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Weak states and the environment in Indonesia and the Solomon Islands

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Abstract

This article compares the control of the ‘strong’ Indonesian state and the ‘weak’ Solomon Islands state over commercial timber companies, focusing in particular on the capacity to enforce environmental rules for natural forest harvests. While remaining sensitive to the differences between the two countries, it shows that in both cases a key reason for commercial forest mismanagement is weak state control over the environmental practices of timber companies. As a result, in both countries destructive loggers have pushed production well over sustainable levels. At these rates, commercial primary forests will disappear in the Solomon Islands in about a decade; and in Indonesia in about three decades. This challenges the conventional view of Indonesia as an immutably strong state. It also suggests that discussions of state capacity must remain sensitive to differences across sectors and time, especially since some issues, such as the environmental management of natural resources, appear to circumvent the generalizations of weak and strong states, making most developing states appear weak.

Weak states and the environment in Indonesia and the Solomon Islands

Most scholars of Indonesia see a strong, or at least a medium-strong state, especially in terms of policy formulation and control over nonstate organizations.[1] Almost all analysts portray the Solomon Islands as weak.[2] This article reflects on why Indonesia, a seemingly strong state, and the Solomon Islands, an undeniably weak administrative state, have such similar patterns of environmental mismanagement of commercial old-growth forests. Log production is now about two times higher than sustainable levels in Indonesia; and over three times higher in the Solomon Islands. In both countries, the governments have revoked or diluted policies that threaten corporate profits. Loggers largely ignore environmental rules and silvicultural practices, and make windfall legal and illegal profits. Commercial forests in Indonesia will certainly last longer; but this is largely a result of huge stocks, rather than better management. A key reason for similar patterns of environmental mismanagement in Indonesia and the Solomon Islands is the incapacity of the state to control timber companies. In Indonesia, state control is undermined by elite attitudes, poor policies, insufficient institutional resources, and most importantly, pervasive patron-client links among state officials and timber operators. In the Solomon Islands, state capacity is undercut by weak state legal powers over forests, attitudes of decision makers, cultural pressures on state members, political instability, bad policies, inadequate bureaucratic resources, and to a lesser extent, ties among state officials and corporate executives. Yet, although the underlying reasons for low state capacity differ somewhat, the result is the same in both countries: timber companies operate with little, if any, state controls on environmental practices. This challenges the view of the Indonesian state as immutably strong, and suggests that scholars should use the labels 'weak' and 'strong' with great care, recognizing that state capacity fluctuates across time and sectors.

It may strike some as odd to compare Indonesia—one of the world's largest economies, with a land area of about 190 million hectares, a population of 200 million, and an authoritarian government—with the Solomon Islands—one the world's smallest economies, with a land area of around 2.8 million hectares, a population of about 375,000, and a democratic government. These countries also have distinct cultural and historical traditions. In addition, major differences exist between the timber sectors. Indonesia has around 100 million hectares of forest; the Solomon Islands has only 2.4 million hectares. The Indonesian state owns the primary forests and has the legal and political power to develop and implement national forest rules; in the Solomon Islands, landowners control most commercial forests and the state has only limited legal powers to develop national guidelines. Moreover, domestic firms dominate Indonesia's commercial timber industry, while multinational firms, mostly from Malaysia, dominate logging in the Solomon Islands. Despite all of these differences, however, important insights are gained by comparing two states with distinct foundations and levels of state capacity, yet such strikingly similar environmental patterns. In particular, it suggests that, even though specific political, demographic, cultural, historical, geographic, and economic factors lead to different underlying reasons for low state capacity, because environmental management of commercial timber is generally a low priority among development-oriented state officials, and because it generally provokes strong resistance from social forces that underpin the state, most states in the South, regardless of overall strength, will be weak environmental managers.

This paper is divided into eight parts. The first section defines state, society, and capacity. The second and third sections outline the key features of the Indonesian and the Solomon Islands states, noting the inherent strengths of Indonesia and the integral weakness of the Solomon Islands. The fourth and fifth sections outline some key environmental and forest policies and legal powers in Indonesia and the Solomon Islands. The sixth and seventh sections assess the extent of state control over the environmental effects of commercial loggers. The final section reflects on the broader implications of this study for understanding state control over corporate environmental practices. Because the empirical evidence in this article relates to tropical forests, found almost exclusively in the South, generalizations are limited to countries in the South (developing world). Future researchers, however, may well find these ideas useful for analyzing environmental management in the North.

State-society relations and state capacity

In the tradition of Weber, a state is an organization that includes an executive, legislature, bureaucracy, courts, police, military, and in some cases schools and public corporations. A state is not monolithic, although some are more cohesive than others. A society is the arena in which state and nonstate organizations compete over the official and unofficial rules of the game. States aim to control societies; nonstate organizations aim to restructure states; and both states and nonstate organizations aim to control the economy (market). Inevitably, to varying degrees, state agencies and nonstate organizations shape the interaction and structure of each other. By definition, a state has a legitimate monopoly over the use of violence, and therefore has coercive tools to get individuals and groups within society to obey and conform. To preserve legitimacy and stability, a state also seeks to raise revenue, minimize internal and external threats, maintain internal cohesion and coordination, and mediate and deflect societal pressures and demands. State output is a result of contests and compromises across agencies and levels of the state, and with relevant nonstate organizations in society.[3]

State capacity is the ability of the state to maintain social control, make policies, impose rules, provide basic services, and manage the national economy (including natural resources). A weak administrative state refers to a state that has particular problems providing essential services, such as education, health care, protection from random violence, and internal transportation and communication. Societal forces often undermine state capacity; but they can also enhance state technical ability and control (such as advice or support from business organizations). Strong state capacity requires coordinated actions among state agencies, technical competence, and a high-level of state autonomy from societal pressures. It also involves a high level of legitimacy; in the long-term simple coercion is insufficient. For logistical reasons, state capacity tends to decrease in areas far from the national capital (especially in unitary states).

State capacity is not static. The ability of states to make and enforce rules, maintain order, and manage economic resources varies depending on the level of societal opposition to state initiatives, the extent that nonstate organizations capture or support agencies of the state, and the degree to which different components of the state undermine national policies. The content of state goals also has a critical impact on state capacity. Not all policies are equal. Some generate strong commitment from state leaders, technical advisers, and implementors, perhaps for ideological reasons, or perhaps to maintain stability or legitimacy. Other policies and official goals, however, function largely as a camouflage, perhaps to appease international and domestic critics, perhaps because implementation could undermine legitimacy and stability, or perhaps because few leaders or implementors really believe in these goals. For these reasons, state capacity varies across sectors and time and is best viewed on a continuum.

As the level of determination (comprising the attitudes and commitment of state leaders and officials) weakens and as societal resistance intensifies, state capacity to make and implement policies declines. As the level of state determination strengthens, and as societal resistance weakens (or when societal forces support state goals) state capacity to implement official policies rises. States like Indonesia will undoubtedly overwhelm societal forces on many issues, and are strong in these cases; but for some issues, especially ones that involve low levels of state determination and strong resistance from social groups that underpin the state itself, these states may well be unable to enforce official rules. On the other hand, states like the Solomon Islands clearly have great difficulty providing basic services and managing economic resources. Yet even in the Solomon Islands the state is strong in a few areas, such as maintaining adherence to criminal laws. Many states cluster along one end of the continuum, although few, if any, states display no examples of strength or weakness.

Environmental management is particularly prone to fall on the low end of the continuum. This occurs because environmental concerns tend to provoke low levels of state determination and high levels of societal resistance (which often translates into societal forces capturing state agencies). Some states are simply overwhelmed by corporate and economic pressures, contributing to ineffective policies, inadequate institutional resources, and diluted implementation. Unclear or weak state legal authority over particular resources can further undermine state capacity. In other cases, states have more control over policy formulation; but enforcement is nonexistent. This does not presume that strong state capacity is *necessary* for effective environmental management—only that most states tend to be weak

environmental managers. Communities may well be far stronger and more effective, although so far this has not occurred in the Solomon Islands.

