Crisis in Indonesia: Forests, Fires and Finances

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The jewel in the East Asian "economic miracle" of the 1980s and 1990s came crashing to earth during late 1997 with a collapse of the currency and disintegration of the banking system. By mid-1998 Suharto was forced out of office by a tidal wave of street protests, and raging fires were ablaze throughout the land. In this paper we draw attention to the fundamentals of the finance crisis and the environmental crisis as they relate to the state of tropical rainforests in Indonesia. It is concluded that, somewhat ironically, the dramatic collapse of the Indonesian economy and the devastating forest fires of the late 1990s may lead to the preservation of one of the earth's most significant heritage sites, the tropical rainforests and biodiversity of Indonesia.

Although Indonesia occupies only 1.3% of the world's land area, the country possesses about 10% of the world's flowering plant species, 12% of all mammal species, 17% of all reptile and amphibian species, and 17% of all bird species (National Development Planning Agency, 1993). The great lowland forests in much of Kalimantan and Sumatra are gone for good, and countless species have been driven to extinction in the process. However, there remains much to preserve, protect, and utilise sustainably.

In 1997/98 an economic crisis, raging fires, and political tensions ignited simultaneously across Indonesia. The jewel in the East Asian "economic miracle" of the 1980s and 1990s came crashing to earth during late 1997. The government of President Suharto, borne as a result of one of the most bloody CIA-sponsored coups in history, had a dramatic reversal of fortune, the most significant reversal during the recent history of capitalist hegemony (World Bank, 1998).

President Suharto resigned on May 21, 1998. He had originally come to power in 1965, with assistance from the Central Intelligence Agency, as the Army Chief-of-Staff, overthrowing the first president of independent Indonesia, Achmad Sukarno. In 1966 Suharto assumed the major civilian cabinet positions himself. He became acting president in 1967 and the Supreme Commander of the Army and president in 1968. The Army coup in 1965, under his leadership, initiated a wave of terror based on the slaughter of 600,000 people, the imprisonment of 1.5 million, and mass violations of human rights, especially of those people alleged to be communist. Suharto then proceeded to entice foreign investment by ensuring that labour conditions were harsh and pay rates were minimal, trade unions were decimated, and environmental restrictions were removed. His dictatorship was never absolute, given the complexity of the nation. He was forced to continually juggle the competing demands of the defence forces (ABRI), the economic technocrats insisting on privatisation and deregulation, the economic nationalists and their worries about foreign control of the economy, and religious groups (particularly Islamic ones) who agonised about the collapse of traditional value systems. Through the 1990s, the Suharto regime looked increasingly out of place in Southeast Asia as many of the surrounding countries, notably the Philippines, South Korea, Taiwan, and Thailand, shed authoritarian regimes and moved towards democratic principles, Indonesians are presently in the agonizing and perilous process of trying to put their nation back together.

When Suharto was finally forced out of office by a tidal wave of street protests, raging fires were ablaze throughout the land and the tropical forest heritage of humankind continued to be ravaged by corporate arsonists and profit seekers. Strikes and protests over the price of food and basic necessities have become increasingly common throughout the country. The legitimacy of ABRI, long a powerful political player, is now at an all-time low. With each new discovery of atrocities in East and West Timor, it sinks lower. However, Islamic fundamentalism and ethnic conflict is on the rise.

In this paper I sketch the fundamentals of the finance crisis, the environmental crisis, and the state of tropical rainforests in Indonesia. I argue that, somewhat ironically, the dramatic collapse of the Indonesian economy and the devastating forest fires of the late 1990s may, albeit optimistically, lead to the preservation of one of the earth's most significant heritage sites, the tropical rainforests and biodiversity of Indonesia. The first section provides background information. The subsequent three sections pursue the crucial issues that are identified by their titles: finances, fires, and forests. In the penultimate section I offer an optimistic vision of the necessary struggle ahead and I conclude with observations of future trends and changes.

Background

Historical

Parts of the Indonesian archipelago were inhabited as early as half a million years ago and forms of shifting cultivation would have been practised from very early times. Most of the archipelago was originally forested. In these forests trees grow to more than 60 metres with their branches forming a canopy that decreases the intensity of rain and provides shade, which reduces ground temperatures. This in turn reduces leaching of the soil and helps preserve the soil structure. A gradual shift to sedentary forms of agriculture would have developed in river valleys that had soils fertile enough to support it (Hardjono, 1971, pp. 119-120). Many pre-colonial maritime states of Southeast Asia, founded and maintained by trade, rose and fell according to their ability to control access to the bounty of the forests in their agricultural hinterlands (Wolters, 1967).

