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SILVICULTURE: FOREST PRODUCTS, CERTIFICATION AND WOOD CHAIN IN ITALY

This paper outlines the potential and critical issues of forest production in Italy, according to recent forest statistics (Italian National Institute of Statistics and Italian National Forest Inventory) and to the findings from the Third Italian National Congress of Silviculture. There is currently a growing interest towards forest products which meet sustainability goals through reduced impact on the forest ecosystems, improvement of human well being and a strong link to the territory; this concerns notably the demand for: wood as an optimal material for sustainable building; non-wood products; wood biomass for energy use. Indeed, sustainable forest management is not in conflict with a productive use of forestland, without which abandonment and land neglect could further occur. To meet these new societal demands through a viable and sustainable use of forest resources is a true challenge; forest owners must be supported in this regard, to supply a variety of forest goods and services while maintaining economic viability. To this end operative strategies are outlined.

Key words: sustainable forest management; wood products; non-wood products; ecosystem services; market of forest products and services.

1. INTRODUCTION

The significant transformation of forest sector in the last few years in Italy appears obvious. New functions, cultural and social roles attributed to the forest have determined a growth in the importance and the complexity of the entire system.

This is reflected by the continuous updating of the programmatic, legal and regulative frameworks for forest management in the last decade at international (see the Forest Action Plan of the European Union and the Resolutions of the Ministerial Conference on the Protection of Forest in Europe), national (see Legislative Decree no. 227/2001 and the National Forestry Sector Framework Programme) and regional levels (regional

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forestry laws, regulations, etc.). The concept of sustainable management of the forest resources has been clarified and implemented under the institutional profile as well.

In this context the objective of this paper is to outline the possibilities and the problems related to forest production in Italy, based on recent forest statistics (Italian National Institute of Statistics and Italian National Forest Inventory) and on the findings from the Third Italian National Congress of Silviculture.

2. STATISTICAL EVIDENCE

In Italy the macrosector of forestry, wood & paper (broad forest sector according to the classification ISIC/NACE 02-20-21) includes 300,000 employees and constitutes 0.9% of the gross domestic product (BERTI *et al.*, 2009).

Reference figures can be summarized as follows:

- almost one third of Italy is covered by forests and other forest lands and these areas are still growing (the forest expansion rate is about 0.2% per year);
- total wood biomass of the forests (currently about 1250 Mm³, almost 150 m³ha⁻¹) is also increasing;
- around 80% of the forest area is potentially available for wood supply, i.e. without significant limitations due to legal constraints (e.g. areas designated to nature conservation) or physical constraints;
- the progressive abandonment of agriculture and forestry activities in many hilly and mountain areas has caused a substantial decrease of cultural interventions (about 40% of the Italian forests are not subject to any kind of silvicultural practice);
- the annual production of timber is decreasing while wood harvesting from coppices, with the exception of the beech coppices, remains relatively sustained (although the official statistics seem incapable of capturing the phenomenon);
- a tendency to concentrate forest harvesting activities in the more accessible zones is evident along with the application of simplified cultivation techniques to reduce costs.

On the whole, the national wood production (about 9-10 Mm³year⁻¹, according to official statistics) supplies only 20% of the national demand, even though the annual wood volume increment is much greater than the annual harvest. However, the potential for a generalized increase in forest harvest levels should not be simplistically inferred: standing volume is still

relatively low from a bioecological point of view for a significant share of Italian forests. A gradual increase in harvest levels might be allowed in local situations but they need to be assessed individually through sustainable forest planning.

Similar considerations can be drawn for non-wood forest products, whose value is estimated to be at least 140 million euro per year on a national scale. In some areas they can provide revenues higher than those by wood harvesting (as in the case of resale of mushroom picking permits on the Asiago Plateau).

3. PRODUCTIVE FOREST USE

The productive use of forest resources is a pillar of sustainable management, even more critical in Italy to limit further land abandonment which would imply negative effects on social and landscape levels. In this perspective wood harvesting is fundamental and must be complemented by proper road management, permanent education in silviculture, hindrance of irregular work and the promotion of associations and cooperatives to make available advanced, low-impact machinery and equipment (BALDINI *et al.*, 2009).

