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EAST KALIMANTAN NOTES

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P.O. Box 206  
Samarinda, East Kalimantan  
Indonesia  
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Dear Peter,

I've spent most of the past month in the vicinity of Samarinda, and in places accessible within a few hours from the pothole-free highway to Balikpapan, three hours to the south of here. It's been a quiet month in which I've done a lot of reading about this region and have badgered anyone who might have crucial information about happenings in areas where I expect to spend time over the next year. So, rather than a "trip" letter, here are some general notes on East Kalimantan, and on the forestry industry in particular.

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Samarinda is a boom town. Although it celebrates the 320th anniversary of its establishment as a key trading point at the top of the Mahakam River delta this year, almost no structure in the city is over 40 years old. Built by the demands of a rapidly expanding timber trade, and to a lesser extent, the petroleum industry, Samarinda sprawls along new roads extending through swamps toward the vegetable garden and orchard lands between the old riverside city and some of East Kalimantan's earliest Transmigration sites. Traditional houses in this area, of the Mahakam's Kutai Malay population and the Bugis "newcomers" (who have been migrating from South Sulawesi, across the Macassar Straits, for over three centuries) were built on ironwood stilts on the river banks, often extending out over the water. Dry areas near the riverside were developed by Chinese merchants in the shophouse style ubiquitous among the Nanyang (Southeast Asia) Chinese -- a shop or warehouse downstairs, with the family's living space above.

Today, much of the new city is built on solid foundations, raised above the waterlogged valleys on rocky platforms. And to provide material for these foundations, Samarinda's hills are being demolished, stone by stone. At least one side of almost every hill in town and on the outskirts has been turned into a naked cliff face, as small quarries nibble away at the mudstone. Small brick factories have sprung up in the shadows of hillsides with good clay content.

Every morning, just after dawn, a dozen or so men arrive at the hillside near the end of the gang (alley) where I've rented a small house across from Samarinda's main fruit and vegetable market. Armed with pickaxes, sledgehammers, and steel wedges, they assault the cliff at intervals throughout the day, chipping away until their skins turn khaki with stonedust and their rock-hard muscles pass through cramps to numbness

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from repeated poundings. They shoulder the rocks to level ground near the side of the road, where flatbeds and pick-ups come to haul the newly quarried rocks to building sites around town. Similar work goes on at Samarinda's other mini-quarries.

Periodically, especially during heavy rains, land near these quarries responds to the pull of gravity. Hilltop houses suddenly too close to the new precipices end up closer to the bottoms of the cliffs. Squatters' homes at the cliff bases are buried, too often along with the families of the stonecutters themselves.

Soon after I found the house I'm now living in, such a landslide buried a family below a man-made cliff on the side of the next hill over from here. In exploring the neighborhood, I couldn't miss the steep yellow mud wall rising above the still-visible rock pile at its base. Beside it, not more than a house-width to the right, is a sago-leaf-roofed tea stall, the enterprise of Bu Aminah, a thin, energetic woman whose husband cuts stones. They had been good friends of the family wiped out by the landslide the previous week. As I drank a glass of hot tea and nibbled a fried banana, Bu Aminah pointed out her own house, just past the edge of the mudslide.

I asked her if she's scared. "No," she replied, drawing out the answer into a nervous giggle. (Such giggles are the most typically Indonesian mannerisms I've found, confronting both pain and embarrassment.) "But that may be our nasib also. (The best translation I can find for nasib is "fate.") She gestured with her very pointy chin toward her husband, busy carting a makeshift wheelbarrow full of hillside toward the road. "Where else will we go? Life is hard here. We'll leave when we're able, when there's money."

There has been talk of forbidding people to live too close to the undermined hillsides, and of more closely regulating the mini-quarries. But it tends to die down after each accident, and Samarinda-style suburban development depends on the cheap stone. Yet the landslides are News, and their causes and consequences are obvious.

Environmental quality issues in general have entered the realm of News in Indonesia, though they often sit somewhere between reporting on natural disasters and reporting on business. Over the past few years, as far as I can tell, there has been an increasing public willingness to attribute "natural" disasters, in particular, to the negligent land use decisions and lack of regulation that allows them to take place. No one pulls any punches these days about noting that disastrous flooding was probably caused or aggravated by the destruction of upland watersheds by logging or land clearing, or that silt from similar causes has destroyed fisheries on which local populations depend. But few people go so far as to call for an end of the activities causing the damage. It is, after all, necessary for Development...

