

Peter Dauvergne



SHADOWS IN THE FOREST

Japan and the Politics of Timber in Southeast Asia

Shadows in the Forest

Politics, Science, and the Environment

Peter M. Haas, Sheila Jasanoff, and Gene Rochlin, editors

Shadows in the Forest: Japan and the Politics of Timber in Southeast Asia, Peter Dauvergne

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Timber in Southeast Asia

Peter Dauvergne

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Series Foreword

As our understanding of environmental threats deepens and broadens, it is increasingly clear that many environmental issues cannot be simply understood, analyzed, or acted upon. The multifaceted relationships between human beings, social and political institutions, and the physical environment in which they are situated extend across disciplinary as well as geopolitical confines, and cannot be analyzed or resolved in isolation.

The purpose of this series is to address the increasingly complex questions of how societies come to understand, confront, and cope with both the sources and the manifestations of present and potential environmental threats. Works in the series may focus on matters political, scientific, technical, social, or economic. What they share is attention to the intertwined roles of politics, science, and technology in the recognition, framing, analysis, and management of environmentally related contemporary issues, and a manifest relevance to the increasingly difficult problems of identifying and forging environmentally sound public policy.

Peter M. Haas
Sheila Jasanoff
Gene Rochlin

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This book would have been impossible without the intellectual and emotional support of my entire family. My wife, Cayte, was indefatigably patient and loving, even on the days I wanted to quit. Throughout she was my toughest critic and my best friend. My son Duncan—although he strenuously denies responsibility for any errors—had perhaps the greatest influence on my work. Before he could even walk, he volunteered to be my research assistant in Tokyo. After he learned to walk, his help became indispensable as he strategically shuffled and hid key documents and studiously shredded any irrelevant or misleading information. My daughter Nina arrived near the end of this project. But she has also been remarkably helpful, taking me on long walks in the middle of the night, where we fine-tuned my analysis. My children, however, have been far more than able researchers; every day they have demonstrated that life is about much more than books. Without this perspective, I would still be at my computer, mesmerized by the vision that I would write a great work, instead of mired in the humbling world of diapers and messy drafts.



Southeast and Northeast Asia

Introduction: Ecological Shadows

Illegal and legal loggers have degraded much of Southeast Asia's old-growth forests, triggering widespread deforestation. Only 20 percent of the Philippines, once blanketed in tropical forests, now has significant forest cover. About 800 thousand hectares are primary dipterocarp forests, accounting for less than 3 percent of total land area.¹ From 1963 to 1985, loggers in the East Malaysian state of Sarawak harvested about 30 percent of the total forest area.² By the end of the 1980s, only 4–5 million hectares of Sarawak's primary forests were left.³ At the current rate of illegal and legal logging, the primary forests of the Philippines and Sarawak will disappear in the next decade. The situation in the East Malaysian state of Sabah is equally ominous. As logging boomed in the 1970s and early 1980s, Sabah's primary forest cover fell sharply, from 55 percent of total land area in 1973 to only 25 percent in 1983.⁴ By the early 1990s, loggers had cut more than 80 percent of dipterocarp forests officially set aside for commercial harvests. With log production averaging 9.6 million cubic meters from 1992 to 1994, even more of these forests are now degraded.⁵ Indonesia contains around half of Asia's remaining forests. With log production far above sustainable limits, without drastic changes these vast primary forests will vanish in the next three decades.⁶ Southeast Asian governments target the year 2000 for sustainable forest management. There is no chance of reaching this goal.

Southeast Asian loggers irreparably decrease the economic, biological, and environmental value of old-growth forests. They also ignite the process of deforestation—defined as the complete loss of forest cover.⁷ They build roads that provide access for slash-and-burn farmers. They leave debris and create open spaces that make forests susceptible to devastating fires. And they decrease the financial value of primary forests, providing incentives to convert logged areas (secondary forests) to commercial crops or large development projects.⁸ As a result, logging is the

most important agent driving deforestation in Southeast Asia. Both direct factors and underlying forces contribute to rapid, careless, short-sighted logging. While Southeast Asian state managers and timber operators play direct roles, international corporations, markets, money, consumption, technology, and trade practices cast an oppressive shadow that constrains Southeast Asian decisions, provides incentives for quick and destructive logging, and accelerates deforestation.

