



**REVIEW  
OF FORESTRY  
AND FOREST INDUSTRIES SECTOR  
IN REPUBLIC OF CROATIA**



Publishers:

MINISTRY OF AGRICULTURE AND FORESTRY  
OF THE REPUBLIC OF CROATIA, ZAGREB

AND

"HRVATSKE ŠUME"  
PUBLIC CORPORATION, ZAGREB

Editorial Board:

VLADIMIR BIČANIĆ, Josip DUNDOVIĆ, Slavko MATIĆ,  
BRANKO MEŠTRIĆ, Rudolf SABADI, IVAN TARNAJ, Joso VUKELIĆ

Editor in Chief:

Rudolf SABADI

Technical editor & DTP:

BRANKO MEŠTRIĆ

Reviewers:

DUŠAN KLEPAC  
MIRKO VIDAKOVIĆ

Language consultant:

MAJA ŠENOVA

CIP - Katalogizacija u publikaciji  
Nacionalna i sveučilišna biblioteka, Zagreb  
UDK 630\*9(497.5)

REVIEW of forestry and forest industries sector  
in Republic of Croatia / [editor in chief Rudolf  
Sabadi]. - Zagreb : Ministry of agriculture and  
forestry : "Hrvatske šume", 1994. - 120 str.; 24 cm

Bibliografija: str. 116-120.

ISBN 953-6253-00-3 (Hrvatske šume)

940210067

PRINTED BY "STUBA" ZAGREB IN 5000 COPIES

**REVIEW  
OF FORESTRY  
AND FOREST INDUSTRIES SECTOR  
IN REPUBLIC OF CROATIA**

**MINISTRY OF AGRICULTURE AND FORESTRY**

**PUBLIC CORPORATION "HRVATSKE ŠUME"**

**ZAGREB 1994**



## FOREWORD

by *Ivan Tarnaj*  
Minister of Agriculture and Forestry  
of the Croatian Government



*In may 1993 the Croatian Government met the representatives of the World Bank, who came to Croatia, to consider the possibilities of assistance the World Bank would be ready to offer for the reconstruction of the war-damaged Croatia. In the discussion I raised the question of assistance to forestry among other branches of national economy. A letter from the World Bank after the said conference raised the question of giving information about Croatian forestry and forest industries with suggestions on topics. The idea of this booklet was born when all those suggestions were considered and elaborated.*

*In Croatia forestry has a long tradition. There are not many countries in Europe with e.g. a hundred and fifty years old Academy of Forestry, which became later the Faculty of Forestry. Croats are well aware of forestry and its problems, and they respect this most valuable natural renewable resource of their country.*

*The sad history of Croatia hasn't permitted spreading information about many facts concerning Croatia, forestry included. When this booklet got its final shape, it was decided to print it in a large number of copies and distribute it throughout the world, to inform professionals and other interested in that matter, about Croatian forestry and forest industries. I wish the booklet to fulfill its objective, giving full information about our beloved Croatia, its forests and forest based industries. I appeal all readers to consider it as an attempt to present true information of forestry. If this succeeds, the authors, and myself will be glad, that people will realize that Croatia is a cultural, European nation, with an honourable tradition in many fields, forestry included. We are proud for being Europeans. Europe should be proud for having Croatia in Europe.*

## **PREFACE**



*by Joso Vukelić  
Deputy Minister for Forestry  
in the Ministry of Agriculture and Forestry  
of the Croatian Government*

*The forests are an irreplaceable element of the Croatian landscape, its economy and culture. In their history the Croats were always deeply connected with forests, which gave them the necessary building materials, fuelwood, mast and grazing for their animals, as well as shelter in times of danger.*

*It is expected that Croatia will develop into a significant tourist land, for which there is much to offer: untouched nature, abundant game, clear streams and clean air. Protection of forests from various diseases and damages remains our primary concern.*

*A large number of subjects are dealt with in the booklet, and I expect that readers will be induced to visit Croatia in order to get to know its people and its customs but their forests as well.*