Samarinda's mini-quarries have become a symbol, for me, of the costs of much of what is defined as Development in Kalimantan. Increasingly essential for the kind of life many people have begun to expect, it runs great risks of destroying the integrity of the land on which that life is based. The changing shapes of the quarries cannot be detected from a distance from one day to the next. But the cumulative impact of these nibbles may become a devastating bite. And those who have depended on and profited from the quarries in the past may find that their work ultimately causes the hills to slip.

People living in East Kalimantan speak of the forest as "green gold." A common belief, one repeated to me so often that I can tell when it is coming in a conversation, is "we are poor, but we are rich in nature." Extracting this wealth and putting it to the use of the People and the Nation is what Development seems to focus on here. But the sense that Kalimantan's natural wealth is inexhaustible has disappeared. A few of the "rich in nature" people go on to comment "But we are throwing it away!"

Official figures put East Kalimantan's area in forest land at just under 16 million hectares, or about 75 percent of the province's total land area. Of the land officially classified as Forest, about two-thirds has been designated as Production and Limited Production Forest. Virtually all of this land has been allocated to logging concessions. Most of the current concessions were granted in the late 1960s and early 1970s, valid for a 20 year period. Concession holders have the right to log and remove timber from their concession areas in line with approved five-year working plans and annual operational plans. Logging by concessionaires is generally according to Indonesia's Selective Logging System, which generally allows loggers to take out six to eight trees per hectare. A standard 1:750,000 scale map of East Kalimantan shows virtually the entire province covered with timber concessions, though about a quarter of them are not currently being worked. A curiosity of the system is that there are logging concessions legally established or proposed on lands classified as Production Forests, but which are devoid of commercial timber. Some of this land was misdesignated in the first place; some has been cleared since it was designated (often by shifting cultivators or opportunistic farmers wanting to get in a quick cash crop cycle or two); some was burned in the forest fires of 1982-1983, which devastated 3.6 million hectares, or smaller fires since then.

In Indonesia's highly centralized bureaucracy, timber concessions and five-year working plans are approved in Jakarta, not here. When the government wants to use forest concession land for another purpose, a Transmigration agricultural project or plantation, for example, Forestry officials may negotiate with concession holders to provide them with alternative sites or some other form of compensation.

In 1985, the last year for which definitive statistics have been published, almost 3.5 million cubic meters of wood were taken from the province's logging concessions. (This figure does not include much of the timber cut in East Kalimantan's many land clearing projects. It is very difficult to figure out, overall, how much timber comes from land clearing, and how much from concessions worked according to the Selective Logging System.) In Selective Logging, forest blocks of about 100 hectares each are supposed to be surveyed before logging begins, to ensure that a sufficient number of medium and large trees of appropriate commercial species are left over to provide a good residual stand for a potential second cut, 35 years down the line.

Because mechanized logging in East Kalimantan is fairly new, and the Selective Logging System less than 20 years old, it is not yet clear whether a 35 year regeneration cycle is really adequate to provide a commercially viable second cut. What is certain is that any second cut would yield timber of significantly lower commercial value than the original cut in the old primary forest. (Trees would be of smaller diameter; logs probably shorter.) The degree to which the other flora and fauna of the disturbed forest are able to recover is an

issue of particularly pressing concern, given current understanding of threats to global biodiversity.

Log exports from East Kalimantan peaked in 1979 at over 10 million cubic meters. Little of this wood could be processed locally at that time, since the province had only nine sawmills and a single plywood factory. With no call for timber companies to cut the logs and float them down the rivers to waiting ships, the best forests were being cut too fast, and the work force involved in the capital-intensive mechanized logging industry was minuscule.

In 1980, the government passed a ban on all Indonesian exports of unprocessed logs, to be fully implemented by 1985. The intention was to slow the rate at which primary forests were being exploited, a conservation measure, but more importantly to develop local wood processing industries.

The ban had the desired effects. In East Kalimantan, the amount of wood being cut per year fell drastically, and now stands at about half the 1979 levels, including logging from both concession and non-concession lands. However, this smaller amount of wood has considerably higher value. The havoc in both the forests themselves and East Kalimantan's timber industries in the wake of the 1982-1983 forest fires also took a bite out of logging levels, and by the time the industry recovered from this, the log export ban was fully in force.