Japan has had the greatest indirect impact on Southeast Asia's commercial forests. Japan has been the world's largest tropical timber importer since the 1960s.⁹ Over the last four decades, over 90 percent of Japan's tropical timber imports have come from Indonesia, East Malaysia (Sabah and Sarawak), and the Philippines, which have been, by far, Southeast Asia's largest tropical timber exporters.¹⁰ Until the 1980s, Japanese companies imported mainly unprocessed logs. During the height of the Philippine log export boom (1964–73), the Sabah boom (1972–87), and the Indonesian boom (1970–80), Japan imported over half of total log production for these areas.¹¹ Sarawak is now Japan's main source of tropical logs. From 1993 to 1995, Japan accounted for more than half of Sarawak's log exports.¹² Japan also imports huge amounts of tropical plywood. From 1990–95, Japan imported over 20 million cubic meters of tropical plywood, nearly three times more than mainland China, the world's second largest importer.¹³ Most of this plywood has come from Indonesia.

This book examines the residual and immediate environmental impact of Japanese bilateral relations on commercial timber management in Indonesia, East Malaysia, and the Philippines. Japan's role is analyzed in the context of Southeast Asian domestic political economies of timber. This is essential because Japan's impact is indirect—an underlying cause that is comprehensible only in the context of the more proximate causes and agents of unsustainable logging. As a result, this book is not merely about Japan—and by extension other tropical timber importers, investors, and lenders. Instead, en route to discerning Japan's role, it provides a comprehensive picture of the international and domestic political and economic forces that drive Southeast Asian timber mismanagement, which in turn triggers the process of deforestation.

I develop two theoretical tools to analyze these forces. First, in the latter half of the introduction, I refine the concept of “shadow ecology” to evaluate the environmental impact of *one* country's economy on resource management in another country or area. A country's shadow ecology is the aggregate environmental impact on resources outside its

territory of government practices, especially official development assistance (ODA); corporate conduct, investment and technology transfers; and trade, including consumption, export and consumer prices, and import tariffs. A country's "ecological shadow of tropical timber" is the combined environmental effect of these factors on tropical timber management in other countries. Second, in chapter 2, I construct an analytical lens to uncover salient domestic political factors behind timber mismanagement. This spotlights modern patron-client links between Southeast Asian officials and private operators that debilitate state capacity to implement resource policies.

Together, Japan's ecological shadow and Southeast Asian patron-client politics create a context that supports and accelerates destructive and illegal logging, contributes to ineffective reforestation and conservation policies, and undermines sustainable timber management. These forces are interlocked. Japanese trade has been distorted by corporate structures and purchasing practices, corporate investments and technology transfers, Japanese government policies, wasteful consumption, plywood tariffs, international market prices, and conventional economic calculations that ignore environmental and social costs. This trade has generated formidable financial incentives for unsustainable loggers and their state patrons. The residual and cumulative effects have left deep environmental scars that impede current efforts to improve timber management. Meanwhile, Japanese ODA has done little to offset past and current effects of Japanese practices; in some cases, aid projects have even expedited destructive logging and unsustainable trade in tropical timber.

Southeast Asian politics and policies have generally reinforced and aggravated ecological shadows, including Japan's. "Modern" patron-client ties are a central feature of Southeast Asia's political economies of resource management. Like traditional patron-client exchange relations, these ties are vertical, asymmetrical, reciprocal, personal, material-based, and noncontractual. But modern links are generally more opportunistic, volatile, materialistic, and have weaker loyalty bonds. In a continual struggle to retain power in societies with fragmented social control, Southeast Asian state leaders—such as Indonesia's President Suharto and Sarawak's Chief Minister Datuk Patinggi Tan Sri Haji Abdul Taib Mahmud—have built powerful patron-client networks, with family, friends, and close associates at the center. With leverage over state resources, top political patrons provide security, funds, licenses, and concessions to other elites in exchange for political support, financial

backing, and stability. Many of these political, bureaucratic, and military clients then create their own networks, contributing to patron-client ties flourishing at all levels of the state and society. In this setting, state bureaus and agencies are often unable, or at least unwilling, to enforce resource management rules. In exchange for gifts, money, or security, implementors often ignore or assist destructive and illegal resource producers, smugglers, and tax evaders. Minimal supervision of implementors also contributes to straightforward “corruption,” where a state enforcement officer accepts a bribe without becoming integrated into a patron-client network.