During more recent colonial history, from the 17th to the 20th century, the forests and forest people of Indonesia have served Dutch traders and officials, Chinese businessmen, Javanese kings and regents, Japanese war planners, and Indonesian foresters. According to Peluso (1988) "the 19th century is a turning point in the study of forest use, management, and control. It was then that a state-managed agency drew boundaries between forest and agricultural land and established police forces to restrict people's access to trees" (p. 41). Ownership, usufruct rights, and tenure were often location specific and recognised as such, dependent upon power relations between the State, forestry officials, corporate loggers, and forest inhabitants (Food and Agriculture Organization [FAO], 1990a, p. 3).

During the second half of the 20th century the Indonesian forest area as a percentage of the landmass decreased from 74% to 56% (FAO, 1990b, p. 2). The pattern of forest policy in Indonesia was marked by a sudden shift from one policy to another in three identifiable stages. The first shift, occurring in 1966 to 1967, proceeded from the change from harvesting timber mainly from teak plantations in Java (operated by the state-owned company) to harvesting large areas of primary forests by several hundred private logging companies. The second shift occurred between 1979 and 1985 and involved trade policy. It was a move from exporting raw logs to exporting processed wood. The third shift, occurring from 1989 to the present, shows a change from relying on natural forest areas for timber production and selective cutting, to relying more on timber plantations with fast growing species and clear cutting. Responsibility for managing and regenerating natural forests was largely relinquished to concessionaires, with the Ministry of Forestry playing a monitoring and supervisory role. (FAO, 1990a, p. 2; Hafild, 1994, p. 15). During this time logging and related industries contributed an average of 20% of Indonesia's total foreign exchange revenues and generated personal and corporate wealth for those involved in forest industries.

It was not until the New Order government of Suharto, at the instigation of the World Bank, that there occurred the systematic and rapid exploitation of the forests to finance the increasing foreign debt and to tackle the 85% inflation rate. The ideology underpinning the New Order emphasised political stability and economic development in contrast to political uncertainty and economic stagnation. This included the banning of all communist and leftist organizations, worker organizations (except for "company unions"), and the Indonesian Peasant Front; and the assertion of military control over all political life. In economic terms, macroeconomic stability, foreign investment, and trade were at the forefront (Manning, 1999, p. 43). Economic growth and expansion were defined in very simple and traditional ways. Growth in gross domestic product, growth in foreign investment, and growth in urban physical infrastructure were deemed measures of success. Even the most basic argument, such as suggesting that the economic capital value of rainforests should be deducted from the gross domestic product as they were depleted, was seen as leftist propaganda initiated by opponents of the regime. Therefore, in a most unsubtle fashion, with full concurrence of the World Bank, the tropical rainforests were identified as an expendable resource providing the wherewithal to pay off internal and external debt, promote foreign investment, and expand exports.

Immediately following the solidification of power by the Indonesian generals under the guidance of President Suharto many Japanese and American firms acquired logging concessions, notably in heavily forested Kalimantan (Dauvergne, 1993/94). From 1969 to 1974 foreign earnings from timber rose 2800% and throughout the 1970s the Five-Year Plans continually relied on foreign revenue from unprocessed log exports to finance development. Head (1991) drew a direct connection between debt and deforestation right up to the late 1980s:

> Indonesia's debt can be directly linked to deforestation. The current Indonesian requirement for foreign exchange to service the debt to Japan is some USD 2 billion per year. The value of Indonesian forest product export is approximately the same. . . . On the further premise that forest depletion to the extent now under way in Indonesia has a worldwide negative effect on the environment, the climate of societies in many regions is being sacrificed in the interests of the Japanese banking community. (pp. 104-105)

At the same time, from the 1980s to the very recent past, crony capitalists pocketed massive economic rents, irrespective of monitoring by the Ministry of Forestry (World Bank, 1995c, annex 3)

General

Indonesia is a huge archipelagic country extending 5,120 kilometres from east to west and 1,760 kilometres from north to south. It encompasses

13,667 islands (some sources say as many as 18,000), only 6,000 of which are inhabited. There are five main islands (Sumatra, Java, Kalimantan, Sulawesi, and Irian Jaya), two major archipelagos (Nusa Tenggara and the Maluku Islands), and sixty smaller archipelagos. Two of the islands are shared with other nations; Kalimantan (known in the colonial period as Borneo, the world's third largest island) is shared with Malaysia and Brunei, and Irian Jaya shares the island of New Guinea with Papua New Guinea. Indonesia's total land area is 1,919,317 square kilometres. Included in Indonesia's total territory is another 93,000 square kilometres of inland seas (straits, bays, and other bodies of water). The additional surrounding sea areas bring Indonesia's generally recognised territory (land and sea) to about 5 million square kilometres. The government, however, also claims an exclusive economic zone, which brings the total to about 7.9 million square kilometres.

