

X. RECENT DEVELOPMENTS IN FORESTRY AND LAND USE IN INDONESIA

Dr. W. M e i j e r, who is Dutch-born, worked in Indonesia from 1951 to 1958, first at Bogor, then at Pajakumbuh, Sumatra, and was Forest Botanist in Sabah for several years, revisited Indonesia with a National Science Foundation travel grant under an NSF-AID (Agency for International Development) program for Scientists and Engineers in Economic Development. The University of Kentucky Research Foundation covered part of the travel costs in Indonesia together with the Regional Center for Tropical Biology (BIOTROP) in Bogor, and Weyerhaeuser Timber Co., which is now also financing the printing at U.K. of a guide on trees in Indonesia which should be an excellent tool for better training of foresters in Dendrology (tree knowledge). The Japanese Sumitomo Timber Company also acted as liaison for Dr. Meijer during his visit to East Kalimantan.

Dr. Meijer has written a fully documented final report which he hopes to submit to the Indonesian government through its Academy of Science. Parts of the report will be published in the Indonesian Forestry Journal and in International Nature Conservation Journals. He hopes for continuing support from the University, its Office for International Affairs, and the U.K. Research Foundation to get this report published. Officials in the World Bank in Washington D.C. and the Smithsonian Institution have also expressed great interest in the results of Dr. Meijer's recent mission to Indonesia. The editor is glad to print this preliminary report:

Within the coming 20-30 years most of the very thinly populated lowland jungles of Borneo, Sumatra, Celebes and some other parts of the Indonesian archipelago are going to be logged. Indonesia is experiencing a timber boom. Export of logs to Japan has risen about 10 fold since 1968 and 20 fold in value. Total value in 1972 was around 230 million dollars. Among about 500 foreign timber firms working in Indonesia the largest operation is carried out by the U.S. based Weyerhaeuser Company which reached within three years a production of about one million cubic meters of lumber per year and invested already \$35 million dollars in its operation in Kalimantan (Indonesian Borneo). Most of the harvest is sold to Japan where it is processed into veneer and plywood and it appears on the U.S. market as Philippine mahogany.

The rapid disappearance of the largest area of virgin jungle in Southeast Asia is unavoidable because Indonesia opened its doors in 1967 for foreign capital investment and

has discovered that forest exploitation is a very good source of foreign exchange and an excellent method to provide employment to its rapidly growing labor force.

According to my experience in Sabah, where I served as forest botanist from 1959 to 1968 before coming to the University of Kentucky, it is possible under a wise policy of land use planning and forest management to set representative areas of these jungles aside as national parks, nature reserves and arboreta used for purposes of training a forest staff and research in tropical forestry. I spent most of last summer in Borneo, Java and Sumatra to develop with Indonesian forestry experts and managers of Weyerhaeuser firm and a Japanese-Indonesian timber firm plans for better forest management, improved training facilities for tropical dendrology (tree study) and proposed land use management.

Former developments of land-use in Indonesia, especially in South Sumatra and some parts of Borneo, justify the great fears in international organizations for conservation of nature and wildlife that present trends of the population growth and forest developments in Indonesia will result in large scale devastation. I wrote a paper on this subject in the recent September issue of BIO-SCIENCE. Some nature conservationists have declared that even a colonial government would never have dared to sell out so much of its timber resources to foreign lumber interests.

Indonesia only collects seven dollars out of every cubic meter of timber exported, now valued between 35 and 50 dollars at the overseas markets.

It should be understood that at present the yearly logged area is not more than about 300,000 hectares in the whole of Indonesia, however the trend is a steep increase every year, and soon one million hectares will be logged per year. In total 24 million hectares (60 million acres) have been given out to about 500 timber companies for logging within the next twenty years. The harvest for 1973 is estimated to be around 18 million cubic meters (576 million cubic feet). In the years to come this will grow to about 29 million cubic meters (928 million cubic feet). So far \$56 million American dollars have been invested in the logging industry. (Sukiman, Verbal Comm. Symposium on a Coordinated Study of Lowland Forests in Indonesia, Bogor, July 1973).

