilience and adaptation to climate change – and that target funds earmarked for adaptation is an option that Mediterranean countries may wish to pursue more actively. Given their specificities, it is crucial to provide an incentive to support co-benefits which can maintain carbon results achieved through activities in the long term. Such incentive may take different forms of implementation while taking account of national circumstances, countries' respective capacities and national REDD+ priorities, and it shall be provided through additional, sufficient and sustainable resources coming from a variety of international, but also national sources. It would be intended that these sources will act as a catalyst, unlocking also private flows of capital.

In this frame the importance to strengthen the Mediterranean regional cooperation was highlighted by several participants. It was also mentioned the urgent need of enhance the communication on Mediterranean forests and their specificities at regional level, taking into account already existing regional initiatives as platform to disseminate information on initiatives on Mediterranean forests.

Several donors and partners confirmed that development of the Mediterranean region is a key priority for their respective organizations and expressed keen interest in more integrated approaches in the forest sector (France, European Union and Centre for Mediterranean Integration which include as member the World Bank, the French Agency for Development and the European Investment Bank).

The Secretariat of the Union for the Mediterranean (UfM) and the representative of the European Union drew the attention and encourage the participation into existing regional and EU platforms like the EU Climate Action and invited to join the Union

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for the Mediterranean Climate Change Expert Group (UfMCCEG) where Mediterranean forest sector could be better represented in the future. The proposal for the better integration of future projects on Mediterranean forests under the umbrella of the Union for the Mediterranean by asking more systematically the UfM label was promoted, in order to facilitate financial resource mobilization by 2020.

Conclusions

The session on Climate Financing Instruments in Mediterranean landscapes flagged the synergies between adaptation and mitigation in Mediterranean forests and the opportunities presented by financing mechanisms to support the sustainable management of Mediterranean forests. International, but also national, sources of funds are required to promote the transition to a sustainable use of Mediterranean landscapes. The interest of donors in assisting in this transition was clear. Their support for the development of the Mediterranean region was mentioned as a key priority for several organizations.

In order to raise the visibility of Mediterranean forests and their role in climate action, results of this session will be summarized in a position paper on the climate change adaptation and mitigation potential of Mediterranean forests. It will underline the need to mobilize of climate financing to support programs and/or projects in forested Mediterranean landscapes.

V.G., S.B.

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Summary

The session on Climate Financing Instruments in Mediterranean landscapes at the IV Mediterranean Forest Week attracted several participants, project partners and international donors. The discussion was inspired by several presentations focusing on the initiatives undertaken at the pilot site, national and regional level in the framework of two regional projects. They clearly showed the potential for accessing mitigation and adaptation financing mechanisms for the Mediterranean forest sector but also the complexity of the subject in the region. The discussion flagged the synergies between adaptation and mitigation in Mediterranean forests and the opportunities presented by financing mechanisms to support the sustainable management of Mediterranean forests.

Resumen

La sesión sobre Instrumentos de Financiamiento Climático en los paisajes mediterráneos de la IV Semana Forestal Mediterránea atrajo distintos participantes, socios del proyecto y donantes internacionales. La discusión se inspiró en varias presentaciones centrándose en las iniciativas llevadas a cabo a nivel nacional, regional y de sitio piloto en el marco de dos proyectos regionales. Estas presentaciones mostraron claramente el potencial de acceso a mecanismos de financiamiento para la mitigación y adaptación en el sector forestal mediterráneo, pero también la complejidad del asunto en la región. La discusión destacó las sinergias entre adaptación y mitigación en los bosques mediterráneos y las oportunidades presentadas por los mecanismos de financiamiento para apoyar la gestión sostenible de los bosques mediterráneos.