The particular features of each country, state, economy, and society determine the extent of state control over nonstate organizations and the extent that societal forces shape the state. These include geographic and demographic characteristics, political and legal systems, the national and local economies, the size and power of the coercive wing of the state (armed forces and police), the technical capacity of the bureaucracy, the culture, the legitimacy and cohesiveness of the state itself, the structure, size, and unity of nonstate organizations, and the relative position of the state in the international system. The mix of these factors has contributed to a generally strong state in Indonesia and a generally weak one in the Solomon Islands.

State capacity in new order Indonesia

Indonesia contains more than 300 ethnic groups and over 16,000 islands that stretch across about 5000 kilometers. Communication and transportation problems increase the difficulty of enforcing state rules and maintaining national social norms, especially compared to countries like Singapore. Nevertheless, the New Order government has been remarkably adept at maintaining control and stability. It has also been quite successful in promoting macroeconomic growth. Since 1965 gross domestic product has increased on average by over 5 percent per year. Perhaps even more impressive, the government has improved health standards and lengthened life expectancy. In 1971, 132 of every 1000 children died before turning one; by 1992, this dropped to 65. From 1980 to 1990, life expectancy increased from 50 to 60 years.[4]

Since taking over from Sukarno in the mid-1960s, President Suharto (a former general) has gradually centralized and consolidated his control. Partly justified by the need for national integration and stability, the New Order government demolished the communist party, eliminated threats from factions within the military, filled the bureaucracy with loyal supporters, created a powerful and completely loyal government party (Golkar), sponsored corporatist business groups, maintained Indonesia's independence in the international state system, imposed the ideology of P*ancasila* (five principles of nationalism, belief in one god, democracy, humanity, and social justice) as the guide for all social organization, and put tight controls on opposition political parties, radical religious movements, unions, student groups, the media, interest groups, and nongovernmental organizations (NGOs). As president, Suharto's control is further enhanced by his constitutional power to appoint regional governors and cabinet members and proclaim laws. Meanwhile, the power of regional governments is limited by the central government's control over revenues.[5]

The Indonesian Armed Forces (*Angkatan Bersenjata Republik Indonesia*, ABRI) underpins the New Order government. As Clark Neher notes, "In no other Southeast Asian nation, with the possible exception of Burma, has the military so pervasively intervened in politics."[6] ABRI includes the army, navy, air force, and police, although the army dominates. It is the key coercive tool of the state, allowing the government to suppress any potential threats, such as the 1996-97 riots and protests that surrounded the ouster of Megawati Sukarnoputri as chair of the opposition *Partai Demokrasi Indonesia* (Democratic Party). ABRI controls the national intelligence agency *Badan Intelijian Negara (*responsible for monitoring political dissent) and the Body for Coordinating National Stability (responsible for implementing martial law). It has both a military and socio-political role ("dual function" or *dwi fungsi*), allowing military officers to justify close supervision of nonmilitary activities. It has links to the two main opposition parties, the *Partai Persatuan Pembangunan* and the *Partai Demokrasi Indonesia*, and it has 75 seats reserved in parliament (reduced from 100 in 1995) out of a total of 500 seats. It also has close ties to the ruling Golkar party. In addition, officers are appointed to positions in the civil service, state companies, and regional governments. Through its ten territorial commands, it monitors political activities in the outer islands; and through National Defense Institute courses it influences journalists and bureaucrats.[7]

The technical and financial resilience and expertise of the bureaucracy has allowed this wing of the state to dominate policy formulation. Little has changed since Karl Jackson noted in the late 1970s that "national decisions are limited almost entirely to the employees of the state, particularly the officer corps and the highest levels of the bureaucracy, including especially the highly trained

specialists known as the technocrats."[8] Lucrative and vast oil reserves have also provided critical funds for bureaucratic initiatives and helped insulate the state from pressure from organized business groups.

The government carefully restricts NGO activities. A permit is needed to organize a gathering of more than five people. The 1985 Law on Social Organizations (*Undang-undang Organisasi Kemasyarakatan*, Ormas) requires NGOs to accept *Pancasila* as their guiding principle, an obligation that particularly threatens Muslim organizations. It also allows the government to guide and regulate NGO activities and disband any organization that violates the principles of *Pancasila*.[9] Besides controlling NGOs, the government also censors the media. In 1994, for example, the government closed three magazines deemed too critical.

Particular cultural tendencies reinforce the control and preferences of state elites, including a popular acceptance of consensual decision-making among senior officials, deference to age and seniority, and respect for self-control. Elite attitudes also have important implications for state capacity to protect the environment. Western-educated bureaucrats, especially the economic technocrats, have stressed economic development, often at all costs. These attitudes have shaped policy content, including the five-year plans (Repelita). With few technocrats committed to policies like conservation, reforestation and environmental protection, environmental management is generally a low priority in the bureaucratic hierarchy. As well, bureaucrats tend to dismiss NGOs that press for environmental reforms.[10]

Suharto will likely face few serious obstacles if he decides to seek a seventh five-year term in early 1998. But Indonesia is not a one-man state. Suharto must maintain the support and respect of senior military officers, bureaucrats, and politicians. He has done this in part by distributing lucrative patronage to reward followers (clients) and appease opponents. His family, especially his six children, are now extraordinarily rich.[11] Military, political, and bureaucratic leaders at all levels of the state have also developed patron-client networks. These networks involve vertical, asymmetrical, reciprocal, and often material-based exchanges, where state officials provide contracts, licenses, loans, or access to government services in exchange for gifts, money, support, or security. Patron-client links have been especially important for ethnic Chinese. While Javanese dominate the military, bureaucracy, and polity, Indonesian Chinese—who only comprise about three percent of the population— may account for "as much as 70 percent of all private economic activity."[12] A nonchinese state member often performs the role of a patron (Ali) while an ethnic Chinese business leader acts as a client (Baba), although some rich Chinese also function as patrons. Ethnic Chinese clients of Suharto include the richest businessmen in the country, such as Bob Hasan, Prajogo Pangestu, and Liem Sioe Liong.

Patron-client links are the main avenue that nonstate organizations, especially corporate executives, interact and influence the state. Most studies of the 'patrimonial' Indonesian state presume that the particularistic, unsystematic, unorganized nature of these links translates into little coherent impact on state strength.[13] Yet the cumulative effects can, at least in some cases, have significant implications, especially for state capacity to enforce rules. When business clients support state initiatives these ties reinforce state goals. But when official state policies threaten corporate profits these ties often distort policies and undermine enforcement. Top state patrons support and protect business clients who break state rules. In addition, middle and lower-level state officials ignore regulations, or sometimes facilitate the illegal activities of clients and patrons. As a result, although Indonesia has many characteristics of a strong state, in the case of commercial timber management, the cumulative effect of these links has debilitated state capacity.

State capacity in the Solomon Islands since independence

Like Indonesia, the Solomon Islands is composed of numerous islands. Indonesia has, however, greater ethnic diversity, more distance between the islands, and over five hundred times the population. Also unlike Indonesia, the Westminster-style parliamentary democracy in the Solomon Islands has not allowed any political figure to dominate, although Prime Minister Solomon Mamaloni has ruled for much of the post-1978 independence period (1981-84, 1989-93, 1994-present). NGOs, the media, and nonstate social organizations also have far greater freedom in the Solomon Islands.[14] In addition, the Solomon Islands does not have a conventional military; instead, the Police Field Force is responsible for managing internal violence.

Compared to Indonesia, the Solomon Islands is a far weaker administrative state. The state has trouble providing basic services, including adequate roads, medical facilities, and public schools. It has even more problems handling macroeconomic plans, monitoring multinational investors, and collecting taxes. State control is weakened by the large subsistence and semi-subsistence economies, which support about 85 percent of the population. Although most people now rely more on the state, especially for hospitals, medical clinics, and schools, the majority still obtain basic needs, including food and shelter, without state support. Bureaucratic agencies without adequate funds, computers, or trained personnel also undermine state administrative capacity. Many bureaucrats appear to have little to do. Political processes and norms further weaken the state. Compared to other Westminster parliamentary systems, political parties are fluid and unstable, contributing to constant political deals and jockeying. As Jeffrey Steeves aptly notes: "In a political arena where instability and strife are endemic, medium-and long-term policy and program planning become early victims to calculations of political advantage."[15] The relatively weak position of the Solomon Islands in the global state system also undermines state capacity. With a small population, no military, and a peripheral economy, the Solomon Islands is vulnerable to pressure from outside forces. This does not mean, however, that political leaders will always bow to external pressure, as is clear by the recent rejection of aid money tied to improving forest management. But it does mean that the Solomon Islands is far more vulnerable to external pressure than, for example, Indonesia.