Patron-client links certainly do not explain all political, bureaucratic, or social interaction in Southeast Asia. But these ties are central to the allocation and management of timber concessions. Top state patrons have dispensed timber concessions to reward and placate key political, bureaucratic, and military leaders. With little logging experience or equipment, many of these elites have subcontracted the management of these concessions, often to ethnic-Chinese logging companies. Some of these companies have then made further subcontracting agreements with local leaders. Particularly in the Philippines and East Malaysia, where concessions have been redistributed as patrons rise and fall, these arrangements contribute to unpredictable management conditions. Not surprisingly, murky layers of subcontractors and an unpredictable back-drop encourage and facilitate quick and destructive logging. As well, patron-client ties distort state timber management guidelines, weaken state supervision, channel profits to a small elite, encourage logging companies to hide profits overseas, and undermine implementation of logging rules. Given this context, Southeast Asian legal loggers routinely mine concessions. Illegal loggers—protected by patrons at all levels of the state—are an equally great problem. They log outside legal concessions, and in parks, watersheds, and wildlife sanctuaries. Some illegal logs are smuggled overseas, although perhaps more important, these logs feed inefficient local mills that then export “legal” products.

Patron-client ties also contribute to unsuitable tax and royalty rates, processing incentives, and conservation and reforestation policies. Inadequate forest fees have left Southeast Asian governments with only a small portion of timber rents. Processors, concessionaires, and loggers have made windfall legal profits. Moreover, despite these low timber fees and considerable legal profits, logging and processing companies have methodically forged export records and transportation documents, misrepresented harvest totals, and evaded reforestation fees and

duties. Low fees and tax evasion subsidize inefficient processors and allow destructive loggers to export logs and plywood at remarkably low prices. In addition, this encourages companies to log concessions as fast as possible, in case the government suddenly increases forest fees or improves revenue collection. Logging companies have also faced little pressure to regenerate logged areas or conserve primary forests. Finally, pervasive patron-client links have undermined attempts to improve commercial timber management in Southeast Asia.

The inability and unwillingness of Southeast Asian states to charge and collect sufficient forest fees, rampant illegal logging, quick and destructive logging techniques, disregard for conservation and natural forest regeneration, inadequate and inappropriate reforestation, international market prices, and conventional economic calculations have magnified ecological shadows of tropical timber. In this context, Japan, and to a lesser extent other importers, have consumed huge volumes of logs, and more recently plywood, paying prices that ignore environmental and social costs. As well, this setting has distorted foreign direct investments, technology transfers, and foreign aid projects. Southeast Asian politics and policies (especially log export bans)—coupled with international market shifts, declining log stocks, changes to corporate priorities, and to a lesser extent, new Northern government and corporate overseas environmental policies—have also altered the characteristics of ecological shadows over time and across states. Yet even when these changes greatly decrease trade—as in the Philippines and Sabah—they have not alleviated the cumulative impact of past practices. In some cases, they have even exacerbated environmental problems. As a result, ecological shadows continue to undermine sustainable management throughout Southeast Asia.

All countries cast ecological shadows. But Japan's is perhaps the world's largest. This is in part because of limited Japanese natural resources and rapid economic growth since World War II. It is, however, also a result of the tactics and economic function of Japan's sixteen general trading companies (*sogo shosha*). These companies, including Mitsubishi Corporation, Mitsui & Company Ltd., Itochu & Company Ltd., Sumitomo Corporation, Marubeni Corporation, and Nissho Iwai Corporation, are at the core of Japan's corporate groups.¹⁴ According to *Fortune's* 1995 Global 500 list, in terms of sales, Mitsubishi is the world's largest corporation, then Mitsui, Itochu, and Sumitomo. Marubeni ranks sixth and Nissho Iwai is ninth.¹⁵ These dynamic companies have propelled Japanese economic growth. But they have also triggered and

accelerated widespread environmental degradation in resource-rich countries. This is not an insidious conspiracy to deplete the world's natural resources. Rather, it is a natural outcome of the logic of *sogo shosha*.

