

**TROPICAL HARDWOOD UTILIZATION:
PRACTICE AND PROSPECTS**

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TROPICAL HARDWOOD UTILIZATION: PRACTICE AND PROSPECTS

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Library of Congress Cataloging in Publication Data
Main entry under title:

Tropical hardwood utilization.

(Forestry sciences ; v. 3)

Includes index.

1. Hardwoods--Tropics--Addresses, essays, lectures. 2. Wood-using industries--Addresses, essays, lectures. I. Oldeman, Roelof A. A., 1937- . II. Series.
T8835.T76 333.75*13*0913 81-22396

ISBN 978-90-481-8271-8

ISBN 978-94-017-3610-7 (eBook)

DOI 10.1007/978-94-017-3610-7

ISBN 978-90-481-8271-8

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Originally published by Martinus Nijhoff Publishers, The Hague in 1982*

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The following symbols have been used in this book

* Unofficial figure, secretariat estimate.

.. Unknown or not available.

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FOREWORD

Roelof A.A. Oldeman

Tropical hardwoods are one of the essential cogs in the complex socio-economic machinery keeping alive an ever-increasing humanity with steadily rising claims upon a finite-resource environment. Their position in this context at first sight seems to be analogous to that of other commodities, such as rubber, metals, mineral oil, tropical fruits and many more. Looking closer, however, tropical hardwoods occupy a special place. Their vast majority, unlike tropical crops, still comes forth from natural forests being exploited by man. This exploitation straight from the natural resource is something they have in common with oil and metals, but the fact that they grow in living systems places them closer to crops. Natural forest ecosystems are not renewable. Timber producing trees, however, can be made into a renewable resource on condition that ways and means are found to cultivate them as a crop.

The tropical hardwood situation can best be understood as a socio-economic chain, with the resource base at one end, the consumer community at the other and everything that has to do with the market in the middle.

Now, at the resource side, the economics of tropical hardwood extraction barely got out of the primeval ways of wood-gathering by hand and by axe, which were still predominant in the nineteen-forties. There, the offer of natural products was so immense and so near to hand that no care had to be taken of the resource. Modern and highly mechanized methods of timber extraction quite recently started to change this state of affairs. On the one hand, the value added to the product immediately upon extraction has risen. On the other, the increased speed and range of our tools caused the resource to become finite in a very practical sense, because from now on this finiteness has ceased to be a purely theoretical notion. Awareness of these facts has arisen within a quarter of a century, which is almost too fast for the human mind to assimilate. As a matter of fact, resource economics including those for tropical hardwoods still present numerous prickly problems. Some of the more important puzzles concern the fact that hardwoods are only one among many useful products and services yielded by the tropical forest, but timber is the product most easily valued in terms of money. Another difficulty concerns the evaluation of forest products and services by human communities as different as rain forest tribes and industrialized nations.

At the other end of the socio-economic chain one finds tropical hardwood consumption. As opposed to resource exploitation and tropical silviculture, the use of the product has reached a refined level of technical and economic achievement. End-uses are carefully defined and executed by an industrial apparatus which is finely attuned to the raw materials as well as to consumer demands. The need to use tropical hardwoods prudently and with as little waste as possible is more and more acknowledged in wood technology and implemented by industry. The power of these technical means to contribute towards a balance between purpose and resource too often is under-estimated. It is painfully clear that the difference in quality between resource economics and end-use economics constitutes one of the essential causes for the risk of disequilibrium in handling the problem of tropical hardwoods. It may well be that it was precisely the lack of tropical silvicultural systems with a degree of refinement and exactness comparable to the industrial standard, which caused industrial extraction methods to be transplanted into natural forests, an environment to which they are barely adapted.

The indispensable links between resource and consumer are to be found in the market. The fundamental changes taking place in the economic status of tropical hardwood resources step by step influence the product-flow from the forest to the user. As yet this is not very apparent. The market situation is very complex and has many ways to buffer resource effects if and when they occur. Among these factors is the wide variety of consumer markets with different degrees of self-supply and different demands for end-products. Diminishing extraction costs because of mechanization in the producer countries also play their part. Fashion, swinging to and fro from one wood species to another and translating diminishing supplies as well as the promotion of new marketable woods, is another one of the factors governing the remarkable elasticity of the market mechanisms (cf. Table II-10-3.6). Only large disruptions of tropical timber supply due to huge stresses on the tropical forests will be visibly manifest in the market events.