Sumatra, Java (and Madura), Kalimantan (formerly Borneo), and Sulawesi (formerly Celebes) make up the Greater Sunda Islands. These islands, except for Sulawesi, lie on the Sunda Shelf, an extension of the Malay Peninsula. Far to the east is Irian Jaya (formerly Irian Barat or West New Guinea), which takes up the western half of the world's second largest island, New Guinea, on the Sahul Shelf. Sea depths in the Sunda and Sahul shelves average 200 metres or less. Between these two shelves lie Sulawesi, Nusa Tenggara (also known as the Lesser Sunda Islands), and the Maluku Islands (or the Moluccas), which form a second island group where the surrounding seas in some places reach 4,500 metres in depth. Various writers use the term Outer Islands inconsistently but it is usually taken to mean those islands other than Java and Madura.

The estimated population as of July 1999 was 207 million, growing at a rate of 1.6% annually. Recently life expectancy has dramatically improved and stands at 65.4 years. The main variable of Indonesia's climate is not temperature or air pressure but rainfall. The almost uniformly warm waters that make up 81% of Indonesia's area ensure that temperatures on land remain fairly constant. Split by the equator, the archipelago is almost entirely tropical in climate with the coastal plains averaging 28° Celsius, the inland and mountain areas averaging 26° Celsius, and the higher mountain regions, 23° Celsius.

The traditional markets of earlier times are giving way in the major towns to proliferating shopping malls with a vast array of merchandise. While the poor have become better off, wealth is now displayed ostentatiously at the very top income levels. Private capital has been accumulated as never before and vast private commercial conglomerates have emerged, many owned by Sino-Indonesians, all possessing high-level political connections. The international connections of these enterprises have undoubtedly tipped the balance of power between the State apparatus and these private actors in favour of the latter. Whereas they had been crucially dependent on State largesse and patronage for commercial success in the 1970s, by the late 1980s the private sector had achieved very considerable autonomy. The most remarkable transformation has occurred in the timber industry where concessions have conferred immense fortunes on a favoured few (Hill, 1994, pp. xxv-xxvi). Since the crisis of 1997 the State is re-asserting its authority but instability and unpredictability remain dominant.

The timber industry was given added importance with the rapid downturn in textile exports, a major economic indicator of Indonesia's well being in the past, during the 1990s. Many small- and medium-scale textile plants in Majalaya of West Java and Pekalongan of Central Java have had to shut down in the last couple of years. Increasing raw material prices for cotton, rayon, and polyester is blamed, and pessimists describe this as the beginning of the end for raw textiles. The industry provides a large number of jobs, particularly in the small- and medium-scale firms. Majalaya and Pekalongan have been the centre for small-scale textile industries for more than 20 years. In 1995 Pekalongan had 9,000 firms employing 110,000 workers and Majalaya had 700 companies with a workforce of 12,278 (*Indonesia Business Weekly*, 1995, pp. 4-8).

Finances

Indonesia was a major player when the Asian economic "miracle" stalled, leaving the nation and several of its neighbours looking to the International Monetary Fund for multi-billion-dollar bailouts. By January 1998 the value of the rupiah had plunged over 70%. Food riots, ethnic violence, and protests against the government mounted. International attention to the country's crisis has focused on the web of bad lending practices by banks, over-borrowing by companies, an economic boom driven largely by overpriced real estate, artificially maintained exchange rates, and speculation. But as most of those who had any knowledge of Indonesia whatsoever knew, the underlying truth is that the country has been in trouble for decades. While the country was dazzling investors with 8 to 10% annual growth rates, Suharto's "New Order," as his 32-year reign was called, had been raiding the country's treasure house of natural wealth and cheap human labour. This was accomplished by maintaining a veneer of impressive exports and returns on investment and by liquidating the country's natural capital. In order to keep up appearances, dissent was immediately suppressed (Runyan, 1998).

It quickly became evident that the Indonesian economy had been more severely battered by the crisis than any other in the Asian region, and was in monetary free fall. The rupiah, which was trading at around 2,500 to the US dollar in June 1997, had fallen to around 14,850 to the dollar by June 1998 (Booth, 2000, p. 23). At the end of 2000 the rupiah was hovering at around 8,000 to the dollar, partially assisted by an end of year downturn in the United States' economy.

During the past decade, real annual growth in gross domestic product grew rapidly until 1995 when it reached USD 202 billion. Growth then fell away for the rest of the decade. In 1995 the economy grew by an estimated 8.2%. But between 1995 and 1998 the nation had a negative growth rate of GDP of -13.2%, with USD 94.2 billion the calculation of GDP in 1998 (World Bank, 2000d, p. 13). In 1999, the GDP was measured as USD 141 billion as the exchange rate recovered.[1] Both unemployment and underemployment increased dramatically in the second half of the decade. National product per capita in 2000 has begun to rise, assisted by national and international agencies (World Bank, 2000a). The long-term goal of the government has always been to raise growth to 6% in order to rapidly absorb the increasing labour force (Bird, 1996, p. 3; United States Central Intelligence Agency, 1994; World Bank, 1994, p. x).