State administrative capacity is further undercut by strong cultural pressure on politicians and bureaucrats to redistribute wealth to family and kin, contributing to extensive nepotism and 'corruption.' Traditional pressures on a leader to function as a 'big-man'—a status based on merit that is often obtained by accumulating and, more importantly, redistributing wealth—place heavy financial obligations on politicians. Constituents often expect politicians to act as a traditional big-man, arranging feasts, paying school fees, and deferring funeral costs. These traditional pressures also influence bureaucrats, although bureaucrats are generally only expected to support family members. As a result, however, both bureaucrats and politicians are highly susceptible to bribes; as well, these obligations tend to weaken loyalty to national or state goals.

Other competing identities and loyalties further undermine state capacity. Many state officials identify more with family, kin, tribes, or *wantok* groups (people who speak the same language) than with the state. For this reason, state officials will sacrifice state goals and revenue to support their kin, tribe, or *wantok* group. Recipients of state services often perceive these as a gift from their political representative or well-placed relative, further undermining state capacity to control social groups. Because people expect so little from the state, however, this also allows the state to evade criticism and crises of legitimacy, even when administrative services are appalling.[16]

As in Indonesia, elite attitudes that support economic development and downgrade environmental concerns contribute to low state determination to develop and enforce stringent environmental legislation. Informal and semi-traditional power relations that involve the exchange or redistribution of material goods by state members to societal supporters also contribute to distorted policies, lower state revenues, and weak enforcement. But informal links between state officials and loggers are markedly different in the Solomon Islands. Here, most ties are between state members and foreign business executives; as a result, they tend to be short-term arrangements—mostly one-time bribes, gifts, and perks. They are not part of any social grouping that could be considered a patron-client network, although these one-time deals do distort state policies and undercut state enforcement. An even more important difference, however, is that the Solomon Islands state simply does not have the bureaucratic resources, international clout, legal powers, or technical competence to control multinational investors. The next two sections outline some of the basic forest and environment policies in Indonesia and the Solomon Islands, focusing in particular on state legal control over timber management.

The state, policies, and forests in Indonesia

Forests likely cover between 90-110 million hectares of Indonesia, although the government claims that 143 million hectares exist. The government has set aside 64 million hectares for selective logging (known as production forest). Most of these forests are on the outer islands of Kalimantan, Sulawesi,

Sumatra, and New Guinea (in Irian Jaya). The Indonesian state has exclusive control over primary forests. Various sections of the bureaucracy shape forest management. With a staff of fifty thousand, the Ministry of Forestry sets annual allowable harvests, and monitors and enforces cutting and silvicultural guidelines. The Ministry of Industry supports timber processing. And the State Ministry for the Environment coordinates environmental management, assesses the environmental effects of logging proposals, and monitors reforestation. More indirectly, Finance, Trade, Agriculture, Transmigration, Public Works, and Energy and Mines also influence forest management.

The 1967 Basic Forestry Law forms the core of forest rules. The 1989 Indonesian Selective Cutting and Replanting System (TPTI), along with various amendments, regulates loggers. Companies must submit annual harvest estimates, and five-year and thirty-five year management plans. The government also charges a nonrefundable reforestation fee of US$22 per cubic meter of harvested logs. In addition, companies are supposed to provide 1-5 percent of profits to support community development near their logging site. Some of Indonesia's forest management rules have clear structural defects. For example, the government issues twenty-year licenses to log concessions on a thirty-five year cycle. Inappropriate tax structures and government subsidies have also led to the development of far too many plywood plants and sawmills, creating a chronic shortage of logs and strong incentives for illegal loggers. In addition, insufficient forest fees and taxes have left the government capturing remarkably little economic rent, likely between 15 and 30 percent, compared to 85 percent for petroleum.[17] The government could certainly improve policies, although as we will see later, an even greater problem is inadequate enforcement of current regulations.

The state, policies, and forests in the Solomon Islands

About 85 percent of the Solomon Islands is covered by forests. Most forests are on steep slopes and small islands, and commercial logging is only appropriate or viable on about 480,000 hectares. Customary landowners, who generally base claims on unwritten family and clan rules, control around 87 percent of land area; the rest is owned privately or controlled by the government. In the mid-1990s, about 80 percent of logging occurred on customary land. The 1969 *Forest and Timber Act* is the core of national forest legislation in the Solomon Islands. This has been amended several times and was renamed the *Forest Resources and Timber Utilization Act* in 1984. The main state agency responsible for forest management is the forestry division of the Ministry of Forests, Environment and Conservation. The Ministry of Finance issues log export licenses and grants companies exemptions on export taxes. The Foreign Investment Board approves applications and sets minimum financial, employment, and infrastructure development criteria for foreign investors. The Division of Inland Revenue is responsible for collecting taxes. There are serious problems with the structure and content of forest legislation. No consolidated text exists and it is often quite difficult to uncover timber management rules.[18]

Serious flaws also exist with government policies to capture timber rents. Four main fees are imposed on foreign loggers: log export taxes; royalties to landowners; provincial forest charges; and corporate taxes on royalty payments and profits. Inconsistent log export taxes, tax breaks for 'reforestation programs' and 'community development,' and partial or full tax exemptions on log exports to promote processing by landowner companies (including one for Somma, linked to Prime Minister Mamaloni) have allowed companies to make windfall profits. Even though log exports account for about half of government export earnings, the government captures only a relatively small portion of timber revenues. State agencies responsible for monitoring multinational timber investors also have insufficient financial and technical resources. The Ministry of Forests, Environment and Conservation does not have enough forest officers to monitor logging sites and timber exports. The Division of Inland Revenue also has limited powers to prevent corporate schemes to evade taxes.[19]

The extent of forest area, state financial and technical resources, state legal powers, government policies, and landownership all shape state capacity to manage forests. In Indonesia, the state has the full legal right to manage forests. In the Solomon Islands, the state must work closely with landowners, and does not have the legal power to exert firm control. The Indonesian state also has much greater institutional assets to manage forests and control social forces, although Indonesia certainly has a more difficult task, needing to cover a much larger area. Both countries have structural problems with policies, although overall Indonesia has a more elaborate policy framework. Yet, as the next section

documents, despite Indonesia's apparent strength, little difference exists between state control of domestic companies in Indonesia and state control of multinational investors in the Solomon Islands.

The state and timber companies in Indonesia

Before the mid-1960s, logging on the outer islands of Indonesia was limited to small-scale operations. The 1967 Foreign Capital Investment Law created favorable conditions for multinational investors, sparking a logging boom, especially in Kalimantan. By 1980 log production was five times higher than in 1968.[20] Over this time, investors made substantial profits, partly from generous tax breaks and cheap timber rights, and partly by ignoring reforestation, operating unsustainable sites, avoiding investments in processing plants, and evading taxes. Throughout the 1970s, the government became increasingly annoyed with uncooperative multinational firms, especially their reluctance to invest in processing. Before 1971, most foreign investors held 100 percent ownership. Starting in the early 1970s, the government began to push investors to accept joint venture partners. By 1975, the government no longer accepted foreign investments in logging, restricting investors to processing ventures. In 1977, the government imposed a mandatory deposit on log exports to support processing. The following year, the government doubled the log export tax to increase government revenues and further encourage processing. Companies that resisted pressure to invest in processing had their concession area reduced; particularly recalcitrant companies had their licenses revoked. By the end of the 1970s, foreign firms began to withdraw, partially in response to signs of even further government restrictions.[21]

