WOOD IS AS IMPORTANT AS FOOD

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ABSTRACT

Much effort is devoted to providing the world with food but the other major product of the soil (namely, wood) is just as important to man. Of the 2500 million tonnes of wood harvested annually, just under half is used directly as their primary fuel by the majority of the world's population. The other 1300 million tonnes of wood produced is used in innumerable ways. Even in advanced industrial countries the tonnage of wood used annually is greater than that of steel, aluminium, cement, and plastics combined.

Wood, like food, can be a renewable resource and like food requires skilled management to achieve optimum production. However, the management skills in forestry are still primitive, unlike those in food production, and the time scale is measured in decades and not seasons. With the long growth-period involved, over-exploitation of the world's wood resource is not immediately apparent; but, the effects on long-term supply can be disastrous, and once over-exploited there are very few short-term means of increasing production. At the same time, the total area of potentially productive forest is being reduced both through conversion of the land for agriculture and through pressures to reserve areas for protection and recreation.

INTRODUCTION

The most common objection to the establishment of forests on land with agricultural potential is that in a hungry world land should, wherever possible, be utilised for food production. In New Zealand it is questionable whether the food produced by our farmers really does help the starving millions, or whether our farming industry would still be economically viable if we grew only the food crops required by them. However, it is not the justification for food production that this paper challenges but the implied assumption that wood is of less importance to man than food.

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WOOD — A MAJOR COMMODITY

Forests occupy 2800 million hectares or just under 20% of the world's land area. Forests make a major contribution in protecting soil, preventing flooding, maintaining water quality, providing for man's recreation and amenity needs, as well as forming a habitat for animals and birds. However, all of these are less important than the production of wood. The total volume of wood currently being harvested each year from the world's forests is just on 2500 million tonnes (2500 million m^3). Of this, 1200 million tonnes is used directly as fuel (wood is still the primary energy source for a majority of the world's population). The other 1300 million tonnes is industrial wood which is used for a very wide range of products — poles, sawn timber, plywood and panel products, newsprint and all other types of paper, animal food stock, chemicals, etc. Wood has always been and still remains man's most important basic raw material. It is impossible to imagine the world as we know it without wood. Indeed, it could not function with much less wood than it now consumes — especially now that the limits to fossil fuel resources are all too apparent.

COMPARISONS WITH OTHER PRODUCTS

Comparison with the worldwide production levels of construction materials and the major food products (1976 figures) helps to put wood usage figures in perspective (Table 1).

TABLE 1: TOTAL ANNUAL PRODUCTION
(million tonnes)

Construction Materials		*Food Products*	
Steel	530	Wheat	350
Cement	460	Rice	340
Aluminium	13	Maize	320
		Potatoes	280
		Barley	150
		Raw sugar	80

With an estimated annual harvest of around 2500 million tonnes, wood clearly ranks as one of man's most important commodities. Advanced industrial societies require vast quantities of wood — even in a country such as the United States, the tonnage of wood harvested annually is still greater than the annually produced tonnage of steel, cement, aluminium, and plastics combined.

Wood products are major items of world trade and currently total over $40 000 million annually.

WOOD — A RENEWABLE RESOURCE?

Wood, like food, is a renewable resource and like food requires management skills to achieve optimum production; however, unlike the position in agriculture, the management skills in forestry are (with a few exceptions) primitive and very few of the world's 2800 million hectares of forest are as yet managed at all, let alone intensively. Forest management practice in New Zealand is among the most advanced in the world — *e.g.*, other countries do not prune their stands on the scale undertaken here.

Most agricultural crops are planted and harvested within a year. Forestry crops, however, even in the most favoured circumstances, can rarely be harvested, except for fuel, in less than 25 years after planting. In many countries it is 50, or even 100, years before trees are ready for harvest. With such a long growth period, over-exploitation of the forest resource can continue for decades in some countries before it is recognised and supplies are affected. Yet, once over-exploited, there are very few short-term means of regaining production levels. It is not known how much over-exploitation has gone on in the world but many forest areas of Africa, Asia, and the U.S.S.R. have been excessively utilised.

As important as over-exploitation is the problem of forest loss. In many parts of the world the competition for fertile land is so great that forests are being felled to make way for agriculture, and the forests so lost are invariably the most productive. The current rate at which forest land is being converted is estimated at many million hectares per year.

Other pressures and concerns are also reducing the area of potentially productive forests. In the advanced countries recreation and amenity pressures have reduced the wood-producing potential of some forests. So has the need for protection forests to preserve soil, streams, and water quality. Once it was believed that most of the vast forests of Siberia, Northern Canada, Alaska, Brazil, and some other tropical countries could be utilised. Now it is realised that large-scale exploitation of these resources could have disastrous environmental and ecological consequences. Given an increasing world population and an increasing shortage of other energy sources, the world's forests will be under increasing pressure to provide more wood. And that wood will have to come from a smaller forested area that is becoming increasingly subjected to other demands.

The problem of wood supply is not limited to just a question of volume. Wood quality also is changing. Almost without exception the most desirable, best quality, old growth stands have been felled. The regeneration that follows produces trees smaller in size and very often inferior in quality. The old growth stands that remain tend to be less accessible and to be composed of the less desirable and poorer quality trees. Only in intensively managed forests can quality trees be grown.

Appreciating all of the above, and given New Zealand's

— very favourable soils and climate,

— ability to grow radiata pine at growth rates among the best in the world, at 7 to 20 times the average growth in most of the world's major wood-producing countries,

— management ability to grow quality wood products which can be marketed overseas,

the implications are that wood production should be considered more favourably and that forestry should be regarded as an essential land-use.