Table 1. Comparative GDP per capita (USD)

Year	Indonesia	Malaysia	PNG	Philippines	Solomon Is.
1975	220	890	570	370	320
1980	490	1800	810	690	440
1985	520	1910	720	520	510
1990	570	2400	880	750	730
1993	740	3140	1130	850	740
1999	681	3286	766	980	750

(Source: World Bank, 1995a, Table 1; World Bank, 2000a; World Bank, 2000b)

The macroeconomic situation remains very sensitive because of the nation's large external debt. The debt, which was USD 104.4 billion in 1995, rose to USD 147.4 billion in 1999, or two-and-a-half times what it was at the start of the decade (*Country report. Indonesia,* 1996, p. 3; World Bank, 2000a).

The current account has been pulled back into some semblance of order from the disastrous figures recorded in the mid-1990s, which, as indicated above, was largely due to the depreciating rupiah and weak domestic demand (Bird, 1996, p. 10). Yet, inflation remains very high, reaching 50% and then falling back to 25% in 1998-1999, and gross domestic savings has fallen by one third. The ties to the Japanese economy through this debt are also substantial with 50% of the original debt denominated in Yen, or linked to the Yen, in multiple currency loans (World Bank, 1995b, p. 26). Weaknesses in oil prices, declining textile exports, and growth in wood product output largely due to increased prices, means that the government is caught in the continuing conundrum of needing to increase growth without increasing debt (Booth, 1992).

Table 2. Indonesia's External Debt (millions USD)

	1975	1980	1985	1990	1999
External Debt (total)	11,507	20,994	36,709	66,852	147,435
Long-term	10,372	18,169	30,660	55,717	126,494
Short-term	1,135	2,775	6,049	11,135	20,941
Private sector	2,369	3,142	3,836	10,260	64,007

(Source: World Bank, 1995a, p. 358; World Bank, 2000b)

Given the heavy commitment of the World Bank and other international agencies to keep Indonesia economically afloat, recent reports provide an optimistic spin on the future. The macroeconomic indicators remain stable. On 23 August 2000 the President issued a decree that delegates key functions of the Office of the President to the Vice President, Megawati Sukarnoputri. The newly appointed Coordinating Minister for Economy, Dr. Rizal Ramli (who had been a major public critic of the old regime) launched a 10-point "Economic Recovery Acceleration Plan" on 4 September (World Bank, 2000d, p. 1). Gross domestic product appears back on track with a 4.1% increase over the year to July 2000, compared to the 13% decline in 1998 and no growth in 1999. However, given the massive nominal debt, interest payments took almost 6% of the GDP in 2000. It is also recognised that a "30% output gap will take up to seven years before GDP per capita will return to its pre-crisis level" (World Bank, 2000c, p. 1). It is expected that modest growth of 4-5% will continue in 2001.

According to the World Bank, bank and corporate restructuring has begun to show progress (World Bank, 2000c, pp. 9, 16). Since the start of the crisis no less than 68 out of 237 banks were closed, and another 12 banks nationalised. And while corporate Indonesia is still deeply in debt (72% of which is denominated in foreign currencies), restructuring has started to take off. Yet, it was reported in November 2000, that five of the eight directors of the Central Bank had resigned, following months of political wrangling. The governor Sjahril Sabirin was under house arrest on corruption charges and the legislature wouldn't let President Wahid dismiss him. The resignations of the directors came after a dispute over who should shoulder responsibility for a failed multi-billion dollar bailout of the nation's insolvent commercial banking sector in the late 1990s. Bank Indonesia lent about USD 30 billion to dozens of insolvent banks during the final months of the dictatorship of Suharto in 1997 and the term of his successor, Habibie, in 1998 and 1999. A government auditor has found that much of the money was misused and cannot be repaid.

Although the crisis improved Indonesia's income distribution, because high-income earners were hit harder than low-income earners, the number of Indonesians below the poverty line also increased dramatically, specifying the relativity of the changes. Three-quarters of the nation's poor live in rural areas where the majority of heads of household possess less than a primary school education (World Bank, 2000d, p. 11). The daily realities of life faced by many Indonesians continue to present a wide range of deprivations. These include inadequate shelter, health, nutrition and education; lack of access to safe water; inadequate means of mobility; extreme vulnerability to ill health; economic dislocation; natural disasters; and powerlessness to influence key decisions affecting their lives (World Bank, 2000c, p. 30). This is not to suggest that major gains haven't been made, and to be fair, although it was a political disgrace over most of the past three decades, the Suharto regime, before everything unravelled in 1998, provided for major economic and social gains.

In April 1999 the outgoing parliament passed a law that gives provinces a greater share of the revenues generated from resource wealth produced locally. But devolving revenues and decision-making to provincial and local authorities is no guarantee that corruption will be eliminated or that the funds will be used more efficiently in sectors such as health and education (Booth, 2000, p. 35).