Despite strong opposition from the World Bank and powerful Northern countries, the government gradually banned log exports from 1980 to 1985. State capacity to restrict foreign timber investors and impose the log export ban was remarkably strong. This partially reflected the growing capability and assertiveness of the state at this time. State capacity, however, was also significantly strengthened by the support of domestic business leaders whose financial opportunities and control were greatly enhanced by the ban. Supported by state subsidies, Indonesia's sawnwood and plywood industries expanded quickly in the 1980s. In 1979, sawnwood production was less than 3.5 million cubic meters; by 1988 it had gone over 10 million cubic meters. In 1980, plywood production was only around one million cubic meters; by 1992 it also went over 10 million cubic meters. The sawnwood and plywood industries have remained strong in the 1990s. From 1990 to 1996, Indonesia's annual sawnwood production averaged more than 7.5 million cubic meters. Over this period, annual plywood production averaged over 9 million cubic meters. The Indonesian Wood Panel Association (Apkindo) has guided the expansion of the plywood industry. Apkindo issues export licenses, sets export prices, controls shipping and insurance companies for plywood exporters, manages total plywood production volumes, and targets export destinations. To break open foreign markets, Apkindo established marketing wings, including Nippindo for Japan and Indo Kor Panels for Korea. Through these marketing arms, Apkindo has flooded overseas markets with high-quality plywood sold well below world market prices. Because Apkindo controls export licenses plywood companies have little choice but to follow Apkindo's orders. By the early 1990s, Apkindo had managed to capture about three-quarters of world trade in tropical plywood, although fierce Malaysian competition reduced this to around two-thirds in the mid-1990s.[22]

Domestic corporate control in the 1980s and 1990s has contributed to even higher national production levels than in the 1970s. The International Tropical Timber Organization (ITTO) calculates that average log production from 1990 to 1996 was almost 36 million cubic meters, over 15 million cubic meters higher than average log production in the 1970s. Log production may well be even higher than the ITTO estimate. A 1996 World Bank study claimed that log production was around 40 million cubic meters. Including illegal logging and smuggling, NGO experts estimate that annual log production is more likely around 44 million cubic meters, two times higher than a recent World Bank estimate of sustainable yield. Damage is compounded by bad harvesting practices, and by illegal cutting in national parks and conservation areas. At the current rate of destructive logging, the expansive primary forests of Indonesia could disappear in three decades.[23]

Ties among state members and timber executives distort forest policies and undercut enforcement. Bob Hasan is the most powerful timber businessman. He is close friends and a strong supporter of Suharto. He is chairman of Nusamba (*Nusantara Ampera Bakti*), an investment company controlled by Suharto's foundations. He is also head of four timber associations, including Apkindo,

and has the rights to log two million hectares. Prajogo Pangestu is the largest timber operator in Asia, controlling 5.5 million hectares of timber, and employing fifty-five thousand people. He is also the world's largest tropical plywood exporter, with annual sales of about US$600 million. Prajogo's concessions, logging equipment and plywood mills are worth around US$5-6 billion. Like Hasan, Prajogo also has close ties to Suharto and his children. He is partners with Suharto's daughter Siti Hardijanti Rukmana (Tutut) in a US$1 billion pulp and paper mill. As well, he has made substantial donations to Suharto-family charities and bailed out poor investments by Suharto and senior military officers. With such powerful connections, it is not surprising that his Barito Pacific Group of companies has amassed over US$1 billion in state loans, the heaviest debt in the country.[24]

During the timber boom in the late 1960s, Suharto handed out timber licenses to reward loyal military officers, appease potential opponents, and bolster the military budget. By 1978, the central and regional military commands controlled over a dozen timber companies. Today, the military is still an active timber operator, although apparently less so than in the 1970s. For example, the armed forces owns 51 percent of the International Timber Corporation of Indonesia (Suharto's son Bambang Trihatmodjo controls 34 percent, and Hasan owns 15 percent). This company operates a 600,000-hectare concession in East Kalimantan, the largest in Indonesia. The timber company P.T. Yamaker, which logs a site near the Sabah border in East Kalimantan, also has close army ties. One insider claims that convoys of trucks smuggle logs into Sabah.[25]

Within the context of high-level military, political, bureaucratic, and business ties to the timber industry, poorly paid forest officers appear to routinely ignore corporate misconduct in exchange for cash, gifts, or career opportunities. Inadequate staff, limited environmental training, insufficient institutional resources, and huge and remote logging sites further hamper efforts to monitor and enforce forest management rules. A member of the Indonesian NGO Network for Forest Conservation (SKEPHI) is scathing: "None of Indonesia's logging companies obey the rules."[26] Even the Ministry of Forestry admits that few loggers have followed the rules. Not surprising, the current campaign to reduce illegal and destructive logging has confronted powerful resistance and has had limited effects. In a rather understated way, in 1996 *Jakarta Post* noted, "in recent years, the ministry [of forestry] has tightened supervision to prevent illegal logging, and over-logging by concessionaires, but the move has so far resulted mostly in distorted log markets."[27] Protected and aided by key political, military, customs, and tax officials, timber companies also forge export, transportation, and harvest documents to evade royalties, taxes, and reforestation fees. The Indonesian NGO Forum for the Environment (WALHI) and the Indonesian Legal Aid Foundation (YLBHI) estimate that in the 1980s the government only collected 30 percent of reforestation fees. Even these limited reforestation funds do not always support timber plantations. For example, in late 1996, Suharto authorized a Rp250 billion transfer from the reforestation fund to Kiani Kertas, a pulp company controlled by Hasan.[28]

State control over timber companies has strengthened incrementally since Djamaludin Suryohadikusumo became Forestry Minister in 1993.[29] By the end of 1993, the government had revoked sixty timber licenses. By early 1994, the government had assumed control of twenty percent of the shares of twelve concession holders and 100 percent of the shares of another twelve with poor management records. State companies now manage around eleven percent of Indonesia's forests. The government has also fined several companies. These efforts, however, have had little impact on aggregate log production. The most powerful firms have tended to avoid this 'crackdown,' or in some cases they have simply ignored state sanctions. For example, in 1991 Barito Pacific Timber was fined 11.1 billion rupiah (US$5.4 million) for illegal logging. Barito refused to pay and the government has apparently dropped the matter.[30]

The state and timber companies in the Solomon Islands

Multinational companies have dominated logging in the Solomon Islands.[31] The history can be divided into three periods: 1963-1981; 1981-1990; and 1990-1998. In the first period, three foreign loggers controlled the industry: Levers Pacific Timber, a subsidiary of United Africa Company; the Australian firm, Allardyce Lumber Company; and the U.S.-funded Kalena Lumber Company. Levers Pacific Timber was the largest logger, accounting for two-thirds to three-quarters of total production. During this time, most logging occurred on government owned or leased land, primarily in Western province. Although environmental rules and management were limited, annual log production only averaged

around 260,000 cubic meters, below the theoretical sustainable level. This changed in the early 1980s. Under the first Mamaloni government, the number of licenses quadrupled and foreign firms moved into Guadalcanal, Malaita, and Makira-Ulawa. Although many of these were small operations, log production escalated, especially on customary land. From 1981 to 1986, annual log production exceeded sustainable levels.[32] The increase in licenses and log production, the move to customary land, and the spread to more islands stretched state capacity to monitor and regulate foreign timber investors. The withdrawal of Levers Pacific Timber temporarily relieved pressure on the forests and state capacity, and aggregate production again fell below a sustainable level at the end of the 1980s. Starting in 1991, however, an influx of Malaysian investors significantly altered the timber sector. Logging licenses have proliferated, often with highly favorable terms for investors. State officials have succumbed to corporate pressures and bribes, stalling environmental reforms, eroding implementation of forest management rules, and leading to generous tax breaks. In this context, the state and communities are even less able to monitor and control foreign loggers than in the 1980s. In 1995 log production from natural forests was 826,000 cubic meters, over two times higher than in 1991. At this rate, loggers will deplete commercial forests in 13 years; if the rate continues to increase, this will occur in less than a decade.[33]