They are primarily trade intermediaries that thrive on resources extracted from unsustainable sources and sold at prices that ignore environmental and social costs. Unlike most multinational corporations, they do not try to maximize profits. Instead, for small fees, they supply a range of services to facilitate and coordinate trade. To function as intermediaries, they work at remarkably low profit margins. To remain viable at such low profit margins, they import huge volumes of natural resources. Through their control of trade chains, and by aggressively seeking out cheap resource stocks, they stimulate and maintain demand for these immense volumes.

Sogo shosha have imported the bulk of Southeast Asian tropical logs into Japan. But even more important, these companies have dominated tropical log trade chains and Japanese plywood processors. Through financial and structural arrangements with affiliated firms involved in the tropical log trade, they have facilitated transfer pricing and indirectly supported illegal loggers, smugglers, and schemes to evade taxes and royalties. They have also provided credit and equipment to Southeast Asian loggers, often in exchange for logs or guaranteed purchasing agreements. Not surprisingly, they have exerted strong pressure on supply and demand, generally pushing up production and pushing down prices. Southeast Asian policies and practices, along with international markets and economic indicators that ignore environmental and social costs, have further depressed log prices. These low prices—coupled with illegal logging, transfer pricing, smuggling, inadequate forest charges, and tax evasion—have decreased state revenues. This has left Southeast Asian states struggling to find the funds to cope with a plethora of environmental and economic problems. Low prices have also spurred “wasteful” consumption of tropical timber in Japan—that is, consumption that ignores recycling and is intrinsically far above potential sustainable production.

Japanese log traders have not been concerned with sustainable management. After log stocks disappear, or after Southeast Asian states cut supply lines, they have simply moved to new sources. This pattern has been remarkably consistent. In the 1950s and 1960s, the Philippines was the main source of logs. In the 1970s, as Japanese demand for tropical logs soared, and as valuable and accessible logs became increasingly scarce in the Philippines, Japanese traders turned to Sabah and Indone-

sia. As Indonesia implemented a ban on log exports from 1980 to 1985, Japanese companies moved to Sarawak while maintaining steady log imports from Sabah. In 1993, Sabah banned log exports. Sarawak now accounts for about 60 percent of Japanese tropical log imports,¹⁶ although as logs stocks deplete, and as the government gradually restricts log exports, Japanese traders are increasingly heading to Papua New Guinea (PNG) and the Solomon Islands. Even with adroit maneuvers by Japanese traders to maximize cheap log purchases, over the last four decades, Japanese log imports from Southeast Asia have dropped as log stocks erode, as Japanese domestic plywood processors fold, and as more and more governments restrict log exports. In 1995, Japan imported less than 6 million cubic meters of Southeast Asian logs (including PNG and the Solomon Islands), almost 21 million cubic meters lower than the 1973 peak.¹⁷ Despite this overall decrease, however, Japanese traders still have a critical impact on production and export prices in Sarawak, Papua New Guinea, and the Solomon Islands.

Japan also continues to have a critical impact on Indonesian forest management. After the log export ban in the mid-1980s, Indonesia built huge domestic sawnwood and plywood industries. This altered Japan's ecological shadow in key ways. Compared to the 1970s, there is now relatively little Japanese investment in Indonesia's timber industry. Indonesian loggers no longer need Japanese equipment. Only a small amount of Japanese aid is currently linked to commercial logging. And Japanese traders and investors now have little impact on log production or export prices. But Japanese consumers and import tariffs still undermine sustainable timber management as Apkindo (Indonesian Wood Panel Association), which now controls almost two-thirds of world trade in tropical plywood, bombards Japan with cheap plywood.¹⁸