By 1983, there were over 120 wood processing factories in East Kalimantan. Lining the Mahakam River in the vicinity of Samarinda there were 44 wood sawmills and plywood factories. East Kalimantan has become Asia's leading plywood manufacturing center. In 1986, plywood exports amounted to 791,800 cubic meters. (Think of this in terms of filling olympic-size swimming pools.) Over 29,000 people were employed in forestry sector jobs in 1986, including logging concessions, mill workers, tree planters, and government Forestry Department employees. Spin-off work, including transportation for the logging industry, food procurement, and the assortment of other jobs that need to be done to sustain an industry largely staffed by newcomers to the region, may double the number of people actually dependent on East Kalimantan's timber industry as their main source of income.

Along with the imposition of the ban on exports of unprocessed logs, each concession had to arrange an association with a wood processing company. The government hoped that this would lead to integrated management of logging and processing. Most of the smaller concessions joined into consortia to build larger plants that could benefit from economies of scale and steady international orders. Many of the processing plants were built with heavy foreign investment and expatriate management. The formation of these timber company "groups" was facilitated by the fact that many of the apparently independent concessions were already linked by the concessionaires' family ties to Indonesia's many-armed big business groups under the patronage of key political figures. The concentration of control of the forestry sector in Kalimantan has been the cause for considerable grumbling at mid-levels in the Forestry Department. While many of the logging and processing companies are in fact managed jointly, good examples of large-scale industrial integration, the Forestry Department must regulate each concession and each processing plant as if it is an independent entity.

But the wood processing industry in East Kalimantan has over-built. Especially among the Mahakam River processors associated with the smaller logging concessions, there is already a shortage of suitable raw materials. A common topic for discussion among Samarinda timber types is "How long will the logs last?" These days, the logs floating down the Mahakam tend to be thinner than the giants that people remember from five years ago, when logs up to two meters in diameter were not all that uncommon. (I have seen a few of these logs, still, in rafts waiting to be checked by Forestry Department inspectors. However, their disappearance, generally, says a lot about the extreme degree of disturbance in the Mahakam basin's rainforests.)

The average quality of logs coming down the river these days will not support East Kalimantan's plywood industry for long. Plywood and veneer production using tropical hard woods requires large-diameter, straight logs with few cracks or breaks, for smooth "peeling." When such logs run out from the economically exploitable areas of timber concessions, what will the plywood companies do? The managements do not broadcast their long-term plans for diversification of wood products; several people keeping tabs on new developments in this regard have told me that only four factories around Samarinda now producing plywood have definite plans to shift to other kinds of wood products that could use shorter, small-diameter logs or branches that are now wasted in conventional logging operations.

A couple of wood industry managers have told me, candidly, that if their firms invest in diversifying production or operations in East Kalimantan at all, it may not be in the timber sector. For those with access to large amounts of capital and appropriate friends in Jakarta, gold mining is the queen of investment opportunities. Forget the "green gold." Thirteen new gold mining concessions have been granted over the past year or so in East Kalimantan (with another 20 in the other Kalimantan provinces), mostly to companies that have put together joint ventures with Australian firms. But that is another story.

Ironically, the threat of laying off workers because of a lack of adequate raw materials has enabled several concession holders to get permission from the Forestry Department -- under "exceptional circumstances" -- to re-open logging blocks that had been cut to the limits originally set for them, and then closed to further logging to await the second cut, 35 years hence. Where original selective logging may have cut a few highly marketable types of trees, such as kapur, keruing, or meranti (Dryobalanops, Dipterocarpus, or Shorea species), all of which can be floated down river, a company may apply to re-open a block to take out "sinkers," species with wood so dense that their logs sink in water. (Sinkers must be taken downstream on barges rather than being tied together in rafts, or, where roads are available, trucked all the way to processing plants.)

There are rumblings that many companies never really expected to use their plywood mills for longer than a decade or so, and that they have comfortably amortized their investments. This estimate may be belied by the profound and unexpected impact of the big forest fires, but especially for companies getting raw materials from concessions elsewhere, the suggestion seems plausible. Calls on the part of many government timber industry experts and planners for the plywood factories to re-tool in order to use smaller pieces of wood or "lesser known species" have not yet gotten much of a response from the region's timber industries. Will many of them close up shop when the relatively

cheap, high-quality logs their current processes depend on are no longer available?

The alternative source of raw materials for wood processing industries, according to the Forestry Department, is the development of tree farms. The Forestry Department in East Kalimantan is pushing the idea of planting commercially viable industrial timber estates, especially on lands still classified as Production Forests within the area burned in 1982-1983. Plans for the year 2000 call for between a million and a million-and-a-half hectares of tree farms, developed in about 35 operational units. Reestablishment of natural forests in these areas will not be a priority. These massive planting schemes will be specifically oriented toward providing raw materials for sawmills, plywood factories, pulp and paper mills, rayon manufacture, charcoal making, and other tree-based industries forestry planners envision developing in the future.

