Japanese forestry implications and warnings


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The unusual title of Dr. Fenton’s book tacitly poses the question “implications for whom and for what?” The answer to this question is left until the close of the review since the book examines its own objectives in the final chapter. Those objectives are firstly to describe Japanese forestry, which has evolved in isolation from the traditional scientific origin in central Europe. It is astonishing that the world’s second largest economy crams its industrial infrastructure, the dwellings for 127 million people, and sufficient tilled land for self-sufficiency in rice mostly onto slender coastal plains, the 15% of Japan below the 50m contour, while the precipitous interior remains clothed in forest. Over 40% larger than New Zealand, Japan’s 67% forest cover is atypical of the OECD, except for the topographically and demographically dissimilar Finland.

Fenton’s comment that even in Japanese histories the forests receive little attention is supported by other evidence; for example, Kodansha’s 1924 page illustrated English language encyclopaedia of Japan (1994) devotes less than one page to forestry, although readers can also find entries on the main species such as sugi, and on trees with some special quality, such as camphor. Japan’s forestry development is such that North American, European and Australasian foresters should each be guaranteed a different kind of shock to their native Weltanschauungen from this book.

The second aim of the book is to evaluate the forests’ ability to supply mills serving the domestic market, for many centuries a huge consumer of wood, placing the Japanese industry consistently among the world’s top four forest products users. This second aim has a subsidiary motive in which the author tackles the conservationist criticism of Japan that the country is “exporting unsustainable forest exploitation” by importing two-thirds of its wood whilst cutting below the increment of its own forest. Dr. Fenton also attempts to predict developments in Japanese forestry practice, and, although described as another “subsidiary aim”, this is important and perhaps the first time a foreign forester has seriously addressed this issue.

Bob Fenton has been equipped for the task of writing this book through several missions to Japan over a quarter-century including two long-term sojourns in the eighties, one with the Department of Forest Products at Tokyo University and the second as a special researcher for the former NZ Forestry Council. His background in silvicultural economics of radiata pine has fuelled an insightful approach to Japanese forestry, and his enthusiasm for this country has infused the book with numerous cross-references to other disciplines. Readers unfamiliar with Japan are warned to follow the main text continuously, merely flagging notes of interest, postponing perusal of extensive endnotes to a later moment of leisure.

Initial chapters trace the influence of geographical, climatic and historical factors on the development of forest tenure, composition and management, especially the effects of no pastoral agriculture, little hunting, the steep topography with its swift, short rivers, very heavy snowfalls in north-western Honshu no foreign invasions, the Tokugawa closed country policy, forests of former possessions like Korea, Taiwan, Manchuria, and the southern half of Sakhalin, and the effects of the Occupation and the rapid aging of the forestry workforce through the outflow of younger labour to the cities.

Japan’s biodiversity is high due to a lack of glaciation and a former geological linkage with the Asian mainland, and is greatest among the hardwoods. In the chapter on species hardwoods receive only 10% of the space as the author concentrates on production and matters affecting it, such as genetics (some half a millennium old), pathology, a particular issue for the pines, and Sasa spp., the dwarf bamboo, a rampant weed in the warm moist summer. In fact, trials of exotic species failed, and the two main plantation species, sugi - Cryptomeria japonica and hinoki - Chamaecyparis obtusa, are both important parts of the indigenous flora, together occupying nearly half the chapter.

The natural forest data have a similar emphasis on volumes, areas, age-classes, and increment. However, the author correctly assigns a prime value to their protection role in the context of a country with a high population density on the plains below the forests and one that endures frequent earthquakes, typhoons and volcanic eruptions.

In the chapter on plantations Fenton is really in his element, linking the demand for square housing columns and beams and aesthetically pleasing close rings to “little and often” thinning regimes, a silviculture that has evolved in isolation from central Europe. Fenton’s criticism of inflexible silviculture, with its maximum volume ideal and dense stocking leads him to devote a whole chapter to the “thinning problem” i.e. the huge arrears of prescribed thinnings due to falling small wood prices, rising wages and ages of labour, historically unmatched stocking densities in relation to height, a rising yen making imports cheaper, and an obstinacy about pursuing the thinning programme coupled with resistance to new ideas.

This is really the crux of the book, and enables us to see that the “implications” in the title are firstly for Japanese forest managers and only secondly in the ramifications of sub-optimal forest management on import volumes, product profiles, and prices, and hence for the management of forests overseas. The reader might expect the chapter on forest labour, roading, and machinery, and that covering plantation costs to have succeeded the one which addresses the thinning problem in order to add weight to the arguments advanced for reform, but the chapter on the overlapping issues of forest protection, environment and conservation is interpolated here. Still, these roles are vital; they are enshrined in an astonishing estimate of US$625...
billion in annual non-wood values, and enable Fenton to marshall other evidence against the conservationist critique, noting that hardwoods already supply most pulp chips at very high cost, are nearly exhausted, and low-yielding.

Dr. Fenton concludes that Japan's pulp, ply and sawlog needs cannot be met by the domestic forest for at least two decades, which is sombre fare for local forest managers whose billions of expensive softwood logs will be too small and too late, a situation bluntly but accurately described as “managerial failure on a grand scale”. The author outlines an alternative strategy at the close of the book, comprising a mix of total protection, thinning to waste, an end to thinning larch and pine, changes to spacing and nursery techniques, and laminated instead of solid wood building components. Despite the fact that these proposals can be logically deduced from evidence they themselves have gathered, strong traditions may still prevent Japanese foresters from establishing the necessary trials.

The Great NZ Forestry Bungle Explored

Dr. Fenton has written this book using a relaxed and easily readable style that is likely to appeal to a wide range of readers. The book provides a novel and positive perspective based on the collective experience of three people who write with first-hand knowledge and who have contributed greatly to the development of the forestry sector through much of the 20th century.