Table 3. SOCIAL INDICATORS

	1990	1999
Population	179.5	206.5
Population growth rate	2.0	1.6
Urban population % of total	30.9	39.4
Adult literacy rate	81.5	88.4
Life expectancy rate	62.5	65.5
Mortality rate of children < 5 year old /thousand	86.4	59.6
Households with piped water %	12.9	18.6
Households with electricity %	48.6	83.7
% of population below poverty line		48.4

(Source: World Bank, 2000c, p. 43)

Fires

Over the past three decades the El Niño Southern Oscillation phenomenon has occurred in 1972, 1976, 1982/83, 1987, 1991, 1994, and 1997/98. The El Niño events of the last decade, 1991, 1994 and 1997/98, were among the strongest ever recorded, setting the stage for a very dry land mass with high fire potential throughout Indonesia. El Niño provided the inter-relationship between an area of abnormally warm water in the Pacific Ocean off the coast of Peru and fires in Indonesia and Southeast Australia, floods in the Horn of Africa, storms in Europe, and abnormally mild winters in North America.

By the end of 1997 people throughout Southeast Asia and in many nations around the world were expressing grave concern at the extent and severity of the fires in forested areas of Sumatra and Kalimantan. These concerns escalated as the fires increased in early 1998 following an abnormally short wet season. The Government of Indonesia (GOI) estimated that 170,000 hectares of forest was burnt. Other more reliable estimates raise this number by a factor of 10 (Byron & Shepherd, 1998). The point at issue is that the phenomenon is hardly new or unexpected. A hot, dry summer across Southeast Asia had been confidently predicted in 1996 based on the knowledge of historical patterns gained over the past 400 years (Brookfield, Potter, & Byron, 1995). The United States National Oceanic and Atmospheric Administration (NOAA) (*Climate Prediction Center ENSO Diagnostic Advisory Update*, 1997) declared in October 1997 that all their forecasting models were independently predicting with statistical confidence an El Niño of record strength. Yet very few precautions were taken by the GOI before or during the drought.

When the fires broke out once again in July-September 1999 in parts of Sumatra and Kalimantan, they raised fears that, given another prolonged dry season, a repeat of the 1997-98 disaster would undoubtedly occur. Given preliminary evidence that most of the fires were set intentionally by timber and agribusiness firms intent on clearing land as cheaply as possible, and the government's weak response, vast areas of forested land would be lost forever and millions of indigenous people would face terrible hardships.

As it turns out, detailed surveys carried out in the 1980s by the German Agency for Technical Cooperation pointed out that: "it was not the drought which caused this huge fire, it was the changed condition of the forest . . . it is obvious that logging shortly before the fire had the most influence on the degree of damage" (Schindler, Thomas, & Panzer, 1989, p. 113). Logging transformed the fire-resistant primary rainforest into a degraded and fire-prone ecosystem. Further, a satellite mapping effort, carried out with support from the World Bank during 1999, concluded that the average annual deforestation rate since 1986 has been about 1.5 million hectares, much of it "caused by forest fires, often ignited by people clearing land cheaply for plantations" (Barber & Schweithelm, 2000, p. 2).

The conclusion is that while El Niño made it more likely that both the quantity and severity of the fires would increase, those factors, which created the "disaster," were human constructed (Byron & Shepherd, 1998). They include:

- the massive amount of logging that pre-disposes the forests to burn because of the debris left behind, openings in the canopy, and reduced forest density;

- the GOI policy of transmigration, in which people are sent from the populated islands to forested areas such as Sumatra and Kalimantan. These migrants set fires carelessly to clear additional land when their GOI-allotted land area proves too small or too infertile to support the household;

- the GOI's plan for the establishment of 700,000 hectares per year of additional oil palm plantations and for very substantial new areas of other tree crops-all the land of which would be cleared by fire; and
- the conflicts created by the imposition of these newer kinds of land use on the original population and its own right to forest, which is reasserted through the use of fire clearance of areas opened up by logging roads.

In other words, the fires were largely the function of human recklessness and careless, destructive behaviour on the part of people who were aided, supported, and abetted by the GOI. Corporate arson, pursued by the many cronies of the regime of President Suharto was predominant. This includes both the effects of logging and the clearance of land by fire for oil palm plantations. While swidden burning and fires set for land clearance by transmigrants cannot be totally ignored, it is minuscule compared to the damage done by the corporate cronies and the policies of the GOI.[2]

Forests

Data on Indonesia's forests is incomplete but recent Ministry of Forestry estimates indicate that the nation's forests cover 140.4 million hectares. Of the total, 30.7 million hectares are protected forests, 18.8 million are nature reserves or national parks, 64.3 million hectares are production forests, and 26.6 million hectares are "convertible forests" designated for non-forest uses such as agriculture, settlement, and transmigration. Further study has shown that only about 53 million hectares of "frontier forest," relatively undisturbed areas of forest large enough to maintain all of their biodiversity, remain in Indonesia (Bryant, Neilsen, & Tangley, 1997, p. 21). Resource extraction and development pressures have dominated, leading to a deforestation rate of more than 1 million hectares per year (recent World Bank calculations put it at 1.5 million hectares annually). In 1993 forest products accounted for 26.9% of non-oil export earnings or 7% of Indonesia's gross domestic product (Government of Indonesia, 1991, p. 9; Ministry of Environment, 1997, p. 23).