Under Bob Hasan, a key client of President Suharto, Apkindo controls Indonesian plywood processors. Apkindo has flooded the world market with cheap plywood made from logs extracted from unsustainable sources. Despite Japan's 10–15 percent import tariffs on plywood, Apkindo has aimed about one-third of exports at Japan, often selling high-grade plywood below world market prices to break open the Japanese market and to undercut Japanese domestic plywood processors. As a result, Japan now imports more Indonesian plywood than tropical logs (in roundwood equivalent).¹⁹ Apkindo's tactics have had serious economic and environmental costs. Indonesian plywood production has exploded over the last fifteen years, averaging around 10 million cubic meters per year in the first half of the 1990s.²⁰ To feed large numbers of inefficient

mills, illegal and destructive loggers have pushed annual harvests to between 35 and 44 million cubic meters, far higher than a recent World Bank estimate of sustainable production (22 million cubic meters).²¹

Compared to Indonesia and Sarawak, Japanese trade no longer has a major impact on timber management in Sabah and the Philippines. But the cumulative and residual effects of Japan's past practices still hamper efforts to implement sustainable timber management. Managers do not have sufficient funds to tackle widespread forest degradation or concomitant environmental and social problems. Japanese aid and corporate environmental investments are logical sources of funds. So far, however, this aid has done little to offset the effects of past practices. In the Philippines, recent Japanese environmental loans for reforestation may even create greater problems as the state searches for ways to repay its debt.

Since the beginning of the 1990s, the Japanese government and major corporations have announced new policies to alleviate the environmental effects of overseas activities. The Japanese government has developed a new environmental aid program and has attempted to reform general ODA initiatives. Serious problems, however, remain. Meanwhile, the largest *sogo shosha* have established environmental departments and overseas environmental guidelines. In turn, these actions have strengthened environmental rhetoric and have contributed to support for token forest conservation projects. But business practices have not changed much. Japanese business groups and major corporations—with national and municipal government support—have also announced nonbinding targets to reduce tropical timber consumption, especially tropical plywood to mold concrete (*kon-pane*), which is generally discarded after being used two or three times. Yet despite impressive rhetoric and a substantial drop in tropical log imports, in roundwood equivalent, Japanese tropical hardwood imports were roughly the same in 1991 and 1994, as was Japanese tropical plywood consumption.²² Seen in light of both the consequences of Japan's historical practices and contemporary problems, Japanese government and corporate efforts are essentially cosmetic. More disturbing, they create a smoke screen that obscures the more important consequences of *sogo shosha* trade structures and purchasing practices, timber imports from unsustainable sources, low export and consumer prices that ignore environmental and social costs, wasteful consumption, import tariffs on plywood that siphon Southeast Asian state revenues, and the cumulative environmental effects of past practices. As the rest of this book demon-

strates, these forces have had a critical impact on forest management in Southeast Asia. It is important to stress, however, that, like poverty, foreign debt, and population growth, Japan's ecological shadow of tropical timber is an underlying cause of deforestation—a shadow that is part of a complex process of interlocked indirect and proximate causes that drive unsustainable production and provide incentives and opportunities for illegal and destructive loggers.

Research Parameters

The boggling array of factors that influence Southeast Asian deforestation and the potential for endless diversions have forced me to focus my research. I concentrate on commercial logging in primary and secondary forests. Reaching sustainable timber production, reducing destructive logging, and protecting primary forests are my main environmental concerns; my central economic concern is maximizing the amount of money invested in sustainable timber management.²³ Reluctantly, I do not address Japanese contributions to multilateral institutions. Although these are undoubtedly important—Japan is the biggest contributor to the Asian Development Bank (ADB), the second largest to the International Monetary Fund and the World Bank, and strongly backs organizations like the International Tropical Timber Organization (ITTO)—it is exceedingly difficult to determine the extent to which Japanese money shapes the policies and practices of these organizations.²⁴ To avoid diluting an understanding of Japan's bilateral impact on timber management, I also do not delve into the role of related pressures created by Southern debt, although this hovers in the background. Even though foreign debts undeniably create incentives to export resources to meet payments,²⁵ it is quite difficult to isolate and analyze Japan's contribution to these debts. It is equally difficult to determine the role this then has on the management of *one* resource.

