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This special has been edited by Sue Stolton and Nigel Dudley of Equilibrium Consultants. Managing editors Jean-Paul Jeanrenaud of WWF International and Bill Jackson of IUCN The World Conservation Union. Design by Helen Miller, HMD UK. All pictures by Yorgos Moussouris WWF/MEDPO

WWF has been present in the Mediterranean for over 30 years. Today it has institutional presence in several countries bordering the Mediterranean. Co-ordination of the Mediterranean Programme is based in Rome, Italy. The overall goal of WWF's strategy is a Mediterranean where nature is maintained and restored, where resources are used sustainably for the benefit of all life and in which social and cultural characteristics are valued.

A longer referenced version of this paper can be found at: <http://www.fao.org/waicent/faoinfo/forestry/nwfp/public.htm>



A draft strategic methodology for NTFP commercialisation



Resin production, Greece

Socio-economic benefits from NTFP commercialisation

At present, there are many factors that have hindered the commercial development of NTFPs, the principal ones being:

- the predominant bias against the quality of non-domesticated resources and the positive predisposition of agricultural professionals towards products that need higher technological input and complicated processing
- the lack of appreciation about the economic potential of NTFPs
- ignorance of the importance of NTFPs to rural societies
- substitution of many natural substances by synthetics
- a general lack of knowledge on NTFPs

The fact that NTFPs are used locally for subsistence or rural markets, often results in their exclusion from official statistics. The division of official governmental agencies between forestry and agriculture hinders the consideration of NTFP commodities because they fall into a 'grey area', being considered neither by foresters or agronomists. Finally, the mainstream forestry view that the value of forest resources clearly reflects their timber production capacity has resulted in only incidental and fragmented consideration of NTFPs.

However, certain trends are emerging that help to overcome past prejudices. These trends can be summarised as follows:

- deteriorating socio-economic conditions in the southern and eastern Mediterranean that increase the reliance on local natural resources
- increasing awareness regarding the positive role of NTFPs in socio-economic development and nature conservation
- green consumerism, which creates the demand for natural products and an increasing demand for 'ethnic' products
- increasing awareness and demands for new chemicals and pharmaceuticals.

The most important positive trend is the fact that among the three groups involved in NTFP production and consumption (rural populations, traders and urban consumers) the numbers of traders and urban consumers is increasing.

There is therefore considerable potential for Mediterranean countries to develop NTFP production and generate positive socio-economic benefits for rural populations that are compatible with conservation values. However, to deliver this potential there is a need to modify the current economic notions which govern Mediterranean forest management. This needs to take place alongside conservation efforts and, in many cases, with the restoration of woodland resources.

Actions needed to pave the way for increased production include continuing conservation efforts, amelioration of prevailing living conditions of rural communities, improvement of the quality and promotion of existing products and support for enterprises and industries that produce NTFPs. These developments should be undertaken by coalitions of experts, including representatives from local communities, non-governmental and governmental organisations, which will follow a multidisciplinary approach to the issue. In this way gatherers and producers will receive the maximum benefits from commercialisation and develop positive attitudes, or even participate, in on-going environmental conservation efforts.

Finally, comprehensive statistical data on production and trade of NTFPs are needed for an accurate estimation of their true socio-economic contribution to sustainable development. Accurate information will assist the elaboration of appropriate policies for NTFP production and promotion.

Conclusions

Fritz Shumacher has argued that land management should define health, beauty and permanence as its three main goals. Unfortunately, up until recently, the only goal accepted by development experts was productivity, leading to negative impacts on ecological and social stability. Furthermore, there has been little understanding of the fact that management practices, which target the three prime goals, can also eventually lead to increased productivity.

Managing woodlands for NTFPs can contribute to the maintenance of the health, beauty and permanence of Mediterranean landscapes. To do so, investments need to locate and capitalise on existing knowledge of multiple use forestry. Any aid given for the introduction of new economic activities should follow a piecemeal approach and be based on the existing potential of Mediterranean woodland resources. In the north, where abandonment has led to the decline of traditional management and population migration, reconsidering the values of NTFPs could create new opportunities. In the south, where intensification has disturbed natural ecological balances and led to intensified production, there is a need to establish small to medium scale operations, which would address the ecological and social needs of rural populations and preserve the centuries – old rich natural and cultural landscape.

Towards a Network for the Sustainable Use of NTFPs in the Mediterranean Region

WWF's global targets for forest conservation include an increase in protected forest areas and in environmentally sound forest management outside protected areas. The second target is expressed in terms of independent certification of well-managed forests. In the Mediterranean these two forms of forest protection are closely linked and an artificial separation is therefore problematic. In many cases, biodiversity conservation in the region depends on the continuation of those traditional management systems that are compatible with nature protection. The establishment of forest protected areas in the region should therefore retain such systems, as their exclusion can actually have detrimental effects to conservation efforts. In general, timber production has not been the predominant aspect of traditional management. Thus, any effort targeting sound forest management in the Mediterranean should not be based exclusively on timber certification, but has to be multidimensional, reflecting the multi-use aspect of the forests. If certification through Forest Stewardship Council (FSC) guidelines (see box on page 5) offers a strong vehicle leading to sound forest management for timber production, then it is important to investigate the incorporation of guidelines for NTFP certification in the FSC criteria.