As mentioned earlier, because customary landowners control most forest areas in the Solomon Islands, the state has only limited legal powers to manage commercial forests. The powers it does hold—in particular the power to regulate foreign investment and approve logging licenses—have had little impact on aggressive investors. To obtain a logging license, a company first submits an application to the government. The application is then forwarded to the relevant provincial government and Area Council. An Area Council meeting, which includes landowners, provincial officials, and company representatives, determines who owns the timber, and whether the owners are willing to sell their rights. If the owners agree, relevant parties start negotiations and determine the role of the provincial government. Next, the Area Council forwards a Certificate of Land Ownership to the forestry division. Company officials and landowner representatives then publicly negotiate a Standard Logging Agreement. In theory, the forestry division is supposed to monitor negotiations, ensuring that proper procedures are followed, that legal appeals are settled, and that the final logging agreement and the Area Council certificate are consistent. Assuming that the process is acceptable, the Commissioner of Forests then issues a license to the applicant. But in practice the government does not effectively monitor negotiations. Far too many logging licenses have been approved for foreign investors, sometimes even before they make formal agreements with landowners, giving them licenses without access rights. Although unlikely, if all of these licenses became active, loggers could harvest 4 million cubic meters a year, depleting commercial timber in only three years.[34]

Landowner and corporate negotiations for timber rights and licenses are often long and acrimonious. Although delays have frustrated some investors, inadequate state supervision, ambiguous laws, corrupt and divided community negotiators, corporate bribes, corporate funding of Area Council (Timber Rights) meetings, and highly trained corporate negotiators have generally allowed multinational timber companies to negotiate favorable agreements. For example, the Standard Logging Agreement and the Forest Act recommend a royalty rate of 17.5 percent of free-on-board (FOB) value. Yet the average royalty rate in 1994 was only 11.5 percent of FOB value. Moreover, despite favorable agreements, timber investors have distorted or broken many agreements with landowners. They have ignored verbal or written promises to provide ‘lasting development,’ such as roads, bridges, medical clinics, or schools. They have often left behind far more damage than landowners expect, disrupting traditional food sources, polluting rivers, and violating sacred sites. And they have evaded timber royalty payments.[35]

Corporations have also pressured and bribed key politicians and bureaucrats to create a favorable policy climate for investors and reverse reforms that threaten profits. From 1993 to 1994 Prime Minister Billy Hilly’s government initiated reforms to lower log production and strengthen state control over foreign timber investors. The government raised log export taxes, and increased efforts to verify log export prices, grades, and species. The government also began work on new national forest legislation, proclaimed plans to ban log exports in 1997, and floated the idea of hiring a foreign company to strengthen surveillance and compliance. These moves to control timber investors were quickly thwarted. In October 1994 Billy Hilly’s government fell after a series of defections and resignations. According to former Minister of Forests, Environment and Conservation Joses Tuhanuku (1993-94), this was “the making of foreign logging companies.”[36] Since then, environmental protection

and control over foreign investors has weakened even further under Prime Minister Mamaloni. The government has decreased log export taxes, postponed the log export ban until at least 1999, removed foreign advisers, abolished moves to strengthen surveillance of foreign operations, and agreed to cancel four forestry aid projects, including the Timber Control Unit Project (created in 1993 to monitor log grades, species, volumes, and prices).

Foreign loggers largely ignore environmental rules outlined in Standard Logging Agreements. In theory, companies must supply landowners with logging and road plans, obey the River Waters Act, follow proper skidding practices, clean up work areas, restrict logging to safe distances from waterways and to stipulated species and sizes, follow cutting and removal rules, and construct roads and bridges according to government guidelines. Some corporate groups, such as Malaysia's Kumpulan Emas, have little logging experience. Others, especially from Sarawak Malaysia, have terrible records at home.[37] In the Solomon Islands, weak state administrative capacity, limited state legal powers, remote logging sites, and few provincial and community resources allow loggers to operate with little scrutiny and almost no restraints. Tuhanuku writes: "During my time as Minister, foreign logging companies persistently showed a blatant disregard for the nation's laws, regulations and policy of the government of the day."[38] Companies log areas outside their license, damage or cut undersized and protected trees, build temporary and inappropriate roads and bridges, leave pools of stagnant water that spread malaria, pollute and disrupt food and water sources, disregard reforestation duties, and ignore obligations to consult with landowners. A study of a logging site operated by the Malaysian company Silvania concluded: "The degree of canopy removal and soil disturbance was the most extensive seen by the authors in any logging operation in tropical rainforest in any country."[39] Phillip Montgomery argues that: "To come back and re-cut the Solomons forest in 50 years and get equivalent sorts of yields to what they are now producing means that everything has to be done correctly now. The reality is that there is no adherence at all to a silvicultural regime that will allow this to occur. Many of the harvesting operations are still poorly planned and poorly managed."[40] The *1995 Forestry Review*, an unofficial internal government document, is even harsher: "forest practices in many locations [in the Solomon Islands] are amongst the worst in the world."

Besides dismal environmental practices, foreign loggers have pressured and bribed state officials to provide generous tax breaks. For example, the *Solomon Star* reported that from 1993 to 1995 Integrated Forest Industries distributed SI$7 million and supplied generous perks to government ministers and powerful bureaucrats. Not surprising, Integrated Forest Industries paid no taxes in 1995. In that year, according to the *1995 Forestry Review*, as a result of tax breaks, combined with lower international prices and lower export taxes, government revenue captured by the log export tax fell by SI$12.6 million, even though log exports jumped by 88,000 cubic meters.

Securing tax breaks is only one means that loggers use to increase and maintain profits. They also evade royalty payments, log export taxes, and corporate taxes on profits. Companies forge species names and log grades, conceal high-grade logs in low-grade shipments, and simply underrecord prices to lower log export taxes (which in turn lowers recorded profits). According to Ron Duncan, schemes to underrecord log export prices in 1993 may have cost the Solomon Islands government up to SI$94 million.[41] Price Waterhouse estimates that "the declared FOB value is...25 percent to 30 percent under-recorded."[42] The *1995 Forestry Review* claims that most firms "should have at least been able to achieve the prices realized by Somma of SI$458 as the Makira logs are generally smaller and of lower quality to those on other concessions."[43] Yet in that year all foreign loggers reported far lower average log export prices, decreasing the overall average export price to a mere SI$366. A 1995 report by the Solomon Islands Central Bank and the Timber Control Unit also uncovered evidence of underpricing of log exports. After calculating for reasonable shipping and insurance costs, this report found that the average Japanese import price of Solomon Islands logs in 1994 was US$33.90 per cubic meter higher than the declared export price; in Korea, it was US$32 per cubic meter higher.[44]

Conclusion: environmental degradation and weak states

This study reveals that scholars must use labels such as strong and weak states prudently. A seemingly strong state like Indonesia can be quite weak in some areas. The underlying reasons for strong and weak capacities also shift over time and across sectors. In Indonesia, for example, state capacity to control loggers was fairly strong in the 1970s when the industry was dominated by multinational corporations.

With the support of domestic business leaders, with alternative revenue sources, and with a high level of state determination, the state managed to restrict foreign investments, develop and impose policies to promote domestic processing, and strictly enforce a log export ban. State action was so firm that by the mid-1980s most multinationals had simply withdrawn from the timber sector.

State members in Indonesia are now far less committed to policies that promote sustainable management than they were to policies in the 1970s to control foreign investors and diversify the economy. Even more important, however, state capacity is debilitated by close personal and financial links between political leaders (including Suharto) and timber executives (such as Hasan and Prajogo), and among middle and lower-level state officials and timber operators. In this context, destructive loggers have pushed production well over sustainable levels, the state has only captured a fraction of timber rents, and state moves to reform timber management have largely failed. This demonstrates that just because a state has significant autonomy from formal social groups and tight controls over nonstate organizations (such as labor, business, political parties, the media, and NGOs) does not mean that the state can necessarily enforce official rules that challenge the profits or goals of diffuse social forces that underpin the state. These otherwise strong states will be especially weak when state determination is low and resistance from powerful societal members is high, a characteristic situation for the environmental management of natural resources. Indonesia also demonstrates that just because a state dominates policy formulation does not mean that the policies will be well constructed or well enforced.