Also lingering in the background, but not directly analyzed, is the importance of population growth, poverty, land tenure, indigenous rights, swidden farming, social and community forestry, nonforestry policies (e.g., resettlement and exchange rate policies), low status of environmental concerns in the bureaucratic hierarchy, as well as the impact of other industrialized countries, international financial organizations, and world pressure to “develop.”²⁶ These factors are certainly important. But directly tackling them would push my work toward ground already well covered by other writers and divert attention from the largely

unexplored terrain of the environmental impact of bilateral state relations on the commercial management of one natural resource.

To maintain focus throughout this project, I concentrate mainly on political factors. Academics concerned with natural resource management increasingly see political relations as a key force driving environmental degradation. But few political studies of environmental management have focused on the peaceful interaction between states.²⁷ One reason is the difficulty of isolating and clarifying important factors that shape resource management. There is a danger of exaggerating or oversimplifying the impact of a single state as variables are removed from the context of the world capitalist system and from domestic political settings. There is also a risk of including too many aspects, thus diluting or diverting attention from more important factors. To spotlight how one state influences resource management in another state, I develop the concept of a shadow ecology.

Shadow Ecology

The genesis of the term “shadow ecology” is from the book *Beyond Interdependence*. Jim MacNeill, Pieter Winsemius, and Taizo Yakushiji argue that economically powerful industrialized countries

. . . draw upon the ecological capital of all other nations to provide food for their populations, energy and materials for their economies, and even land, air, and water to assimilate their waste by-products. This ecological capital, which may be found thousands of miles from the regions in which it is used, forms the “shadow ecology” of an economy In essence, the ecological shadow of a country is the environmental resources it draws from other countries and the global commons.²⁸

Although all countries cast ecological shadows, those in the North tend to draw far more environmental resources than those in the South. According to the United Nations Development Program, Northern (developed) countries, “with just 25% of the world’s population, consume 70% of its energy, 75% of its metals, 85% of its wood and 60% of its food.”²⁹ Highly industrialized states with few natural resources—like Japan—often have the largest ecological shadows. Unfortunately, the authors of *Beyond Interdependence* do not examine the idea of a shadow ecology in detail. The goal in the following section is simple: to delineate clear definitional boundaries to boost its heuristic power.³⁰

Environmental resources include water, trees, minerals, soil, and air. Yet ecological shadows are more than the number of trees and minerals

consumed, the amount of soil removed, and the extent of water and air polluted. To fully understand the impact of a shadow ecology, it is imperative to go beyond merely counting the amount consumed or destroyed, and examine the price paid and the effect on resource management. Given enough time, money, and knowledge, many environmental resources—certainly commercial timber—can be managed as a sustainable economic asset. Accepting this assumption, a country that consumes enormous quantities without paying and without restoring degraded areas draws far more environmental resources than another country consuming the same amount, yet paying high prices for resources from sustainable sources, and providing technical and financial support to facilitate better management. For this reason, the term shadow ecology embraces the amount consumed, the price paid, the source of the resource, and the effect of government actions and corporate practices on resource management. In other words, the ecological shadow of a national economy is the aggregate environmental impact on resources outside a country's territory of three sets of factors: government policies and practices, especially ODA and loans; corporate conduct, investments, technology transfers, and purchasing and distribution patterns; and trade, including export and consumer prices, amount and "type" of consumption, and import barriers. Specific ecological shadows include "ecological shadows of timber," "ecological shadows of mining," "ecological shadows of energy," "ecological shadows of agriculture," "ecological shadows of fishing," and, with some extension of the concept, "ecological shadows of tourism."

Some caveats and boundaries further refine this definition. First, shadow ecologies change intensity and composition. The relative importance of various components depends on the states involved, the resource sector, and the historical period. As well, actions of resource producers and international financial pressures can aggravate or alleviate shadow ecologies. To create a balanced perspective, it is imperative both to view ecological shadows in the context of overseas political economies and to keep in mind the role of the world capitalist system in shaping attitudes and practices. Second, an ecological shadow is a result of both intended and unintended consequences of government, corporate, and bank actions. It is not a result of a guided or conscious plan. This is especially relevant for Japan, where the decision-making process is fragmented. It is still possible, however, to control the consequences. Public and private policies in both developed and developing countries can significantly alter the impact of a shadow ecology.