For two decades up to 1989 the concessions were allocated without a proper forest inventory, with poor management guidelines, and with poor monitoring capacity on the part of the government. The logging companies were mandated to have a proper inventory every year before they applied for annual allowable cut. But only 2.2% of the targeted forest inventory was ever implemented. The log export ban was removed in 1992. However, it was replaced by a very high export tax so that, practically speaking, the ban is still imposed. The government also gradually increased public rent collection by increasing the reforestation fee from USD 4 per cubic metre in 1987, to USD 10 in 1989, and to USD 16 in 1993.

Because the timber plantation program was started very late relative to the first logging operations, it will take at least another 5 to 15 years for the companies to harvest trees from their own plantations. Furthermore, the price of tropical woods will remain high, at least in the short run, providing further incentive to cut natural forests regardless of what happens to the plantation process.

Following the Basic Agrarian Law[3] of 1960 and the Basic Forestry Law of 1967, the government divided the territorial rights to forests among timber concessionaires, plantations, and transmigration projects at the expense of the customary users. The government consequently accelerated a process of forestry development that began with President Suharto's New Order government in 1966. Forest logging concessions (HPH) were awarded to generals who had supported his assumption of power and to other well-connected entrepreneurs. Until 1967, timbering for exports had been minimal (Hill, 1994, p. 76). Foreign Investment law No. 1/1967, one of the first acts-and arguably the most significant-of the Suharto regime, irreversibly changed the balance between the relative volumes and values of timber and non-timber forest products (Peluso, 1992, p. 59). Clause five of the Forestry Act of 1967 states: "The commercial leasing of forests is based on maintaining and expanding the production of timber, as a part of the national development and goals of the people." The Act was designed simply to entice foreign investment as a means of raising large amounts of capital to overcome the enormous debts being incurred to fund national development schemes (Robison, 1990, p. 12; Smith, 1992, p. 18). It brought a flood of American and Japanese investment, fuelling what was described as a "forest development Olympics" in Indonesian Borneo (WALHI, 1992, p. 17). By the mid-1970s foreign actors had mechanised Indonesian logging, speeding both production and environmental degradation as they mined wood to be shipped back to their countries for processing.

As well, from the beginning to the present, inadequate intellectual and policing resources were allocated to the task of regulating the forest industry. It is in the area of log control and management where most opportunity for malfeasance arose. The officers most directly responsible for checking log measurement and revenue calculation are relatively junior, poorly paid (with inadequate travel and other allowances), and (often) ill-equipped in terms of training and means of transportation to perform their function. There is nothing unusual about this as most forestry institutions in tropical states are chronically short of skilled labour, training, information, funding, and administrative authority (Sharma, 1992).

In the late 1960s manual logging became so lucrative that people not only shifted their part-time collection activities from non-tropical forest products but also often deserted their entire repertoires of subsistence and economic activities to join in the timber cutting and trade stimulated by the boom. Urban businessmen diversified their portfolios by investing in land and forest capital thereby earning huge profits in the infant logging industry (FAO, 1989, p. 5). Then in late 1971 the government implemented a blanket restriction on manual logging that was strictly enforced largely due to the refusal by Japanese buyers to purchase hand-cut logs. Thousands of manual woodcutters lost a critical and prolific source of cash, sending them back to agricultural and other collection activities.

The duration of logging concessions dispensed to private interests was only 20 years. This was far too short to encourage any attitude other than short-term exploitation given that any reasonable regeneration and re-harvest cycle is 35 years. Replanting was rarely carried out and never policed. Logging companies had to deposit a reforestation fee, which was refundable, according to timber harvested; but because the costs of reforestation were higher than the reforestation fee, it was cheaper for logging companies to pay the fee and forego the refund. Where cleared land is abandoned *alang-alang* grass (*Imperata cyclindrica*) becomes established very rapidly and renders the land virtually useless for any purpose. There are an estimated 16 to 20 million hectares of this grass in Kalimantan and Sumatra, and the area is increasing at a rate of 100,000 to 150,000 hectares per year (Hill, 1994, p. 201).

Irony and Optimism

Environmental nongovernmental organizations (ENGOs) in Indonesia have played an unprecedented role in influencing public opinion and policy since the 1970s (Warren & Elston, 1993, p. 12). The Indonesian Forum For the Environment (WALHI), the Green Indonesia Foundation (YIH), and the Indonesian Society for Forest Protection (SKEPHI) have for many years been leaders in this effort and have developed a strong and dedicated following, particularly among university students (World Bank, 1990, p. 23). They have suffered much at the hands of the police and military for their efforts. Up until the present they have been unable to overcome the authoritarian power of the Suharto regime and the related cronies of the Suharto family dynasty.

