



FACTS AND FIGURES

Abdulla Diku, Vasillaq Mine and Elvin Toromani

Definitions

Coppice forests originate from sprouts and are governed by a short production cycle (rotation).

Pyjet cungishte e kane origjinen nga lastaret dhe qeverisen me cikel te shkurter prodhimi.

Coppice - a forest that has a sprout origin/background and that is destined to be regenerated by new sprouts, from which is derived wood material of small and medium sizes.

Cungishte (Korie, Zabel) - eshte nje pyll qe ka prejardhje lastarore dhe qe eshte paracaktuar te riperterihet po me lastar, nga i cili perfitohet material drusor me permasa te vogla dhe te mesme.

Legal Framework

Forest - an area of land with a dense group of forest trees greater than 0.1 ha, with a canopy coverage of not less than 30% of the area and with the potential to reach a height greater than 3 m, when forest has reached maturity.

Forest lands - areas with trees, shrubs, or other non-forest vegetation covering from 5 - 30%; bare surface; eroded and non-productive lands; sandy lands; forest roads that have not entered the register of the land property of agriculture lands that are ecologically linked and functionally related to the national forest fund.

Statistics

The total forest area in Albania is 1,052,237 ha, while the coppice forest area accounts for 295,440 ha (28% of total forest area) and has a standing volume of 5.3 million m³ (Institute of Statistics, 2016; www.instat.gov.al/en/). Young coppice forests up to 20 years old cover approximately 73% of the entire coppice forest area and are widely spread in Albania. They mainly have a production function (about 273,045 ha) and are the main source of firewood supply for local communities in rural area.


Typology


Simple coppice	<i>Populus spp., Salix spp., Quercus spp., Alnus spp., Robinia spp.</i>
Coppice with standards	<i>Populus spp., Salix spp., Quercus spp., Alnus spp., Robinia spp.</i>
Pollarding	Not practised
Short rotation coppice	Mainly <i>Populus spp.</i> ; there are efforts to cultivate <i>Paulownia</i>
Other types	A few cases aim at the conversion of oak coppice to high forests. This is considered a challenge. The normal coppice rotation age in Albania is up to 60 years old. The conversion is done through clearcutting in the entire forested area, leaving about 100-150 trees for seeds production. A few cases of mixed forest management forms (coppice with high forests) exist in Albania.

