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Foresters Consider Tree Felling and Environmental Legislation

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Description

Today, forestry education typically includes training in general biology, ecology, botany, genetics, soil science, climatology, hydrology, economics and forest management. Education in the basics of sociology and political science is often considered an advantage. Professional skills in conflict resolution and communication are also important in training programs.

In India, forestry education is imparted in the agricultural universities and in forest research institutes (deemed universities). Four year degree programmes are conducted in these universities at the undergraduate level. Masters and doctorate degrees are also available in these universities.

In the United States, postsecondary forestry education leading to a bachelor's degree or master's degree is accredited by the society of American foresters.

In Canada the Canadian institute of forestry awards silver rings to graduates from accredited university BSc programs, as well as college and technical programs.

In many European countries, training in forestry is made in accordance with requirements of the Bologna process and the European higher education area.

The international union of forest research organizations is the only international organization that coordinates forest science efforts worldwide.

Forest Management

Foresters develop and implement forest management plans relying on mapped resource inventories showing an area's topographical features as well as its distribution of trees (by species) and other plant cover. Plans also include landowner objectives, roads, culverts, proximity to human habitation, water features and hydrological conditions, and soils information. Forest management plans typically include recommended silvicultural treatments and a timetable for their implementation. Application of digital maps in Geographic Information’s Systems (GIS) that extracts and integrates different information about forest terrains, soil type and tree covers, etc. using, e.g. laser scanning, enhances forest management plans in modern systems.

Forest management plans include recommendations to achieve the landowner's objectives and desired future condition for the property subject to ecological, financial, logistical (e.g. access to resources), and other constraints. On some properties, plans focus on producing quality wood products for processing or sale. Hence, tree species, quantity, and form, all central to the value of harvested products quality and quantity, tend to be important components of silvicultural plans.

Good management plans include consideration of future conditions of the stand after any recommended harvests treatments, including future treatments (particularly in intermediate stand treatments), and plans for natural or artificial regeneration after final harvests.

Agriculture and Forest Leaders

The objectives of landowners and leaseholders influence plans for harvest and subsequent site treatment. In Britain, plans featuring "good forestry practice" must always consider the needs of other stakeholders such as nearby communities or rural residents living within or adjacent to woodland areas. Foresters consider tree felling and environmental legislation when developing plans. Plans instruct the sustainable harvesting and replacement of trees. They indicate whether road building or other forest engineering operations are required.

Agriculture and forest leaders are also trying to understand how the climate change legislation will affect what they do. The information gathered will provide the data that will determine the role of agriculture and forestry in a new climate change regulatory system.

Starting from the 1750s modern scientific forestry was developed in France and the German speaking countries in the context of natural history scholarship and state administration inspired by physiocracy and cameralism. Its main traits were centralized management by professional foresters, the adherence to sustainble yield concepts with a bias towards fuel wood and timber production, artificial afforestation, and a critical view of pastoral and agricultural uses of forests.

During the late 19th and early 20th centuries, forest preservation programs were established in British India, the United States, and Europe. Many foresters were either from continental Europe (like Sir Dietrich Brandis), or educated there (like Gifford Pinchot). Sir Dietrich Brandis is considered the father of tropical forestry, European concepts and practices had to be adapted in tropical and semi-arid climate zones. The development of plantation forestry was one of the (controversial) answers to the specific challenges in the tropical colonies. The enactment and evolution of forest laws and binding regulations occurred in most western nations in the 20th century in response to growing conservation concerns and the increasing technological capacity of logging companies. Tropical forestry is a separate branch of forestry which deals mainly with equatorial forests that yield woods such as teak and mahogany.

Forest management also flourished in the German states in the 14th century, e.g. in Nuremberg, and in 16th century Japan. Typically, a forest was divided into specific sections and mapped; the harvest of timber was planned with an eye to regeneration. As timber rafting allowed for connecting large continental forests, as in south western Germany, via main, neckar, danube and rhine with the coastal cities and states, early modern forestry and remote trading were closely connected. Large firs in the black forest were called Holländer, as they were traded to the Dutch ship yards. Large timber rafts on the Rhine were 200 to 400m in length, 40m in width and consisted of several thousand logs. The crew consisted of 400 to 500 men, including shelter, bakeries, ovens and livestock stables. Timber rafting infrastructure allowed for large interconnected networks all over continental Europe and is still of importance in Finland.

Biodiversity in agroforestry systems is typically higher than in conventional agricultural systems. Two or more interacting plant species in a given area create a more complex habitat that can support a wider variety of fauna.

Agroforestry is important for biodiversity for different reasons. It provides a more diverse habitat than a conventional agricultural system in which the tree component creates ecological niches for a wide range of organisms both above and below ground. The life cycles and food chains associated with this diversification initiate an agro ecological succession that creates functional agro ecosystems that confer sustainability. Tropical bat and bird diversity for instance can be comparable to the diversity in natural forests. Although agroforestry systems do not provide as many floristic species as forests and do not show the same canopy height, they do provide food and nesting possibilities. A further contribution to biodiversity is that the germplasm of sensitive species can be preserved. As agroforests have no natural clear areas, habitats are more uniform. Furthermore, agroforests can serve as corridors between habitats. Agroforestry can help to conserve biodiversity having a positive influence on other ecosystem services.

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