It would not be realistic to expect that Indonesia, seeing the timber boom of the last 10-15 years in Malay, former British Borneo, and the Philippines, would not grasp this opportunity for rapid economic development, in this case of a natural resource which can be renewable. Tropical forests grow more productive after a certain amount of selective logging. According to my observations on the spot, it is

rather disturbing, however, to see how little the Indonesian government is investing itself in research, training and management to safeguard a sustained yield from these forests. Most of the concessions can be logged within 20 years, a period far too short for natural regrowth to secure a second harvest. Management control is virtually non-existent. There is hardly one Indonesian forester available per concession area.

The province of East Kalimantan exports already three times more timber per year than does Sabah. While Sabah re-invests 10 percent of its forest revenue in research, management of staff training, East Kalimantan puts only one-half percent back into it. The consequences of this shortsighted policy could, in the long run, be disastrous. New integrated wood industry, which the companies are forced to put into effect within three years, will take more timber out of the forests, large areas may be virtually clear-felled. Those which are suitable for agriculture could be used for resettlements of the enormous overflow of the population in Java where around 60 million people live in an area about as large as the state of Florida, while the jungles of Indonesian Borneo (Kalimantan) and Eastern Sumatra are almost empty as regards people. So far, little or nothing has been done by the Indonesian government to decide which forests could be logged on a basis of a rotation cycle and which should be developed into agricultural areas. Practically all research done in Sabah and Malaya on the composition, tree identification and regeneration of these lowland forests has been ignored in Indonesia. There is a crying need for more and better trained Indonesian forestry experts. The overseas firms are being forced to employ Indonesians as much as possible. Still Weyerhaeuser's operations can only be carried out with a great influx of top level forestry technical experts which means 30 corporate families besides a fairly large contingent of Filipinos trained in mechanical logging and forest survey.

I have been trying to stimulate better forestry and land-use practices by organizing a symposium with 60 Indonesian experts at the Agricultural and Forestry Research Center in Bogor, West Java and by demonstrating the landscape and vegetation patterns of Indonesia from recent NASA space images. This symposium has recommended to the Indonesian government to re-invest a far greater proportion of its forestry revenue in Forest research and to start crash programs for training and research inside the new logging centers. There is hardly any land left in East Kalimantan which has not been given out as timber concessions, and my strong re-

quest to leave one area unlogged and save it for a training site seems to be ignored. Part of a National park in East Kalimantan has been excised for logging. Two National Park areas in South Sumatra have been violated with logging operations, one of these logged by a group sponsored by the Indonesian Navy, as can be monitored from space images and also forests which were supposed to be left untouched as hydrological reserves are being logged. If the same ruthless policies would be introduced in forest exploitation in the Western United States a great uproar of environmentalists would be the consequence. Impoverished and underdeveloped Indonesia could use its forests as a rich asset of its own natural resources. However, ruthless exploitation without any coordination with land use management might cause permanent devastation, as in some parts of Latin America where a laissez faire land use policy has been followed.

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A PIECE OF HIS MIND - III

"Finally, I want to say how important the wife is in the life of a scientist, as I experience every day. Although I know how shocking this must sound to her to hear this in public, I think I have to mention it, because as an example it has a wide significance. The same holds good for the wives of those biologists who wander in the jungle for many months at a stretch, far from their families; the women can only wait in patience and hope for their safe return. Cheers to them!

My own wife, too, has gone through this. But when we were married, I had told her straightforwardly that this would be her fate. She is not only my loving helpmate - and I am difficult to handle, at times - but she also became my most faithful collaborator, my indispensable other half. And she is none the worse off, after all, for she earned herself a solid reputation as a biohistorian - my queen at this celebration!"

C.G.G.J. van Steenis, Overdenkingen (Reflexions),
farewell address 1972.