MAP

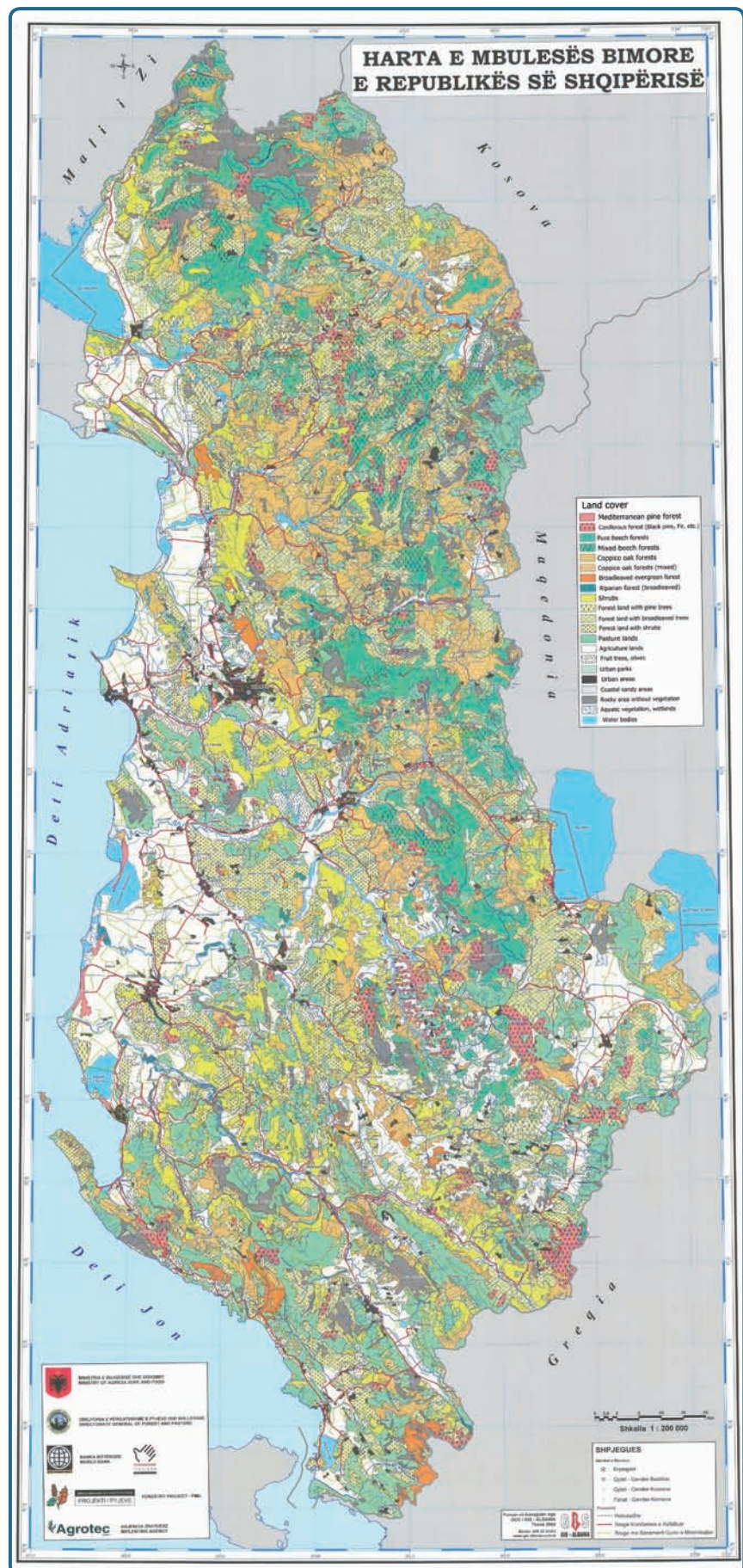
Abdulla Diku

Map of land use in Albania:

Oak coppice forests are displayed in light orange ()

Mixed oak coppice forests are displayed in light orange with white tree-images ()

Source: Albania National Forest Inventory



Images



DESCRIPTION

Abdulla Diku and Vasillaq Mine

As in all other countries, coppice forests in Albania represent a traditional system of forest management. For centuries, and until the present time, coppice forests have been the model of “coexistence” of forests with local communities. These forests have usually had the same purpose; providing firewood for heating and cooking, supplying materials for construction purposes, agriculture and industry, as well as livestock grazing, for example.



Figure 1. Oak coppice forest in Drini valley

Prior to 1944, Albania had a forest area of about 1,379,000 ha; of which ca. 300,000 ha were deforested for agriculture during the socialist period. The quantity and quality of coppice forest in Albania is variable. Most of the coppice forest is oak (Figure 1), but shrub species are also managed as coppice across the country.

Generally, coppice forests are located in close proximity to residential areas. Most coppice forests in Albania are irregularly structured due to their disorganized management. In the past 10 years there has been a slight increase in the area of coppice forests, with coppiced oaks now extending to 32.5% of the Albanian forest area and comprising 17% of the total volume. The low percentage volume compared to the surface area is attributed to the low quality of these forests and poor management. The average volume per hectare of oak coppice forest is approximately $32 \text{ m}^3 \text{ ha}^{-1}$. There is evidence of an increase in volume per hectare of coppice forests in the country, attributed to the use of alternative sources of energy for heating and cooking (electricity). The distribution of coppice forests by age classes is shown in Figure 2.

The chart shows that 70% of coppice is 0-20 years old. Based on an analysis of ANFI data, the average annual growth of coppice forests in Albania is estimated at ca. $2.1 \text{ m}^3 \text{ ha}^{-1} \text{ yr}^{-1}$.

Even shrub species are historically treated as coppice forest, with this type comprising about 23% of the forest area of the country. In terms of volume they represent about 10%, with the average volume about $20 \text{ m}^3 \text{ ha}^{-1}$, again demonstrating the very low quality of these forests.

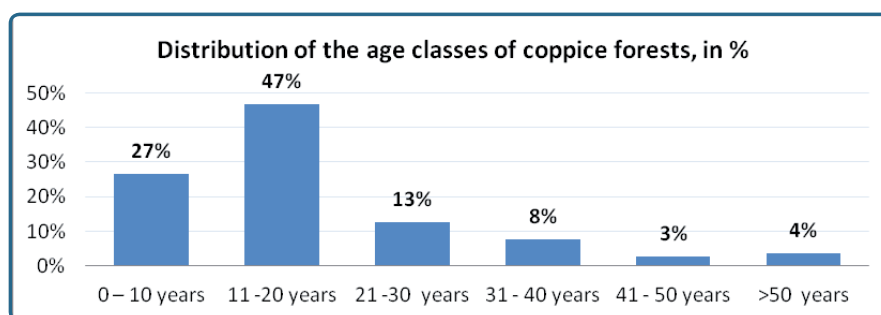


Figure 2. Distribution of the age classes of coppice forests in percent
Source: National Forest Inventory of Albania (2004)

The main problems of coppice forests in Albania are as follows:

- High demand for wood products
- Lack of sustainable management that is based on scientific criteria
- Frequent damage due to cutting and fires
- Livestock grazing in the early stages of coppice forests
- Poor quality (low volume/ha)
- Over- and ineffective use (short cutting cycles, breach of technical criteria...)
- Unfavourable national energy policy (at the expense of forests)
- Various diseases, pests and harmful agents
- Incorrect data in forest cadastres on area surface and volume

FORESTRY REGULATIONS

Abdulla Diku, Luljeta Mine and Vasillaq Mine

Albania has limited forestry resources due to extended periods of overuse, damage caused by fires and illegal cutting. According to the European Environmental Agency, losses of forestry stock volume in Albania during the period 1990-2010 were 2-5 times higher than the natural growth of forests.

The forest area in Albania is 1.05 million hectares, comprising 55.25 million cubic meters. Forests cover 37% of the country's territory. Forest areas consist of: (i) 36% high forests, (ii) 28% coppice forests and (iii) 36% shrubs.

We would like to highlight the fact that the majority of shrubs in Albania are managed as coppice forests. Considering this fact, coppice forests in Albania account for over 60% of the national forest area. In terms of forest volume, high forests represent 78% of the stock, coppice forests 15% and shrubs 7%. If we analyse the volume per hectare according to forest management forms, the situation is as follows: high forests have 114 m³/ha, coppice forests 28 m³/ha and shrubs 9 m³/ha. Over the period 1961-2015, the national forestry area was reduced by 300,000 hectares, or approximately 25% of the total.

The Code / Kanun (XV-XX centuries)

This represents the oldest "law" in the country, which was applied in the central and northern

part of the country during that period. It constituted the main legal basis for various issues of the communities' social and economic life. The Code states that "Every house with a smoking chimney shall have its own property". With regard to forests, there was a forest area known as "*kujrija*" that either surrounded the village or was located in the vicinity. While private forests or property were divided by boundaries, "*kujrija*" was not divided and all the households of the village were equally entitled to use it. "*Kujrija*" was mainly used for firewood production, building materials, livestock fodder, grazing and hunting and each village had its own forests ("*kujri*"). They were irregular coppice forests, mainly consisting of oak and hornbeam. In addition to "*kujrija*", the village had access to its own mountain and pastures. The mountain was composed of forests located further away from the village, in its most mountainous part, and were mainly high forests that were used for timber.

Law on "Forests and pastures" (1923)

Three major forms of forestry ownership were acknowledged: (i) State-owned, (ii) Communal and (iii) Private.

This Law provided a complete framework for the organisation and management of the forestry and pasture sector management in the country, placing the emphasis on their sustainable use.

An important element of this law was the care that should be taken with coppice forests used to produce charcoal or firewood, particularly with regard to their natural regeneration. After cutting for firewood and charcoal, livestock was prohibited from entering the area for ten years and grazing outside the defined area required an official permit. This allowed the forest the necessary time to regenerate. Firewood collection, logging and grazing took place in the coppice forests (oak trees, hornbeam trees, shrubs, etc.) located close to the village. In high forests located further away from the village, only the cutting of trees for building materials was allowed. Deforestation for the purposes of opening land for agriculture or pastures was not allowed. The law also prohibited pruning trees for the purpose of providing fodder for livestock. The law also stated that "...in the case of coppice forest composed with rare trees, or in slopes, the cutting of trees is not allowed", since these trees should be given the necessary time to produce seeds, in order to guarantee the forest's regeneration.

Law no. 3349 "On forests protection" (1961)

This law was aimed at converting coppice forests into high forests. Coppice forests could be maintained only to meet the needs of the rural population. Coppice forests could also be kept under certain ecological conditions. The exploitation of coppice forests under the age of 10 was prohibited. Cutting could only take place between October 1 and March 31. Grazing of livestock was prohibited until the naturally regenerated saplings reached a height of 1.5 m from the ground, while grazing by goats was prohibited.

Law no. 4407 "On forests" (1968)

This law underlined the major role of forests in providing firewood for the development of industry, for the construction of the country, and for their paramount role in moderating climate

and protecting the land from the erosion. Pruning of forest trees was allowed only in certain areas, which were defined in advance. Agricultural cooperatives were allowed to exploit coppice forests to meet their own needs for firewood and building materials. Due to the low level of industrialisation in Albania over the period 1960-1990, approximately 300,000 ha of forests in the country were converted to open agricultural land. These were coppice forests (oak trees, hornbeam trees and shrubs) near and surrounding villages. In addition, since firewood was the only source of energy available to Albanian households for heating and cooking, forests were cut faster than their natural rate of growth.