Third, the term implies a two-way dependence between the North and South. A country like Japan relies on Southern raw materials, while the South relies on Northern markets, technology, aid, and investment. This moves “beyond interdependence” in its limited economic sense, and suggests a “meshing of the world’s economy and the earth’s ecology.”³¹ The relationship, however, is asymmetrical because environmental change more immediately affects the South. Economic and ecological interdependence suggests an inevitable impact of economic activity in the North on the environment of the South, and furthermore, an inevitable impact of environmental change in the South on the economies of the North.³² Accepting this assumption, it makes sense to conceive of shadow ecologies on a continuum where sustainable activity falls on one end and environmental destruction falls on the other end. The logical task for policymakers, then, is not to eliminate these shadows but to minimize and counteract any negative consequences. Ideally, sustainable activity would involve South-North interaction that encourages mutual and equitable development, while environmental change is sustainable.

Finally, shadow ecologies tend to transfer to the South environmental costs of economic growth in the North. Nevertheless, it is important not to oversimplify and exaggerate the impact of shadow ecologies. Aid, investment, technology, and trade are certainly important factors shaping environmental management in the South. But these are only part of the explanation, their importance varies depending on the context, and they can simultaneously have both negative and positive implications for management. Although South-North interaction has had many destructive consequences in the past, a complete break would not ensure sustainable practices. Northern money, information, technology, and training—modified to fit Southern knowledge, experience, and conditions—provide the only practical route to sustainable management.³³ For background and further clarity, the next section examines some of the theoretical debates regarding the environmental impact of ODA, Northern technology, corporate investment, and trade on resource management in the South.

ODA, Government Loans, Technology, and the Environment

The environmental impact of ODA (grants, technical assistance, and concessional loans), as well as government loans not qualifying as ODA, has been examined extensively in recent years.³⁴ The media, nongovern-

mental organizations (NGOs), and environmentalists have scrutinized mega-development projects financed by multilateral and bilateral aid which create sensational environmental change. Popular interest in such schemes is further aroused by stories of corruption, connections to multinational corporations, and destruction of aboriginal cultures. Academic work has also looked closely at the links between environmental destruction and poorly conceived aid and loan priorities and projects, badly designed and managed Northern aid agencies, and strategic use of aid and loans to promote Northern business.³⁵ Some scholars, however, are wary about the connections made between ODA and environmental change. According to William Adams, although clearly a factor, "it remains an open question . . . as to how much influence aid agencies actually have on the nature and course of development projects. The power of aid donors is often exaggerated, and of course varies a great deal."³⁶ Moreover, it is important not to discount ongoing changes to aid policies as environmental awareness grows and aid is "greened."³⁷

Assessing the environmental impact of ODA and nonconcessional lending is clearly difficult, and its importance debatable. There is a tendency—especially in government publications—to assume *all* reforestation or environmental technologies are beneficial. There is an equally dubious tendency among NGOs and environmentalists to label *all* aid as a capitalist ploy to exploit the natural resources of the South. Given that aid has the potential for both negative impacts—as when funding ill-conceived dams, roads, and equipment purchases—and positive impacts—as when funding conservation and environmental education—it is necessary to weigh each situation carefully, avoid simplistic condemnations, and consider its importance relative to overall environmental problems.

Technological transfers—by Northern governments through ODA or loans, or by multinational corporations (MNCs) as part of investment—can potentially alleviate environmental problems, for example, by replacing inefficient processing facilities and reducing pressure on a resource.³⁸ But technology can also create havoc by accelerating extraction and production before effective plans and policies are in place.³⁹ Martin Khor Kok Peng, director of the Third World Network, argues that "the importation of inappropriate Northern technologies has progressively destroyed the more ecological indigenous production systems in the south, besides simply destroying natural resources."⁴⁰ As with aid and loans, technology is a double-edged sword, and the environmental consequences must be weighed carefully.