The assessment of the ecological and socio-economic role of NTFPs in forest conservation has always posed something of a challenge to WWF, which has, in the past, tended to address the role of NTFPs in terms of conservation and rural development. However, NTFPs should also be considered directly under strategies relating to sustainable forest management. In the Mediterranean region in particular, any serious forest conservation investment has to investigate the role of NTFPs, both in the natural system and in relation to the socio-economic welfare of rural communities.

The Mediterranean eco-region is one of outstanding biodiversity at a global scale. Located in the Northern Hemisphere subtropical zone, the lands surrounding the Mediterranean Sea, on the three continents of Africa, Europe and Asia, constitute a unique mosaic of terrestrial, freshwater and marine ecosystems.

The rich natural landscape of the Mediterranean is a result of a distinct regional climate imprinted on a dynamic topography. It is an area of exceptional biodiversity value exhibiting high endemism, second only to the tropical Andes, with around 25,000 vascular plant species. In general, Mediterranean forest ecosystems constitute mosaic-like landscapes, which have been intensively modified by human activities.

WWF's Mediterranean Programme (MedPO) has implemented projects in the key forest ecosystems of the region by building partnerships with a number of environmental groups and institutions. Pursuing an integrated approach, MedPO has initiated a project: *Towards a Network for the Sustainable Use of NTFPs in the Mediterranean Region*. This targets the conservation of important forest areas in the Mediterranean and the promotion of rural community economic development through the sustainable production and management of NTFPs. In particular, the project intends to increase technical knowledge regarding the role of NTFPs in forest conservation, promote awareness and build capacity to manage NTFP production.

Currently, seven pilot areas are included or have expressed their interest in joining the network:

1. The forest region around Feija National Park, Jendouba, Tunisia
2. The Guadiana Valley Natural Park, Alentejo, Portugal
3. The *Argania spinosa* sylvo-pastoral system, Essaouira, Morocco
4. The area around the Chouf Forest Protected Area, Lebanon
5. The Monte Arcosu Nature Reserve, Sardinia, Italy
6. The Tramuntana Mountain Range, Mallorca, Spain
7. The Parnon Mountain Range, Peloponnese, Greece

Cork oak trees, Tunisia



LOWLAND MEDITERRANEAN PINE FORESTS

were more extensive in the past, but have declined due to intensive timber exploitation. In the eastern Mediterranean, Aleppo pine (*Pinus halepensis*) and brutia pine (*Pinus brutia*)

Traditional forest management in the Mediterranean is diverse – NTFP production ranges from simple gathering to complex agro-sylvo-pastoral management. Some NTFPs are produced for local consumption (informal economic sector) while others have entered the market and are used by industry (formal sector), with the main examples being pine resin and cork from the bark of the evergreen oak *Quercus suber*. However, many of the locally consumed NTFPs have a strong potential to enter the organised market and bring benefits to producing communities.

Difficulties arise in trying to quantify the economics of the informal sector, and in many cases intensive logging, clearing and forest substitution by plantations has taken place because the value of NTFPs has not been included in resource assessments or influenced decision making. This results in the loss of important resources that could bring sustainable income to local communities.

Some examples of non-timber forest products in the Mediterranean

The following overview and examples give a brief introduction to several aspects of Mediterranean forest management and the associated NTFPs.

MAQUIS WOODLAND is the source of many domesticated species in the Mediterranean, such as the olive tree, *Olea europaea*. Although olive groves are considered agricultural systems, traditional olive plantations, which have been maintained for hundreds of years by means of pruning and grafting of new stock, contribute to landscape conservation. Recently, however, two opposite trends have modified the olive production in the region – *abandonment* in areas of rural depopulation, especially in uplands, and *intensification* of production, reliant on pesticides, chemical fertilisers and intensive soil cultivation. Both lead to system degradation.

Other NTFP maquis species include the carob tree (*Ceratonia siliqua*), used in chocolate and pastry manufacturing and for photographic emulsions, and fig trees (*Ficus carica*), which are managed for fruit while in North Africa they are planted to buffer desertification.

Example: Mastic gum is a natural resin extracted from a variety of *Pistacia lentiscus*. Although a common species in the region, large-scale mastic production takes place only on the Greek island of Chios, from where mastic is exported to 50 countries. The trade is worth US\$14.4 million per annum to the 21 villages involved, who have a monopoly on production. *Pistacia lentiscus* var. *chia* is a slow growing, cold sensitive tree that grows in limestone soil. It reaches full size in 40-50 years, and although gum can be collected after the 5-6 years, full production potential is not until 12-15 years. Production, which averages 100 grams per year, takes place between June and mid-October.

Products using mastic include gumdrops, culinary ingredients, by-products used in varnishes and coatings and a cement called asphalt mastic. There is also extensive research to test medical properties.

SYLVO-PASTORAL WOODLANDS represent a number of efficient and rational management schemes in the Mediterranean region. These systems have adapted to the adverse environmental conditions imposed by low quality soil and harsh climatic conditions. The partial maintenance of the natural structure of the canopy and the understory within the systems has preserved several important elements of biodiversity. The main factors determining the type of system are the partial domestication or natural status of the trees and the partial modification of the forv