These artificial forests, now in their very early stages of development in East Kalimantan, would be designed to work on an almost North American model, with block plantings of monocrop or similar-use species and eventual clearcutting in rotations of 10 to 30 years. Some of the investments for such tree plantations may come from private sources. The biggest integrated logging and processing companies in the province, setting their sights on the long-term, are already engaged in substantial replanting projects or "enrichment planting" within their own concession areas. (Enrichment planting involves planting seedlings in already-established forest, rather than clearing land to start tree plantations from scratch.)

Much of the money for developing industrial forest plantations is expected to come from a replanting fund that has been filled from a tax on timber taken out of logging concessions, collected at the rate of US \$4 per cubic ton. If timber companies embark upon replanting schemes, they can get some of this money back to cover costs. Whether the majority of logging companies will actually take advantage of this opportunity to get into the silviculture business remains to be seen. To date, applications for development of industrial forest plantations have been slow. State-owned tree planting companies, including Inhutani, which already has contracts to replant burned areas in some of the burned land designated Protected Forest (not open for logging).

The areas where industrial forest estates would be concentrated, according to Forestry Department plans, are already relatively well served by roads, or at least tracks, since many of them were selectively logged before the fires. Yet at the same time, the government has plans to clear as-yet unmolested primary forest in areas with virtually no existing infrastructure for other cash crop plantations and Transmigration settlements. This paradox seems to be largely the result of a turf battle between the Forestry Department and other agencies also wanting to make plans for the burned-out land. Over the past 15 years, most of the land developed for Transmigration projects (the government's massive resettlement program) has been reclassified from land that had previously been designated as Forest. (Reclassification of land from Production Forests, in particular, to agricultural uses was easier prior to 1983, when forestry administration was moved from the agriculture ministry and established as a separate cabinet-level Department on its own.) By planning to develop so much of the burned out area as tree farms rather than allowing it to be used for more conventional agricultural production or other cash crop plantations, the Forestry Department will retain its authority over this land.

As Forestry officials dig their heels in on the issue of clearing Production Forests for other uses of the land, other government Departments, particularly Transmigration, may have to fight for sites on Forest land.

The plans to develop vast tree farms here were being drawn up right around the time that Transmigration's budget was cut to the bone, in the fallout from Indonesia's foreign debt and budget crisis of the past two years. Since then, the orientation of the Transmigration program has also moved away from an emphasis on developing new sites, with additional land clearing. The program's emphasis is expected to switch to rehabilitating the many old projects where residents are now in desperate straits due to poor siting of their settlements, inadequate assistance, generally bad planning, or bad luck.

Ironically, just when there is considerable incentive for companies to begin planting trees on a large scale rather than just cutting the forest, there are serious questions about whether the companies should really be involved in such extensive land management in a country where all forest land is still owned by the State. Regulations are now being put in place to make sure that companies embarking upon industrial forest planting assume long-term responsibility for the land under their control. (This is also necessary from the companies' point of view; returns on forest planting require a longer wait than returns on investments in logging.) Nurturing trees -- silviculture -- requires a very different kind of management, work force, and mentality than the typical "cut-and-run" investments of timber companies in Southeast Asia over the past few decades.

As the value of petroleum-based exports continues to fall and Indonesia's external debt situation becomes increasingly critical, the government is counting on forestry sector exports to take an increasingly significant position. As of September 1987, Indonesia's foreign debts reached over US \$35 billion. Yet, Indonesia's conservative financial managers have opted not to try to reschedule repayment of the nation's foreign loans. External debts now amount to about twice the entire Fiscal 1988/1989 State Budget of US \$17.44. The pressure to pay off foreign debts by "mining" the natural forests will be hard to resist. But the development of silviculture in Kalimantan, though perhaps too little, too late to save the integrity of many of the provinces' natural forests, is a step in the right direction.

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A few days ago, I returned to the site of December's landslide. Behind the remaining houses, an impressive-looking retaining wall had been built of wood, clay, rocks, and scrap metal. The mud from the landslide remained beside the end of the wall. Though now dry and cracked the direction of the mud's flow was still visible, as if to remind the builders of the wall what they are up against.

Sincerely,