As in Indonesia, state capacity to control the environmental practices of loggers has decreased in the Solomon Islands over the last two decades. In the 1960s and 1970s, with only three large foreign loggers, and with most logging on state owned or leased land, the state was able to maintain a reasonable level of control and log production remained below sustainable levels. During the 1980s an 1990s, however, national-level timber management in the Solomon Islands became more difficult as the number of logging licenses shot up, as loggers spread to more islands and to customary land, as Malaysian investors flooded the country, as the government became increasingly dependent on log export revenues, and as production went well over sustainable levels.

Compared to Indonesia, patron-client ties between business leaders and state officials are less important for explaining low state capacity to manage timber in the Solomon Islands. It is more a result of political instability, inadequate technical and financial resources, conflicting loyalties of state members, legal constraints on state actions, and straight-forward corporate bribes and pressure. For these reasons, combined with large subsistence and informal economies, and the relative position in the international system, in most areas, state capacity in the Solomon Islands has been consistently and significantly lower than in Indonesia. Yet, despite markedly different state structures and overall capacities, and different historical, institutional, cultural, geographic, demographic, political, and economic settings, both countries are now confronted with the same irresolvable crisis: inappropriate forest and environmental policies, unsustainable and destructive logging, widespread degradation, limited reforestation, inadequate timber rents, and a state that has little, if any, control over corporate practices.

This finding suggests that, although each state has distinct foundations of state capacity, and although state capacity can shift over time, it is reasonable to hypothesize that when valuable commercial forests exist, and when a developing state is confronted by aggressive corporations that provide vital state revenue or crucial personal support for state members, then the state will exert weak control over corporate environmental practices—a hypothesis that is reasonably extrapolated to other resource sectors, and perhaps to environmental management generally. Searching the tropical world it is certainly easy to find state policies and rhetoric that support sustainable development and environmental protection, often employing an almost hegemonic global environmental language.[45] But the commitment of state officials seems minimal and it is difficult to find any examples of tight state control over the environmental practices of loggers. For example, as timber investors (mostly from Malaysia) flooded Papua New Guinea in the late 1980s and early 1990s, log production more than doubled, from 1.45 million cubic meters in 1990 to 3.5 million cubic meters in 1994. Although total production fell to about 3 million cubic meters in 1995, these loggers are still leaving behind widespread environmental degradation.[46] Guyana provides another example of weak state control over the environmental management of timber firms. In 1989, the government had only leased about 17 percent of the 14 million hectares of suitable commercial forest area. Yet by 1994 the government had leased well over half of this area and further proposals are still under review. These investors (again, mostly from Malaysia) are quickly

pushing up production with few environmental controls. From 1992 to 1994, log production more than doubled, from 151,000 cubic meters to 403,000 cubic meters. In 1995, it increased again to 456,000 cubic meters. Over the next decade, it will escalate even further as Malaysian operations reach capacity.[47]

In some ways, it is not surprising that Papua New Guinea and Guyana—which like the Solomon Islands are weak administrative states—have little control over the environmental practices of loggers. What is perhaps more illuminating (and alarming) is that logging practices are just as bad in states with a similar overall capacity as Indonesia, such as the Malaysian state of Sarawak, or with a greater overall capacity, such as Burma. In Sarawak, where timber exports underpin the economy, destructive loggers are linked to top political patrons, including Chief Minister Taib, and protected and assisted by middle-and-lower level state officials. In this context, despite government promises to improve forest management in the early 1990s, annual log production from 1990 to 1995 averaged almost 18 million cubic meters, over two times higher than sustainable levels. At this rate, loggers will destroy the primary forests of Sarawak in less than a decade.[48]

The Burmese state has strengthened environmental policies and tightened control over environmental management since the military coup in September 1988 by the State Law and Order Restoration Council (SLORC). For example, SLORC created a National Commission for Environmental Affairs in 1990, issued a new Forest Law in late 1992, and proclaimed the Wild Life, Natural Forests and Preservation Law in 1994. One of SLORC's most important environmental initiatives is the move to "green" the central Dry Zone. This strong state determination to develop and enforce new environmental policies appears motivated primarily by a desire to control outlying social groups, not by a genuine desire to implement sustainable development. The campaign to green the central Dry Zone is led by three senior military officers; committees of loyal bureaucrats and military officers coordinate the project; and mass "public participation" provides the work force (i.e., free labor.) In many areas, commercial forest management is, according to Raymond Bryant, "business-as-usual." The state, for example, allowed Thai loggers to over-log and destroy wide areas from 1989-1993, and is now supporting unsustainable logging in the Kachin State and the Pegu Yoma. In these cases, SLORC is sacrificing environmental concerns to provide supporters with lucrative timber patronage. According to Bryant, "In the process, claims of sustainable development in the forestry sector appear as hollow in Burma as they do in Indonesia, the country upon which Burmese political and economic development appears to be increasingly modeled."[49]

The inherent weakness of states to control the environmental effects of loggers does not bode well for the future of the world's tropical old-growth forests, especially as aggressive investors continue to move into increasingly isolated areas with few administrative structures, such as Laos, Cambodia, Suriname, Brazil, Cameroon, Democratic Republic of Congo (formerly Zaire), Belize, and Gabon.[50] These countries could well be headed toward logging booms similar to the ones now under way in Indonesia, Sarawak, Papua New Guinea, and the Solomon Islands, and just beginning in Guyana. If this does happen, and the pattern of weak state control over the environmental practices of loggers continues, then all of these countries will likely end up with widespread deforestation, as has already occurred in the once lush countries of Thailand and the Philippines.

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[1] For a summary of the literature on the Indonesian state, see Andrew MacIntyre, *Business and Politics in Indonesia* (Sydney, Australia: Allen & Unwin, 1990). He writes, "...while there is some serious dispute...as to the character of the state itself, there is in fact an underlying consensus that relations between state and society are massively tilted in the direction of the former." Ibid., p. 6. Most analysts would agree that Indonesia is not as strong as Singapore, Vietnam, Japan, North and South Korea, Taiwan, Israel, China, or Cuba, yet it is far stronger than many of the world's states. Clark Neher, in a comparative book on Southeast Asia, writes: "...a strong, autonomous state has emerged in new order Indonesia. The state controls all aspects of political and economic life and has co-opted all institutions that could even potentially challenge the state." Clark D. Neher, *Southeast Asia in the New International Era*, second edition (Boulder, CO: Westview Press, 1994), p. 117.

[2] See Tarcisius Kabutaulaka and Peter Dauvergne, "The Weak State in the Solomon Islands," prepared for the workshop, "Weak and Strong States in Melanesia and Southeast Asia," 12-14 August 1997, Research School of Pacific and Asian Studies, the Australian National University.

[3] For similar conceptions of state-society relations, see Joel S. Migdal, *Strong Societies and Weak States: State-Society Relations and State Capabilities in the Third World* (Princeton: Princeton University Press, 1988); Joel S. Migdal, Atul Kohli and Vivienne Shue, eds., *State Power and Social Forces: Domination and Transformation in the Third World* (New York: Cambridge University Press, 1994); and Merilee S. Grindle, *Challenging the State: Crisis and Innovation in Latin America and Africa* (Cambridge: Cambridge University Press, 1996).

[4] Data are from Neher, *Southeast Asia in the New International Era*, pp. 115, 117.

[5] For background on state-society relations in the New Order, see Richard Robison, *Indonesia: The Rise of Capital* (Sydney and London: Allen and Unwin, 1986); N.G. Schulte Nordholt, *State-citizen relations in Suharto's Indonesia: Kawula-Gusti* (Rotterdam: Comparative Asian Studies Programme, Erasmus University, 1987); Arief Budiman, ed., *State and Civil Society in Indonesia* (Clayton, Australia: Center of Southeast Asian Studies, Monash University, 1990), pp. 151-176; Donald K. Emmerson, "Beyond Zanzibar: Area Studies, Comparative Politics, and the 'Strength' of the State in Indonesia," prepared for a panel on 'The Strength of the State in Southeast Asia,' Association for Asian Studies, Chicago, Illinois, 6-8 April 1990; David Brown, *The state and ethnic politics in Southeast Asia* (London and New York: Routledge, 1994), chapter 4; David Bourchier and John Legge, eds., *Democracy in Indonesia: 1950s and 1990s*, Monash Paper on Southeast Asia No. 31 (Clayton, Victoria: Center of Southeast Asian Studies, Monash University, 1995); Douglas E. Ramage, *Politics in Indonesia: Democracy, Islam and the Ideology of Tolerance* (London: Routledge, 1995); and Jeffrey Winters, *Power in Motion: capital mobility and the Indonesian state* (Ithaca, NY: Cornell University Press, 1996).

