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Choice of Technology, by Laarman and Virtanese

Review Author: Hector Mauri, S.J.

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and Benog are still firmly entrenched in their position of power while the majority of the people still languish in misery.

The novel appears to state unequivocally that it is not enough to have generous and well-intentioned landowners such as Padre Echevarria to effect any radical change in the people's lives, nor is it sufficient to possess courage and deep conviction on the rightness of one's acts, as in the case of Lino, in order to bring about change in the hearts and minds of the poor. The process of change, which is clearly depicted in *Daluyong*, is bound to be slow and painful, stymied at every turn by powerful landowners and their fellow conspirators. The victory is temporary, because there is no assurance that more powerful enemies will not appear to abort the moves of the enlightened ones from both lower and upper classes.

In this last novel, Francisco returns to the theme that preoccupied him in *Ama* (1929), his first novel — the pressing need for change in the tenancy system. But whereas Francisco effected a full reconciliation between the oppressed and their oppressor in the novel of his youth, that naivete has given way to a tougher and thus less romantic stand in *Daluyong*. The problems besetting the farmers are complex, but they must be addressed now for, as the novel has graphically shown, time is running out. The restlessness of the poor cannot be stilled and the mounting pressure to resort to arms is a terrifying but real alternative.

Perhaps this is Francisco's legacy to the people: he has pioneered in employing fiction not merely to mirror facets of the human condition but to expose it in all its brutality and violence. In the process, he has affirmed the possibility of creating an alternative world, glimmers of which are found in the text. More than a quarter of a century after *Daluyong* was first published, the tenancy problem which the novel sought to depict, still haunts the consciousness of many Filipinos, especially those who have been its victims. *Daluyong* remains a gripping text that compels the reader to view socio-political realities from a definite ideological perspective.

Soledad S. Reyes
Department of English
Ateneo de Manila University

CHOICE OF TECHNOLOGY IN FORESTRY: A PHILIPPINE CASE STUDY. By Jan Laarman and Klaus Virtanese. Quezon City: New Day Publishers.

This is a short study (115 pages) prepared for the International Labor Office of Geneva, with the framework of the World Employment Programme. With copious help from graphics and sketches, the very readable book takes a close look at the missed opportunity of larger employment in forestry.

The first chapter outlines the problems of employment and underemployment in the Philippines and notes that the wood products — logs, lumber, veneer and plywood — have been the country's single most important export group since 1967, accounting for almost 25 percent of total foreign exchange earnings and absorbing 12.5 percent of all manufacturing. Yet the loggers and forest workers represent only slightly more than 0.5 percent of the national work force.

These figures serve to frame the problem even though they are based on outdated statistics (1972). After all, even within the so-often proclaimed log ban, 130 major and legitimate logging concessions are mercilessly hacking away at our last million hectares of forests.

In the Philippines, forestry is a sector of considerable social importance as a possible source of rural employment. Yet — the study states — the actual employment level is far below what it could be.

There are obvious physical limitations to log-handling and transport by labor-intensive methods when the trees have large buttresses, the logs weigh three or four tons or more, and slopes are steep. However, labor-intensive methods can indeed often be competitive. This is especially true when the manual methods are combined with labor-saving devices and properly designed tools.

The study takes note of a "powerful foreign influence especially from Japan and the U.S." Most commercial logging in the Philippines is modeled after methods and equipment used in the Pacific Coast of North America. These regions may be similar in topography and lumber size, but are oceans apart in terms of capital-labor availability.

In the second chapter, the study analyses world trends, and predicts expanded demand for lumber as having remarkable advantages, especially for being renewable and degradable or usable as fuel. Timber can serve aesthetic and agricultural protective ends in combination with industrial ends.

The need of forests for agricultural protection is greatest in the tropics. The tropic and subtropic regions offer fast biological growth and lower labor costs. Greater forest development in tropical regions like the Philippines is therefore expected.

In the Philippines, forest lands account for about 57 percent (17 million hectares) of a total land area of 30 million hectares. As the virgin dipterocarps continue to be mercilessly logged over, and since there is no way for them to reproduce outside the protective canopy of the virgin forests, man-made plantations of soft woods (*Albizia*) and of narra are going to be the trend of the future.

As the most successful method of reforestation, based on the Philippine experience, the study singles out a family farm combination of agriculture and forestry, allocating approximately 20 percent of its most productive land for farm crops, livestock and fish ponds, and the remaining 80 percent to fast-growing pulpwood plantations of *Albizia Falcata*.

