

Traditional forest management under the influence of science and industry: The story of the alpine cultural landscapes

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Received 12 December 2006; received in revised form 26 April 2007; accepted 29 April 2007

Abstract

Until the middle of the 19th century, Alpine forests were seen as three-dimensional and multi-layered structures, which multiplied productive space in comparison to the fields. The result of various uses was a landscape of rich biodiversity. Several authors have pointed out the importance of traditional multiple uses of forests, including agroforestry, and condemn the term minor forest utilisation—often used in contemporary forest policy formulation and administration, which ignores its former importance and thus neglects its long-lasting influence on the cultural landscape. The loss of biodiversity – as it can be observed today – is closely related to economic and technical strategies of utilising the landscape. This development can be considered in contrast to the society's demands for open spaces and the maintenance of a variety of cultural ecosystems. This paper analyses how rural societies in the past met their demand for wood particularly in remote Alpine regions, and how these uses related to social and economic power structures. The study investigates how woodlands and landscapes changed after scientific intervention, how the introduction of modern forestry influenced traditional woodland management in correlation with political, social, and economic pressure, and why traditional forest-related knowledge is of increasing importance for sustainable rural development today.

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Keywords: Austria; Forest history; Multiple uses; Utilisation conflicts; Woodland management

1. Introduction

There is growing international awareness on the part of forest scientists and policy makers of the significance and relevance of local and indigenous knowledge about forests and traditional utilisation practices, as well as the need to take account of this knowledge in the development of political strategies which aim at sustainable forest management. The protection, documentation, and utilisation of forest-related, tradition-based knowledge is the focus of numerous political discussions held within national, regional and international organizations and forums.

The development of a society practising sustainable management is one of the great challenges facing industrial nations at the beginning of the 21st century. One of the hopes of a “sustainable economy” is enhanced utilisation of wood, which has numerous well-known positive characteristics, being a renewable, biodegradable, resource available in large

quantities whose production and utilisation is CO₂-neutral. Apart from its traditional uses, wood has enormous largely untapped potential for new products and uses.

Forests and other wooded land in the EU cover approximately 160 million hectares, or 36% of the total land area in the UNECE region (FAO, 2006), of which 117 million ha are available for wood supply, including comprise 47% of Austria's total land area, and are therefore a characteristic element of the landscape. The history of Western civilization would be dramatically different without the multiple benefits that forests have offered European society. This holds true for both the tangible and intangible products, social and cultural values and benefits of forests. This appreciation of forests has been expressed by the Vienna Declaration and Vienna Resolutions adopted at the Fourth Ministerial Conference on the Protection of Forests in Europe and signed by 40 European Countries and the European Community in Vienna in April 2003.

When looking at social and cultural values and cultural heritage in the context of sustainable and traditional forestry, it is necessary to define these terms. Jaspers (1947) considers all things created by the human genius as culture. This includes language, community, society, crafts and techniques, economy,

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myths and religion, customs, ethos, institutions, state, policy, law, art, poetry, science and philosophy. These are based on values, and sustained through commitments and responsibility. Culture establishes how people deal with each other, with the environment, with the past and the future, with this and the next world.

This definition is sufficiently broad to include sustainable management of forests and woodlands as culture. Sustainable management of forests and woodlands aims to ensure that the goods and services derived from the forest meet present-day needs, while ensuring their future availability and contribution to long-term development. In its broadest sense, forest management encompasses the administrative, legal, technical, economic, social and environmental aspects of the conservation and use of forests. Several recent international meetings have suggested that the following thematic elements are key components: extent of forest resources, biological diversity, forest health and vitality, productive functions of forest resources, protective functions of forest resources, socio-economic functions, legal policy and institutional framework. These thematic elements, acknowledged by UNFF (United Nations Forum on Forests), are based on the criteria of the nine ongoing regional/international processes on criteria and indicators for sustainable forest management (Wilkie et al., 2003).¹ Numerous authors have discussed the change of the original term “sustainability” over the years, but its original meaning has not changed at all (Sagl, 1993). In essence, all definitions include durability, continuity, and development of favourable conditions, potential and usability for the present as well as the future. Considering this interpretation of sustainability, tradition plays an important role. It includes the inter-generational sharing or transfer of experiences, competence, knowledge and understanding. The relationship between tradition and enlightenment, progress and changing social values is dynamic and full of suspense (Eisenstadt, 1979).

Through history, as European and other societies turned from faith and the “irrational” to “knowledge”, objective-oriented thinking science, in its first form, came into being. The roots of science can be found in philosophy, but science was so successful in its endeavour to explain and modify nature, that philosophy lagged behind. The origin of science is based on the human instinct for exploring the environment. Early societies realized that knowledge gives controlling power over the environment and consequently makes life easier and that learning what others already know is far more economical than

acquiring this knowledge by individual experience. This genesis of knowledge (knowledge of nature, of humans, religion, ethics, god, . . .) was followed by the condensation and the use of knowledge related to culture (cultural experience when dealing with nature) and land use systems (everyday knowledge and experience). People began to value the collective knowledge of all individuals in the community and to feel the need for recording and preserving this knowledge through the generations. In village-life settings, consensus and acceptability were especially important, where people participated in decisions that determined the development of society. At this point a ranking of values within the society was also acknowledged by education to ensure the transfer of knowledge to descendants (Herzog, 1998). However, structures, power, organization, techniques and communication are not static but are variables in society. They depend on historical changes concerning evolution and/or revolution and the change of values within society.

The historical perspective on forest land use provides a frame of reference for assessing current ecological patterns and processes. A general historical process, which influenced woodland and landscape, can be retraced in all parts of Central Europe and is still visible today. Previous studies have documented land use changes and their effects on vegetation patterns. (Johann, 2004b; Johann et al., 2004). When comparing the history of human impacts on woodland and landscape, several driving forces have to be taken into account and discussed. The factors can be grouped into four general fields: policy (sovereign, government, and administration), economic and social demands in a certain period (farmer, industry), forest management and legal framework (local, regional, national). They are partly interrelated. In different periods different sets of factors seem to have caused the changes. A grouping into different epochs was tackled corresponding to the main influencing factors.

The loss of traditional knowledge related to land use management and the biodiversity of cultural landscapes that we observe today is closely related to the development of economic and technical strategies for utilising the landscape. This begs the question as to what kind of social and economic structures contributed to the evolution of the biodiversity of cultural landscapes and what factors were mainly responsible for the development of locally adapted technologies. What kind of forest management was practised in previous times in the mountainous regions of Austria and what measures were taken by the local population in order to secure the availability of natural resources on a long-term basis for subsequent generations? In what ways and dimensions did increasing industrial demands influence traditional forest management and the practise of locally adapted skills and techniques and what was the contribution of modern forestry and forest science to this development?

2. Materials and study area

Covering 47% of the country's total land area, forests are important natural resources in Austria. However, the distribu-

¹ They were acknowledged by the International Conference on Criteria and Indicators in Guatemala in February 2003 (CICI, 2003) and by the Food and Agriculture Organisation (FAO) Committee on Forestry in 2003. In February 2004, the FAO/ITTO (International Tropical Timber Organization) Expert Consultation on Criteria and Indicators recognized that these elements are important for facilitating international communication on forest-related issues. The thematic elements are also used in the FAO-led global Forest Resources Assessment (FRA) as a reporting framework (source: FAO: Towards sustainable forest management. <http://www.fao.org/forestry/site/3861/en> website visited May 1st 2006).

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