A growing interest in forest products complying with sustainable development (high quality of human well being, strong link to the territory, etc.) has been acknowledged, with particular reference to:

- (i) wood as an optimal construction material for sustainable building and living requirements (such as ecological building and solid/laminate wood furnishings);
- (ii) non-wood products (cork, chestnuts, mushrooms, small fruits, aromatic herbs, etc.) with expanding occasional income linked to tourist-recreation and cultural uses of the forest, in which case the product certification and traceability is of fundamental importance (DETTORI *et al.*, 2009);
- (iii) wood biomass for energy use, albeit it has to be taken into account that the forest biomass available for this purpose (potentially not exceeding 2.5-3 million tons per year nation-wide) is significantly lower than the quantity actually needed (Italy is the world leader importer of fuelwood).

4. OPERATIONAL STRATEGIES

Forest owners are lead actors to face the challenges arising from new social, economic and cultural demands of forest goods and services; in this regard forest owners must be supported in the organization of sustainable

forest management, re-naturalisation and conservation of biodiversity, while maintaining forest production levels and associated incomes. None of the functions demanded to the forests can be supplied out without direct cooperation with the forest owners. In Italy forest owners are in a difficult situation because of the conditions due to the fragmentation of the managed areas, inadequate access to a growing global and competitive market, often weighted down by the lack of the infrastructures and correct ways of integrated management and commercial cooperation (BERTI *et al.*, 2009).

The implementation of “forest - forest products” chains requires support, particularly regarding the short distance chains (local forest system connection to local processing and transformation of forest products: as in the “cockpit” experience of the Province of Trento). The measures provided by the Rural Development Regulation (2007/2013) of the European Union offer opportunities for the above mentioned chains and the current revision of the National and Regional Plans with the additional funds by the EU Health Check may represent another support in this direction.

The strategies for efficient product supply and forest services calls for adequate entrepreneurial capacities and well-organized business services (BERTI *et al.*, 2009). Gradual shift from plantation supporting policy, based only on incentives to planting, to the offer of management and resale services is required (BISOFFI *et al.*, 2009).

Furthermore it is necessary to come up to a transparent market (such as the so called Borsa del Legno, i.e. Wood Exchange Market, established in some Regions, not always with satisfactory results). Indeed, recognized mechanisms for sustainability assessment, such as forest certification which is useful if adequately oriented towards adding value to production and ecosystem services (GALLOZZI, 2009), are already implemented by a significant number of operators (716.402 ha and 48.766 ha of certified forests by PEFC and FSC, respectively; 201 and 514 certified companies in the PEFC and FSC Chains of Custody, respectively).

The introduction of a legally and fiscally recognized figure for the forest entrepreneurs (currently considered farming entrepreneurs or artisans) would promote the optimization and stimulate entrepreneurship, with positive effects on the programming, management and professionalism; this will stimulate growth in security and stability of workers in the forest sector, with important consequential effects on the economy and employment.

Distinctive attention must be paid to the creation of ecosystem services markets. The recognition of the public function of the forest have to be recognized at different levels and the institutions must stimulate public awareness in this regard. In this context, it is advisable to further develop the National Observatory of Forest Services Markets, as required by the Legisla-

tive Decree no. 227/2001, and to make the National Forestry Sector Framework Programme operative with adequate funding, in order to qualify the forest services, to favour the coordination of regulating framework, and to encourage the connection between forest products and services demand and supply.

It is furthermore important to boost innovative research and development in the management of silviculture (IOVINO *et al.*, 2009), tree cropping outside forests (BISOFFI *et al.*, 2009), wood harvesting (BALDINI *et al.*, 2009), wood technology and derived products (BRUNETTI *et al.*, 2009), and conservation and transformation of non-wood products (DETTORI *et al.*, 2009), according to the international research framework established by the Forest-Based Sector Technology Platform at the European Union level.

5. CONCLUSIVE REMARK

To foster entrepreneurship for sustainable resource exploitation in territories often marginal, like those usually characterizing the forest systems, requires a change of mentality towards the above mentioned directions. Public administration and professional associations play a decisive operative role in this perspective while Universities and research institutions must provide updated high-level education, development and information.

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