I find this conclusion very gratifying, because it confirms the advisability of a similar plan which I have just completed with the help of the Department of Natural Resources, for the establishment of agro-forest family farms and communities covering 4 million hectares.

The third chapter is dedicated to a detailed comparison of highly mechanized labor-saving equipment and labor-intensive intermediate methods entailing combinations of better hand tools and working organization. This chapter is fully illustrated with sketches and diagrams and should be carefully read by anyone who plans logging, be it in family tree farms or in large timber concessions.

As a whole, the chapter is highly encouraging to family farm logging. It shows, for instance, that for the cutting operation the cost per cubic meter is US\$0.22 for two-man hand saw crosscutting, and US\$0.23 (Mindanao) and US\$0.26 (Samar) for the large power chain saw. Albizzia Falcata farms can advantageously use the one-man bow saw, which is economically competitive and will "free the tree farmers from dependence on contractor." Timber concessionaires will also find that for Albizzia farms the hand bow saw is more efficient costwise than the chain saw.

The advantages of labor-intensive or intermediate technology are logically and methodically examined — and the limitations shown — in a detailed study of forest operations from crosscutting to thinning, yarding, skidding (either with carabaos or tractors) grappling, debarking and various loading systems.

The study notes that the Philippines has vast employment opportunities in tree planting and auxiliary reforestation activities. It discusses the various systems of underbrush clearing, with a brush hook handled with two hands and with a stroke similar to a golf club stroke — coming out as winner over the clearing power saw. The traditional bolo wins 100 to 75 over the more developed pruning hand saw, but it loses in terms of climbing fatigue and accidents.

Chapter four is dedicated to the social issues, noting that "worldwide logging and forestry rank among the most hazardous of all occupations." Accident prevention is important to people's lives, and should also be considered by the logger operators as an economic factor. To equip a worker with gloves, safety boots and wire mesh visor would cost approximately US\$20.50 for a man/year. This was found to be approximately the amount which could have been saved from the annual accident expenditures in two Benguet Companies.

Training is studied both from the safety and the efficiency aspects. The writers conclude that "neither the Bureau of Forestry Development nor the timber concessionaires employ training managers for forest workers, even though such a function could prove very worthwhile."

Regarding improved hand tools, it is noted that small local manufacturers do not lack skill, but often lack appropriate material. Used discarded leaf

springs from motor vehicles are commonly used. The high silicon content of most spring steel makes the blades crack or split under hard use. Electric furnaces for final heat treatment should be cooperatively owned.

The fifth chapter presents practical recommendations for moving the forest sector closer to its employment potential, among them the creation of a Presidential Committee on Wood Industry Development to give guidelines on mechanization and fiscal incentives to users of labor-intensive methods.

The present government policies of cheap loans and tax exemptions on logging equipment are economic distortions of the Philippine forestry sector, favoring expensive imported log machinery as against locally developed intermediate tools, which could create a healthy rural industry.

Choice of Technology is a brief study, full of practical common sense applications, and, more importantly, it is an eye-opener for anyone interested in the wider context of land reform.

Hector Mauri, S. J.
Loyola House of Studies
Ateneo de Manila University

READINGS ON ISLAM IN SOUTHEAST ASIA. Compiled by Ahmad Ibrahim, Sharon Siddique, and Yasmin Hussain. Singapore: Institute of Southeast Asian Studies, 1985. xv + 408 pages.

ISLAM AND SOCIETY IN SOUTHEAST ASIA. Edited by Taufik Abdullah and Sharon Siddique. Singapore: Institute of Southeast Asian Studies, 1986. xii + 348 pages.

In 1980 a group of Southeast Asian scholars met in Singapore to prepare a report on Islam in this region. Their discussions centered on two main topics: (1) the nature of Islam in relation to society and (2) Islam and human development. One practical result of the meeting was a decision to prepare a basic reader containing important materials already published on the subject. This collection, compiled by Ahmad Ibrahim, a legal expert at the International Islamic University in Kuala Lumpur, and two assistants, appeared in 1985 as *Readings on Islam in Southeast Asia*. In the same 1980 meeting the participants also planned two workshops dealing with Islam and society. After these had been held in 1983 and 1985, the papers presented in them formed the basis of the second volume, *Islam and Society in Southeast Asia*, published in 1986.

Excerpts from the works of forty-seven specialists were selected for inclusion in the *Readings*. Their authors are at present or were formerly engaged in teaching, administration or research in the following countries: eleven in