Law no. 7623 on Forests and Forest Service Police (13.10.1992)

The law envisages:

- (i) the overall preservation of forestry stock for its economic function and its special value in environmental protection, water reserves, cleaning of the atmosphere, land fertility, landscape, agro-tourism and infrastructure;
- (ii) control over the cutting of timber, to keep it at a sustainable level that balances the natural growth of forests, defined through growth projects drawn up in compliance with this law;
- (iii) control over the development of the entire forestry sector; and
- (iv) ensuring the balance between society's interests as a whole and the interests of people with legal entitlement.

To increase the forest stock and its production capacities, the forest service is obliged to undertake afforestation. In such cases, fast-growing and highly economic varieties/strains have to be used. The law highlights that "it is prohibited to cut down or uproot trees in very steep places, in a strip of land 100 m wide at the upper boundary of vegetation; it is prohibited to cut down and uproot rare varieties of trees

and shrubs, as well as the trees on both sides of national roads with an inclination over 30% and on strips of land of 20 m above and below roads, as well as in forests that have a protective and special function”.

Grazing is prohibited in new forests, forests during their regeneration and in coppice forests under regeneration....

Law no. 9385 on “Forests and Forestry Service” (2005)

Pursuant to this law, the management of the national forestry stock is based on the principles of sustainable and multifunctional use of forests. This law classifies the ownership of forests as: (i) public or (ii) private.

Rehabilitation and use of national forestry stock requires protection and regeneration works to prevent or restrict harmful exploitation. Increases in the productivity of the national forestry stock should be accomplished through regeneration of exploited forests and improvement of existing forests by taking silvicultural measures. Furthermore, the afforestation of abandoned lands, barren and eroded plots is the duty of the administrators and users of these lands. Pursuant to this law, grazing and the transfer of livestock to public forests, newly afforested lands, exploited forest plots, those under regeneration and newly coppiced forests, etc., is only allowed in compliance with defined rules. As the previous law, this law also stipulates that: “it is prohibited to cut down or uproot trees and shrubs in very steep places...”, due to their protective role.

Strategy for the development of forestry and pasture sector in Albania (2004)

The Strategy aims to ensure the sustainable and multifunctional development of forestry and pasturage resources. One of the objectives of the strategy is: “...the establishment of several forestry entities with regular oak coppice forests and their scientific growth as a basis for

the conservation and preservation of valuable species of oak trees and their conversion into high forests...” The actions required to accomplish this objective are:

- Selection of areas with oak trees (irregular coppice forest) with the proper size and species contents, suitable for their conversion into regular coppice forest.
- Drawing up technical projects for these forestry entities and for the commencement of their implementation.
- Calculation of current and future annual productivity (when the entities will consist entirely of regular coppice trees) and conducting a study for the conversion of these entities into high forests.

To meet the needs of rural population for firewood and building materials, the strategy envisages: “The establishment of regular coppice trees within the territories of communal forests with sufficient area in order to meet the needs of communes for firewood and building materials and their unification into regular coppice forests entities for purposes of growth with short rotations.” Also, another important activity to be undertaken is “the definition and separation of forests for producing firewood and building materials (from the regular coppice forests).”

Cross-cutting Environmental Strategy (2015-2020)

Its strategic objectives are:

- (i) approximation and implementation of acquis communautaire in the field of forests and pastures;
- (ii) increase of communal forest management capacities;
- (iii) improvement of forestry information systems and databases;
- (iv) strengthening forest-related research systems, technological development and innovation;

(vi) improvement of regional relations and unification of technologies and methodologies;

(vii) applications to ensure support for the development of forestry in the country;

(viii) inclusion of various climate issues in forestry stock management aspects.

The strategy also aims:

- To achieve the full transposition of acquis communautaire in forests by 2020
- To adopt a new law on forests
- To develop a national program for forests' revitalization
- To increase economic effectiveness and energy efficiency through the sustainable use of forests
- To afforest with short-rotation species to produce biomass and reduce the adverse effects of extreme natural events (floods, etc.) in pilot areas.

National strategy for development and integration (2015-2020)

As a forest-related strategic objective, the strategy values the strengthening of manage-

ment and preservation of forest and pasture resources through:

- Reduction of illegal cutting by 2020;
- Developing growth plans for all forestry entities in the country;
- Rehabilitation of degraded areas.

Forestry literature regarding coppice forests

In Albania, Silviculture and Forest Mensuration are the main subjects taught at university that deal with coppice forests. Meanwhile there are various studies and monographies prepared by native authors for oak species features, silviculture treatment and their management. *Forest Growth and Silviculture* (Muharremi et al. 1990) is the main resource on forest management and handling. They provide major alternative management option for all forest types, including coppice. They mention that clear cutting should be restricted in coppice forests that have a density below 70% and on slopes, and that their conversion to high forests is desirable from a silvicultural point of view.

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