*Numerous people depend on forestry or forest industries in various ways even if they themselves don't actually work in them. But special tribute must be paid to those who do work in forestry and forest industries because they promptly joined the Croatian Army when fatherland was attacked and they defended it valiantly. In short periods of time when the enemy attacks ceased they returned to their jobs, to keep production running, only to go back again to the front line when required. Many of them were wounded or even killed by the enemy mines or bullets. Life and sufferings of these brave people have always been closely connected with Croatian forests - in the past and in the present.*

*In memory of these heroes, for ideals they were fighting for, we recommend this booklet to the public.*



# CONTENTS

DUŠAN KLEPAC: General lines of the forestry sector in Republic of Croatia 1  
MIRKO VIDAKOVIĆ: Forestry research and its role in Croatian forestry 6

## **I Introduction (R. SABADI) 9**

## **II Forestry in Croatia (R. SABADI) 15**

Economic Role of Forests 15  
Environmental and Social Roles of Forests 19  
National Forest Policy 20

## **III Forest Resources, Ownership, Uses and Management Status (G. FABJANIĆ et al.) 27**

Forest Area 29  
Area of stocked forests 31  
Growing Stock of Forests and Tree Resources 34  
Annual Current Volume Increment of Forest and Tree Resources 36  
Total annual gross allowable cut (possibility) 38  
Management Status of Croatian Forests,  
    Growing Stock and Annual Yield 39  
Growing Stock in Even-aged Stands 41  
Growing Stock in Uneven-aged Stands 45  
Annual Current Volume Increment by Ownership 48

## **IV Forests and the Environment 51**

Introduction (Đ. RAUŠ) 51  
Croatian Climate (Z. SELETKOVIĆ, Z. KATUŠIN) 56  
Forests Soils of Croatia (B. MAYER) 57  
Plant Life of Croatian Forests (Đ. RAUŠ et al.) 59  
Vegetation Map of Forest association (I. TRINAJSTIĆ et al.) 60  
Silviculture (S. MATIĆ, J. SKENDEROVIĆ) 60  
Forest Seed Production (S. MATIĆ) 61  
Forest Nurseries (A. DOKUŠ et al.) 63  
Forest Cultures and Plantations (S. MATIĆ et al.) 63  
Forest Tree Breeding (A. KRSTINIĆ et al.) 64  
Physiology and Nutrition of Forest Trees (N. KOMLENOVIĆ) 64  
Forest Management (Š. MEŠTROVIĆ et al.) 65

Forest Harvesting	(A. KRPAN)	66
Forest Protection	(M. GLAVAŠ)	68
Game management of Croatian Forests	(D. RAGUŽ, M. GRUBEŠIĆ)	68
Protected Nature Areas of Croatian Forests	(D. RAUŠ <i>et al.</i> )	68
Croatian Endemic Plants	(Ž. BORZAN <i>et al.</i> )	69
Ecological and Economic Value of Croatian Forests	(B. PAPIĆ)	70
Forestry Education in Croatia	(B. PAPIĆ)	72
Scientific Institutes and Research	(J. GRAČAN)	73
A Brief History of Croatian Forestry	(O. PIŠKORIĆ, J. VUKELIĆ)	73
Croatian Forest Society	(N. KOMLENOVIĆ)	74
Museum of Forestry and Game	(N. LUKIĆ)	74
A Feuilleton on Tree and Forest	(M. PEIĆ)	75

**V Forest in the Economy** (R. SABADI) **79**

Forest Harvesting and Transport	79
Forest Industries	84
Non-wood Products	93
Trade, Marketing and Pricing of Forest Production	95
Financial Aspects	100

**VI Institutional Arrangements** (R. SABADI) **105**

Legislation	105
Organization	106
Forestry Research	107
Forestry Education	107

**VII Major Challenges and Policy Issues** (R. SABADI) **109**

Policy Issues	110
---------------	-----

**VIII Development Strategies  
and Investment Needs** (R. SABADI) **113**

Development Options	113
Investment Opportunities	114
Proposed Action Programs	114

**SOURCE OF DATA 115**

**REFERENCES 116**