The catastrophic fires have generated a momentum for reform from both Indonesian national as well as international ENGOs. The fires of the late

1990s marked the first time that the government was forced to officially acknowledge the link between the fires, with their disastrous effects, and the actions of private firms in the forestry and plantation sector. This link was then widely reported and condemned within the country. The breakdown of the cognitive dissonance represented by Indonesian Ministry of Forestry officials led to this forced admission, which would not have been possible without the sophisticated satellite mapping that took place via support from the World Bank (Barber & Schweithelm, 2000, pp. 38-40). International media crews, drawing on satellite imagery along with other sources of information provided by the ENGOs, were able to argue that the damage was emanating from deliberate commercial clearing activities, for oil palm in particular. It was clear that the fires were not wildfires resulting from the "careless behaviour of ignorant small farmers," but rather, deliberate land-clearing activities, often under government-sponsored or protected schemes operated by those who had regularly ignored prohibitions and pleas not to use fire (Byron & Shepherd, 1998). Satellite technology has shown up the prevarication and deceit of the government and corporate arsonists who are no longer able to lay the blame, as they have in the past, on the swidden agriculturalists. This is a major step forward in making the problem transparent. A major environmental disaster has provided the momentum to move in a progressive direction to prevent it from happening again.

Yet another irony is that it appears, for how long no one can be sure, that the World Bank has taken up the ENGO cause in a dedicated fashion via the *bête noire* of most environmentalists, a "structural adjustment program" (SAP).[4] The World Bank has been criticised by most international ENGOs for being a force for regressive change, and the SAPs have become noted for generating political upheaval, regressive environmental results, and increasing poverty amongst the sub-dominant groups in the less-developed world (Rich, 1994). However in this specific instance, it may just be possible that the World Bank will be an effective proponent of forest policy reform using the power of the purse.

The resident World Bank forestry specialist Jim Douglas, who had been in Jakarta from 1992 to 1994 predicted that a continuation of nonsustainable forest management practices would drive the sector's contributions to output growth and export revenue into decline early in the new millennium. He recommended, in a confidential report, an extensive program of policy reforms, including a shift from log export taxes to increased royalties, an end to the plywood marketing board monopoly (APKINDO), longer and transferable concessions, concession performance bonds, and a third-party monitoring and enforcement mechanism. His review also recommended policy changes "to facilitate the titling of forest dwelling and adjacent communities in forest land, and also to facilitate the award of concession or stewardship contracts over forest areas, to such groups." He also politely suggested, "resistance from vested interests can be expected to be strong" (World Bank 1995c, pp. i-ii; World Bank 1995d, p. 21). Douglas was transferred shortly after these reports were prepared, the recommendations were not followed through, and the World Bank, as an organisation, remained absent and invisible with respect to forestry policy until after the 1997 crisis. Vested interests had, indeed, proven more influential than the resident officer for forestry in the World Bank.

However, opportunistic or not, the World Bank dusted off the reform project of the ex-resident officer in 1997 and confronted the GOI with "structural adjustment assistance subject to comprehensive reforms throughout the forestry sector." In return for the Bank's pledge of USD 4.5 billion financial assistance package, immediate and consequential forestry reforms were required. Whatever the reasoning, the symbolic significance of the forest sector was seen as the perfect example of poor economic governance and cronyism and used to push the regime forward (Seymour, 2000, p. 91; Schwartz & Paris, 1999). Given the depth of the economic crisis and the increasingly disruptive political crisis, the Indonesian State, a paragon of nationalism, had little room to manoeuvre. The GOI agreed to a series of deadlines and promised a sweeping program of reform in the sector. Although the deadlines, early on, were met more in the breach than otherwise, and the Indonesian Wood Panel Association (APKINDO) remained as powerful as ever through early 1998, the World Bank held to its requirements and suspended release of the second tranche of the assistance program.

Today, the situation has become more complicated. Implementation of the reforms stalled during 1999, largely due to the bureaucratic recalcitrance of the Ministry of Forestry and Estate Crops (Seymour, 2000, p. 98). But more has been achieved over the past three years than had been the case over the previous decade. The GOI has replaced export taxes on forest products with resource royalties and has completely reformed concession management procedures. APKINDO has been abolished as one of the most powerful cartels in Indonesia. A major crony of the Suharto family, chairman of APKINDO and APHI (Indonesian Loggers' Association), was Mohammed 'Bob' Hasan. He personally controlled 2 million hectares of forest concessions (International Organization for Ecological Justice in Indonesia, 1991, p. 3; Runyan, 1998) but he has most recently been humiliated by criminal charges and has completely fallen out of favour with the present regime, to the extent that he may end up serving a lengthy term in prison. The World Bank has gotten back on track; monitoring the progress of reform and structural adjustment assistance is no longer the prerogative of the economic rationalists in the Bank. Decentralisation and "community forestry" are back on the agenda for both the GOI and the World Bank. Fees collected by the GOI from concessionaires per cubic metre of timber extracted have tripled. ENGOs are able to operate with less fear of reprisal.