[6] Neher, *Southeast Asia in the New International Era*, p. 110.

[7] Harold Crouch, *The Army and Politics in Indonesia*, revised edition (Ithaca: Cornell University Press, 1988); and Bruce Grant, *Indonesia*, third edition (Carlton, Victoria: Melbourne University Press, 1996), pp. 88-90.

[8] Karl D. Jackson, "Bureaucratic Polity: A Theoretical Framework for the Analysis of Power and Communications in Indonesia," in Karl D. Jackson and Lucian W. Pye, eds., *Political Power and Communications in Indonesia* (Berkeley: University of California, 1978), p. 3.

[9] Grant, *Indonesia*, p. 68; and Philip Eldridge, "NGOs and the State in Indonesia," in Budiman, ed., *State and Civil Society in Indonesia*, pp. 510-511. Eldridge is, however, quite optimistic about the influence of NGOs in Indonesia.

[10] Based on personal interviews with bureaucrats from various departments, February/March 1994, Jakarta. Also see Peter Dauvergne, "The Politics of Deforestation in Indonesia," *Pacific Affairs*, 66 (Winter 1993/94), 506-507.

[11] Suharto's children control business empires worth over US$6 billion. Henny Sender, "Bambang's Challenge," *Far Eastern Economic Review*, September 5, 1996, p. 57. Also, see Geoff Hiscock, "Wealth sprouts on Suharto family tree," *The Australian*, October 10, 1996, pp. 25, 29.

[12] Adam Schwarz, *A Nation in Waiting: Indonesia in the 1990s* (St Leonards, NSW, Australia: Allen and Unwin, 1994), p. 99. For details on Indonesian Chinese business leaders, see Ibid., pp. 98-132.

[13] One exception is Andrew MacIntyre, "Business, Government and Development: Northeast and Southeast Asian Comparisons," and "Power, Prosperity and Patrimonialism: Business and Government in Indonesia," in Andrew MacIntyre, ed., *Business and Government in Industrialising Asia* (Ithaca, NY: Cornell University Press, 1994), pp. 1-28, 244-267.

[14] See John Roughan, "Solomon Islands Nongovernment Organizations: Major Environmental Actors," Fay Alailima, Werner vom Busch, et al, eds., *New Politics in the South Pacific* (Suva and Rarotonga: Institute of Pacific Studies, University of the South Pacific, in association with Pacific Islands Political

Studies Association, 1994), pp. 143-154; and John Roughan, "Solomon Islands: Non-Government Organizations," *The Contemporary Pacific*, 9 (no. 1, 1997), 157-166.

[15] Jeffrey S. Steeves, "Unbounded Politics in the Solomon Islands: Leadership and Party Alignments," *Pacific Studies*, 19 (March 1996), 133.

[16] For more details on the reasons for the weak administrative state in the Solomon Islands, see Kabutaulaka and Dauvergne, "The Weak State in the Solomon Islands." Of course, some improvements have occurred in the Solomon Islands over the last two decades, such as lower infant mortality rates. See Fadia Saadah, Peter Heywood, and Ian Morris, "Health Services in Solomon Islands," *Pacific Economic Bulletin*, 10 (December 1995), 23.

[17] Interview, WALHI (Indonesian Forum for the Environment), Jakarta, 3 March 1994. Also WALHI and YLBHI (Indonesian Legal Aid Foundation), *Mistaking Plantations For The Indonesia's Tropical Forest* (Jakarta: Wahana Lingkungan Hidup Indonesia [WALHI], 1992), pp. 20-21; and Dudung Darusman, "The Economic Rent of Tropical Forest Utilization in Indonesia," a paper presented at the National Seminar on the Economic Aspect of the Forestry Business in Indonesia, the Association of Forest Concessionaires and the Ministry of Forestry, Jakarta, October 6-7, 1992, p.17.

[18] See James S. Fingleton, *Assistance in the Revision of Forestry Policy and Legislation*, First Report to the Government of the Solomon Islands on Forestry Legislation, TCP/SOI/8851 (A), Consultancy Report No. 2 (Rome: Food and Agriculture Organization, January 1989); Jennifer Corrin, "Abrogation of the Rights of Customary Land Owners by the Forest Resources and Timber Utilization Act," Interest group paper, South Pacific Legal Studies, ALTA 47th Annual Conference 9-12, 1992, unpublished; Phillip Montgomery, "Forestry in Solomon Islands," *Pacific Economic Bulletin*, 10 (December 1995), 74-76; and Philip Ells, *Logging and Legal Access in Solomon Islands* (Forest Monitor Limited, based in the United Kingdom, July 1996), pp. 9-11.

[19] Price Waterhouse, Economic Studies and Strategies Unit, *Forestry Taxation and Domestic Processing* Study, Final Draft Report, Report for the Solomon Islands Government, Ministry of Finance, and the Ministry of Forests, Environment and Conservation (December 1995), pp. 39-40.

[20] Unless otherwise noted, data on Indonesian log, sawnwood, and plywood production and exports prior to 1990 are calculated from Food and Agriculture Organization (FAO), various yearbooks. Data from 1990 to 1996 are calculated from the International Tropical Timber Organization (ITTO), *Annual Review and Assessment of the World Tropical Timber Situation: 1993-1994* (Yokohama: ITTO, 1995); ITTO, *Annual Review and Assessment of the World Tropical Timber Situation: 1995* (Yokohama: ITTO, 1996), and the ITTO, *Annual Review and Assessment of the World Tropical Timber Situation: 1996* (Yokohama: ITTO, 1997).

[21] For a discussion of this period, see Malcolm Gillis, "Multinational Enterprises and Environmental and Resource Management Issues in the Indonesian Tropical Forest Sector," in Charles S. Pearson, ed., *Multinational Corporations, Environment, and the Third World: Business Matters* (Durham: Duke University Press, 1987), pp. 64-89; Malcolm Gillis, "Indonesia: Public Policies, Resource Management, and the Tropical Forest," in Malcolm Gillis and Robert Repetto, eds., *Public Policies and the Misuse of Forest Resources* (Cambridge: Cambridge University Press, 1988), pp. 43-113; and Peter Dauvergne, *Shadows in the Forest: Japan and the Politics of Timber in Southeast Asia* (Cambridge, MA: The MIT Press, 1997), chapter 3.

[22] For further details on the structure and role of Apkindo, see Peter Dauvergne "Japanese Trade and Deforestation in Southeast Asia," in Rodolphe De Koninck and Christine Veilleux, eds., *Southeast Asia and Globalization: New Domains of Analysis/ L'Asie du Sud-Est face à la mondialisation: les nouveaux champs d'anlayse* (Québec: GÉRAC, Université Laval, 1997), pp. 133-156.

[23] This estimate is from the Indonesian economist Rizal Ramli, cited in "Timber: An Economic Dilemma," *Economic & Business Review Indonesia*, no. 98, February 26, 1994, p. 9.

[24] See Adam Schwarz, "Forest Framework," *Far Eastern Economic Review*, March 12, 1992, p. 44; Raphael Pura, "Timber Tycoon Confronts His Critics," *Asian Wallstreet Journal*, August 27, 1993, pp. 1, 8; Raphael Pura, Stephen Duthi, and Richard Borsuk, "Plywood Tycoon May Purchase Malaysian Firm," *Asian Wallstreet Journal*, February 3, 1994, pp. 1, 4; and Schwarz, *A Nation In Waiting*.