Hence, if only spectacular market-signals are considered, developments can go very far before they are discovered. This would mean the loss of command over at least some of these developments. Therefore one has to form a clear picture of the tropical hardwood market now, in order to understand its subtle signals and its workings but also to keep adapting its function as an adequate distribution mechanism between source and drain, i.e. between resource and consumer. This aim should fit in with a development towards either a stable and constant system of supply and demand of tropical hardwoods, or a steerable growing system in this sense.

Stability or regulated growth cannot be reached in specific fields if other areas are constantly and violently changing. Stable yields of cultivated timber, stable numbers of rain forest species, stable flows of products through the

market channels and stable ways of processing timber in view of its end-use are inseparably linked and cannot be dissociated. Unbalanced developments in one field sooner or later have the effect of unbalancing the others. Hence the need for international cooperation and standardization and for education. In the long run, no durable system can be built if not everybody involved has a clear picture of all the processes which are implied and of their consequences. Ideally, this should go for the driver of a bull-dozer as well as for the tropical timber trader and the civil servant who is responsible for a tract of forested land.

Tropical hardwoods, which had until recent times been the concern of a limited circle of professionals were discovered by public and press some years ago. This enlarged interest was evident at the Seminar on Tropical Hardwood Utilization which is the skeleton of the present book. Instead of the few scores of persons expected at the Royal Tropical Institute in Amsterdam, several hundreds turned out to be present. Public interest has its own particular kind of influence. For one thing, it compels the professional to clearly explain his subject. As in education, explaining something makes one understand it better oneself. Moreover, gaps in existing and necessary knowledge are mercilessly revealed: by what we know, we also know what we do not know.

The feedback of a body of published knowledge therefore has its impact on a large number of people who are concerned. The interested layman should be able to build up a nuanced picture of the world of tropical hardwoods by virtue of such information. Timber traders and industrialists can use these data to optimize their activities so as to adapt their enterprises precisely to the situation today and tomorrow. Decision makers in countries which produce or consume tropical hardwoods will need knowledge as a tool to reconcile the needs of the present with those of the future. Scientists cannot advance without exact data if they want to clarify the many problems and to contribute to improved planning in the field of tropical forests and timber. No student can obtain his professional aptitudes or his basic facts in the absence of relevant publications. The present book will be of interest to most of these readers.

This volume appears at the initiative of the Timber Committee of the UN Economic Commission of Europe, which organized a seminar on the utilization of tropical hardwoods in Amsterdam in 1979, and the Dutch Ministry of Economic Affairs. The papers presented at this seminar cover all the aspects mentioned above, from the resource problem to industrial processing of tropical hardwoods and international cooperation. Moreover, they give an assessment of the situation at the threshold of the nineteen-eighties, a decade which is expected to bring considerable changes in the world; such vicissitudes will affect the use of tropical hardwoods without any doubt. Hence it seems useful to avail of the balance of the preceding years, so as to be able to appreciate the starting-point of the coming developments.

The special quality of the book is not to be found in any one particular

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chapter or section, but rather in its synthetical structure. Next to a considerable amount of exact data, arranged in tables and graphs which are easily consulted, there are case-histories and suggestions for new approaches and techniques. Although no book can claim to cover such a complex field completely, the papers brought together by the Timber Committee do shape a remarkable overview with spotlights on relevant details.

It is to be hoped that the present volume may contribute towards a wise and sustained use of forest resources, a further development of refined silvicultural systems in the tropics, a conscious maintenance and elastic adaptation of markets as links between the resource and the consumer in a fast-changing world, a continuing improvement of technical means to use tropical hardwoods with maximum efficiency and minimal waste, and last but not least a closer international cooperation and appropriate education in this field.