Conclusion

The forestry sector of Indonesia is now situated at a major point of transition. Ahead lies a situation where limits to easily accessible natural resources, once foreseen, are now an evident reality. There is still continuing evidence of concession damage, overexploitation, illegal logging, underreporting of cut, failure to reforest, and dissatisfaction among forest communities. The general policy and incentive mix of the Indonesian Government, and its field implementation, has not yet avoided the prevalence of wasteful techniques and gross inefficiencies in exploiting a once plentiful, still undervalued, and increasingly scarce matrix of tropical forest resources.

However, as has been suggested herein, a combination of destructive fires in the rainforest and the financial collapse may have signalled both the nadir of a terrible waste of ecological resources and the opportunity to begin the process of tropical rainforest recovery and maintenance in a region most important for all of humanity. The most blatant criminal degradation of the Indonesian rainforests by individuals such as 'Bob' Hasan has been brought to an end. World attention has been focused on the problem of the devastating fires and the blame for the fires, for the first time without equivocation, has been placed on the corporate arsonists. The World Bank has moved in the direction of understanding the economic and ecological importance of the natural environment and the financial crisis has provided the World Bank with the power to use aid and assistance as a "carrot and stick" in return for progress on forestry policy by the government.

Since late 1997 a number of Indonesian ENGOs have been working together to develop an organization called Forest Watch Indonesia (FWI), an independent, decentralised early-warning monitoring network for tracking logging, plantation development, mining, and other large-scale development activities within and around Indonesia's major remaining blocks of natural forest. They are in the process of creating a sophisticated series of databases including:

- baseline data on the status of Indonesia's forests (type, coverage, condition, infrastructure such as roads, utilisation, human settlements, population, and traditional claim areas),

- existing and planned development projects (logging concessions, industrial timber plantation concessions, estate crop plantations, mining concessions, infra-structure projects, and transmigration project areas),

· conflicts over forestlands and resources (types of conflicts, parties involved, description, location, time period, etc.),

· data and analysis covering the economic, political, and legal aspects of forest policy and related conflicts, and

· documentation of forestry management success stories, including both well-managed logging concessions and local community forest management systems. (Barber & Schweithelm, 2000, p. 46)

The fall of Suharto in mid-1998 and the advent of the *reformasi* movement have opened a window of opportunity. This is the ground for optimism. Whether or not the window will stay open, and if it does, whether or not the people of Indonesia will take advantage of an historic opportunity, remains to be seen.

The World Bank has initiated a series of steps for reformation of the forestry sector that will assist the local ENGOs in particular, but also will provide increased transparency for other international organisations. One of the tragedies of the crisis was its effect on the poor and vulnerable so the Bank has had to walk a fault line in tying assistance to reform, since the lack of assistance will impact the poor of Indonesia as well as the capitalist cronies.

The irony of a conjuncture of political, economic, and environmental crises in Indonesia unleashes an opportunity to rectify the devastation of the tropical rainforests and promote real sustainable use for the poor and vulnerable. There is now something on which to build for the civil society in Indonesia and a positive lesson for both the World Bank and other international organisations to promote economic equity and environmental sustainability. While seeking a partnership between ENGOs and the World Bank in Indonesia is Panglossian in the extreme, optimism exists for the possibility of change.

Notes

1. The collapse of the GDP figures was both a function of a collapse of the productive economy, but also was due to the significant depreciation of the rupiah against the USD.

2. Shifting cultivation is practiced by approximately 6 million people over 9 to 11 million hectares, or 9% of the forest area. Kalimantan and Sumatra

account for three-fourths, and Irian Jaya for about 11% (FAO, 1990a, p. 12).

3. The Basic Agrarian Law, enacted in 1960, was a comprehensive legal effort to modernise Indonesian landownership. The law recognised previous ownership rights under both *adat* and Western systems, but provided a new certification process under which land was to be surveyed, mapped, and registered. All unclaimed land reverted to government ownership. Land certification, however, was not compulsory and registration was still far from complete by the end of the 1980s. The law also set limits on the size of landownership depending on the population density of the region and the type of land. In areas with over 401 people per square kilometre, rice fields were limited to a maximum of five hectares and a minimum of two hectares. Absentee ownership was forbidden.

4. SAPs promote economy-wide policy change and institutional reform, rather than to promote specific projects. The objectives of SAPs are to: provide balance of payments support, promote economic growth and poverty alleviation by stabilising the macroeconomic environment, increase efficiency in the use of resources, and improve the scope for private sector development (World Bank, 1992). Normally, this is accomplished by insisting, among other things, that the government in question cut subsidies to the poor, increase privatisation and corporatisation, and free up international trade.

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