[25] Confidential interview, senior Indonesian official, Jakarta, 3 March 1994. For further details on the International Timber Corporation of Indonesia, see International Timber Corporation Indonesia (ITCI), P*T. International Timber Corporation Indon*esia (Jakarta: ITCI, 1992); James Rush, *The Last Tree: Reclaiming the Environment in Tropical Asia* (New York: The Asia Society, 1991), pp. 36-37; and Raphael Pura, "Rapid Loss of Forest Worries Indonesia," *Asian Wall Street Journal*, February 3, 1990.
[26] Quoted in Schwarz, "Forest Framework," p. 45.

[27] "Importing Logs," *Jakarta Post*, January 17, 1996, Reuters News Briefing.

[28] Manuela Saragosa, "Indonesia: Forest Fund Boost for Associate of Suharto," *Financial Times*, January 30, 1997, Reuters Business Briefing. This section is based on personal interviews, Jakarta and Bogor, January/February 1994. Also see Adam Schwarz, "Emerald Forest," *Far Eastern Economic Review*, February 7, 1991, p.51; SKEPHI, *Setiakawan*, 11 (July-September 1993); SKEPHI, *Setiakawan*, 8 (July-September 1992); WALHI and YLBHI, *Mistaking Plantations For The Indonesia's Tropical Forest*; and Dauvergne, *Shadows in the Forest*, chapter 3.

[29] Based on interviews at: Environmental Research Center, Bogor Agricultural University, Bogor Indonesia, 25 February 1994; Environmental consultant, Bogor Indonesia, 24 February 1994; Sumitomo Forestry Co., Ltd., Tokyo, 20 April 1994; Bogor Agricultural University, Faculty of Forestry, Bogor Indonesia, 28 February 1994; Senior official, Bappenas, Ministry of Planning, 4 March 1994; and WALHI, Jakarta, 3 March 1994.

[30] Schwarz, "Forest Framework," p. 45; "The Price of Non-Compliance," *Review Indonesia: Economic and Business*, no. 98, February 26, 1994, p. 8; and "State Firms Urged To Manage 50 percent of RI Forests," *Jakarta Post*, February 5, 1996, Reuters Business Briefing.

[31] This section only examines multinational timber investors. In 1995, landowner companies accounted for 9 percent of log exports, although even here most had contracts with multinational firms. Much of the material in this section is based on a research trip to the Solomon Islands in July 1996. I especially appreciate the input of officials from: the Australian High Commission (Honiara); the Central Bank of Solomon Islands; the Ministry of Commerce, Industries and Employment; the Ministry of Forests, Environment and Conservation; the Solomon Islands Development Trust; the Solomon Islands Forest Industries Association; and Soltrust.

[32] Based on Ian Frazer, "The Struggle for Control of Solomon Island Forests," *The Contemporary Pacific*, 9 (no. 1, 1997), 44-52.

[33] Montgomery, "Forestry in Solomon Islands," p. 75. Unless otherwise noted, data on log production in the Solomon Islands are calculated from the *1995 Forestry Review*, an unofficial report published in 1996, based on figures from the Timber Control Unit Project of the Ministry of Forests, Environment and Conservation, Solomon Islands Government (supplied to the author by a government official in the Solomon Islands in July 1996); and *Forestry Review Update 1996* (June), an unofficial government report that builds on the *1995 Forestry Review (*supplied by a government official in the Solomon Islands in July 1996).

[34] Economic Insights, *The Solomon Islands Economy: Achieving Sustainable Economic Development* (Canberra: Australian Agency for International Development, Economic Insights, December 1994), p. 54; and Nicola Baird, "In a jungle of vested interests," *Financial Times*, January 15, 1996, p. 23. For further details on the process of obtaining a logging license, see Ells, *Logging and Legal Access in Solomon Islands*, pp. 10-11.

[35] This paragraph draws on Judith A. Bennett, "Forestry, Public Land, and the Colonial Legacy in the Solomon Islands," *The Contemporary Pacific*, 7 (no. 2, 1995), 262; Frazer, "The Struggle for Control of Solomon Island Forests," p. 51; Price Waterhouse, *Forestry Taxation and Domestic Processing Study*, p. 23; Ells, *Logging and Legal Access in Solomon Islands*, pp. 11, 16; *Sol-Tree Nius*, no. 2, February 1995, p. 3; and Jim Fingleton, "Forest resource management in the South Pacific: Logging your way to development," *Development Bulletin*, no. 31 (July 1994), 21.

[36] Joses Tuhanuku, "The reality of governance in Solomon Islands today," *Pacific Economic Bulletin*, 10 (December 1995), 69.

[37] Dauvergne, *Shadows in the Forest*, chapter 4.

[38] Tuhanuku, "The reality of governance in Solomon Islands today," p. 69.

[39] Quoted in Forests Monitor, draft briefing document, "Kumpulan Emas Berhad and its Involvement in the Solomon Islands," (April 1996), p. 7. For details on the practices of Malaysian loggers at home, see Dauvergne, *Shadows in the Forest*, chapter four.

[40] Montgomery, "Forestry in Solomon Islands," p. 74. For further details on logging practices, see South Pacific Regional Environment Programme, *Solomon Islands: Country Report for UNCED* (Apia, Western Samoa: South Pacific Regional Environment Programme, 1992), pp. 25-26; and Greenpeace Pacific, "Pavuvu Island Logging, Russell Is Group, Central Province, Solomon Islands," (Greenpeace Pacific, Environmental Impact Report, November 1995).

[41] Ron Duncan, *Melanesian Forestry Sector Study* (Canberra: Australian International Development Assistance Bureau, International Development Issues, no. 36, 1994), p. xvii.

[42]Price Waterhouse, *Forestry Taxation and Domestic Processing Study*, p. ii.

[43] Somma has less incentive to underdeclare log export prices because the government exempts it from 96 percent of the log export tax.

[44] Agent fees in places like Singapore and Hong Kong may account for about US$5 of this difference. Seamus Mulholland and Gane Simbe, *Report of Visit to Japan and Korea by TCUP Commercial Unit Manager and CBSI Foreign Exchange Manager 26 March to 8 April 1995*, internal report (May 1995), p. 2. For greater detail on the environmental and economic impact of multinational investors in the Solomon Islands since 1990, see Peter Dauvergne, "Corporate Power in the Forests of the Solomon Islands," paper presented for the Resource Management In Asia-Pacific Seminar Series, Research School of Pacific and Asian Studies, The Australian National University, 13 March 1997.

[45] See Peter Dauvergne "Globalization and Deforestation in Southeast Asia," Paper presented at the Division of Politics and International Relations Seminar Series, Research School of Pacific and Asian Studies, Australian National University, 5 September 1996.

[46] See Colin Filer, "A Statistical Profile of Papua New Guinea's Log Export Industry," in Colin Filer, ed. *The Political Economy of Forest Management in Papua New Guinea* (London and Boroko: IIED and National Research Institute, Monograph 32), pp. 207-248.

[47] For background on timber investors in Guyana, see Marcus Colchester, "The New Sultans: Asian Loggers Move in on Guyana's Forests." *Ecologist*, 24 (March/April 1994), 45-52; and Nigel Sizer, *Profit Without Plunder: Reaping Revenue From Guyana's Tropical Forests Without Destroying Them* (Washington, DC: World Resources Institute, 1996).

[48] See Dauvergne, *Shadows in the Forest*, chapter 4.

[49] The summary of Burmese forest management is from Raymond L. Bryant, "The Greening of Burma: Political Rhetoric or Sustainable Development?" *Pacific Affairs*, 69 (Fall 1996), 341-360 (quote is from 355-56). In late 1993, with SLORC less dependent on logging revenue, with less military need to

remove forest cover, and with many areas near the Thai border already cleared, the government cancelled the agreements with Thai loggers. With SLORC support, however, logging still occurs in this area, although production is now lower. Ibid., p. 354.

[50] See Peter Dauvergne, *Major Asian Tropical Timber Traders and Overseas Corporate Investors: Current Trends* (Ottawa: Government of Canada, Department of Foreign Affairs and International Trade, November 1995).