

Forest Ecosystem Services in the MENA Region: need for further knowledge for sustainable forest governance

Robert Mavsar

European Forest Institute - Mediterranean Regional Office (EFIMED), Spain

Summary:

Forests in the Mediterranean region are not only important because of their high ecological value, but also due to their contribution to the human welfare in the region. The multifunctional nature of these forests has since long been recognized. Already in the 15th century, in some parts of the Mediterranean region, the forests were mainly managed for soil and water conservation and only secondary for wood production.

Also in the present, the Mediterranean forests are appreciated, not only for producing wood forest products, but rather for the provision of non-wood forest products and services.

Non-wood forest products (NWP), such as, cork, fodder, mushrooms, fruits, pharmaceutical and aromatic plants, can contribute significantly to the local or national economies. For example, for the southern Mediterranean area it is estimated, that grazing gives almost three times as much benefit, per hectare, as wood forest products. Another example is cork, which in Portugal accounts for 35% of the estimated total benefits obtained from forests (Merlo & Croitoru 2005).

Another important aspect of forests in the Mediterranean region is also their notable role in soil protection, watershed management, water quality, biodiversity enhancement and climate change mitigation by carbon sequestration and micro-climate amelioration. Even if these effects cannot be valued through market prices, they without doubts contribute to the welfare of the populations benefiting from them. Merlo & Croitoru (2005) reported that approximately 40% of the total economic value of Italian forests can be ascribed to watershed protection. Recreation, tourism and landscape aesthetics are further services offered by Mediterranean forests. With the increasing demand for recreational activities and tourism these services are getting more important. There has been several studies conducted for valuing forest recreation. Such studies reported estimated values ranging from 2.5 – 11€/visit (e.g. Scherrer 2002, Bellu & Cistulli 1997).

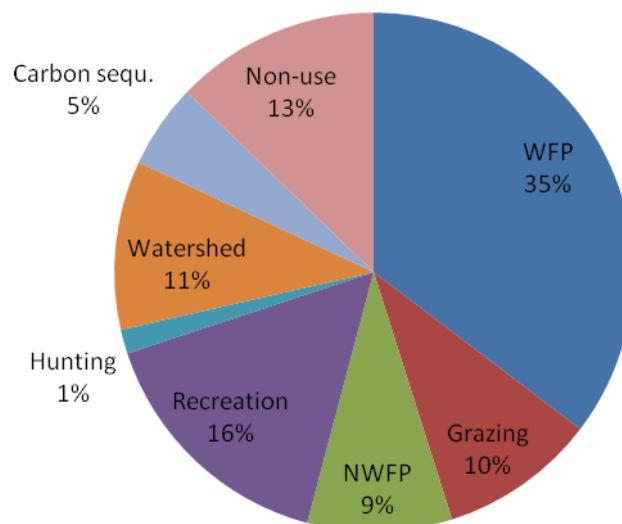


Figure 1: Composition of the Total Economic Value of Mediterranean Forests (source: Merlo & Croitoru 2005)

The estimated values of different Mediterranean forest goods and services by Merlo & Croitoru (2005) presented an average total economic value of Mediterranean forests of about 133€ per hectare of forests or in other words almost 50€ per year and capita. Only some 35% of this value can be ascribed to wood forest products (see Fig. 5). The estimate should not be taken as fixed value, since it can vary significantly in magnitude and composition between different countries.

Further, it should be acknowledged that due to lack of consistent and reliable data, this value might be an underestimation of the true economic value of Mediterranean forests. In a Spanish study, in which the value of different non-market benefits from afforestation of marginal agricultural land were estimated, the results indicated that the annual economic value would vary between 464€ and 4100€ per hectare of additional forests (Mavsar & Riera 2007).

The estimates for the economic values of different forest goods and services give an idea of the underlined multifunctionality of Mediterranean forests and the high value of non-marketed forest services. This fact creates important market failures (unpriced public goods and externalities, undefined property rights, lack of market transparency) that prevent the producers (forest owners) of those valuable forest services (which cover the cost of forest management) to internalize their value. In this context, forest owners do not receive the financial incentives to manage their forests in a way that ensures the sustainable and socially optimal provision of relevant non-marketed services. This situation, together with the lack of profitability of timber has led, in the northern Mediterranean sub-region, to the abandonment of forestry and therefore to the increase of continuous areas of forest biomass, susceptible to be burnt by forest fires. In the southern and eastern Mediterranean sub-regions, the difficult socio-economic conditions, the land tenure systems (mainly public forests) and again the lack of internalization of key non-marketed forest services (soil protection, grazing possibilities, etc) do not provide the necessary incentives to the local populations to manage forests in a sustainable way or to protect them from being converted to agricultural land.

This situation requires two types of actions. The first is to improve the information regarding all non-market forest benefits, characterizing their economic nature, assigning values and positioning them within a total economic value framework. The second action, based on the first, consists of designing and implementing an appropriate mix of policy instruments (e.g., juridical, financial, market-based or persuasive measures) at different scales (local, regional, national and international) to correct the existing market failures related to the provision and internalization of non-marketed forest services. In a Mediterranean context, institutional reforms are also crucial if policy instruments are to be effectively implemented, since poor and weak administration services might prevent the correct application of the various instruments. Finally, it is important to remark that any forest policy or measure should be designed and implemented within the framework of wider rural development strategies and policies. Mediterranean forests cannot be seen in an isolated context. More than in other regions, they require a joint territorial approach between all concerned parties: agriculture and rural development, urban societies, tourism, industry, environment, transport, etc.

Key recommendations:

- Needs for a direct understanding of the state, social importance and economic values of the full range of forest goods and services;
- Implementation of multifunctional forest ecosystem management approaches, methods and tools, to ensure the conservation and sustainable management of forest resources through adequate policy measures and optimal forest management and planning.

Key words: forest goods and services, economic value, multifunctional forest management