Multinational Corporations and the Environment

According to Nazli Choucri, *all* theories of multinational corporations, including international relations studies in political science, “ignore the impacts of corporate activities on the natural environment and on ecological balances.” These theories seem to assume “private investments and actions crossing borders are neutral relative to environmental, ecological, or atmospheric impacts.”⁴¹ Of course, many less-“theoretical” studies have examined the links between MNCs and environmental change.⁴² Yet this gap in the MNC literature is indicative of a superficial understanding of the connections between environmental change and corporate investors and traders.

Multinational investors often create incentives and the means for rapid exploitation of Southern resources. These firms also tend to invest little in environmental projects such as reforestation, which have low profit margins, long-term returns, and high risks. As well, multinational traders—especially from Japan—purchase enormous quantities of cheap natural resources from unsustainable sources. Driven by these investment and purchasing practices, Southern partners ignore long-term management principles and quickly deplete resource stocks. In the 1980s, MNCs became more conscious of environmental issues. Little evidence exists, however, of concrete changes to multinational behavior in the South.⁴³

Trade and the Environment

World trade swamps the financial flows of debt and aid. In the early 1990s, annual world trade in goods was about U.S.\$3.5 trillion; including commercial services, it reached U.S.\$4.3 trillion. In comparison, total annual ODA was around only U.S.\$55 billion, while Southern debt service stood at about U.S.\$130 billion.⁴⁴ After an initial spurt in the 1970s, then a lull in the 1980s, an explosion of writing has occurred in the 1990s on the links between trade and environmental management.⁴⁵ Hal Kane argues that trade is essentially “taking products made by using the environment, or taking the environment itself, and sending it off to other countries.”⁴⁶ Understood in this way, trade inevitably creates environmental change. Yet change itself is not a problem; even sustainable development requires change. What is crucial is the impact of trade on resource management—whether it contributes to sustainability or irreparable change. This discussion must be approached cautiously: the

arguments linking trade to the environment are complex and “there are few absolutes.”⁴⁷ Four key trade issues that shape Southern resource management—consumption, price, import barriers, and export restrictions—are particularly contentious.

Consumption

For classical economists, rising consumption is a key element for economic growth. This assumes consumption is good: more food, more televisions, more luxurious homes and cars, all lead to greater prosperity. This ingrained view is being increasingly challenged, especially as the disparity continues to grow between rich Northern consumers and destitute Southern survivors. Cities are now polluted by swarms of vehicles; dumps are full of old appliances; rivers, lakes, and oceans are saturated with waste and chemicals; deserts are expanding and forests disappearing. As environmental problems spread, “environmental economists” have begun to question conventional economic indicators and analysis. They argue that economic growth and resources are finite; it is therefore essential to differentiate between quality consumption and the quantity consumed. Wasteful consumption such as excessive packaging, three-car families, or disposable tropical wood products contributes to mounds of garbage, pollution, and loss of biodiversity. “Conscientious” consumption can “save” resources that can be transferred to food, housing, medical facilities, education, and improved resource management in the South. In this view, shifting the pattern of world consumption from one of “blind” consumption to “conscientious” consumption is necessary for equitable and sustainable development.⁴⁸

Price

Consumption and price are inseparable: lower prices encourage higher consumption and higher prices tend to lower consumption. Conventional economists argue that free markets create a natural equilibrium between supply and demand that generates a “fair” price. According to environmental economists, however, free markets fail “to properly value the services that the environment provides.”⁴⁹ Markets have particular difficulty accounting for environmental integrity, such as biodiversity. Markets also tend to ignore external environmental damage, such as the costs of global warming. In addition, markets tend to shift

environmental costs to future generations. These market failures are often reinforced or enhanced by Southern and Northern policies. As a result, consumer prices generally do not reflect environmental or social costs. Multinational and domestic corporations often drive down the prices of natural resources even further. Primary rain forest timber is particularly underpriced.⁵⁰ By treating the commons as a free good, the market "'externalizes', or transfers to the broader community, the costs of resource depletion . . . in the form of damages to ecosystems." As a result, "today's trade patterns contain a massive transfer of the environmental costs of world GNP to the resource-based economies of developing countries."⁵¹

Low and often volatile resource prices, along with poor rent capture and subsidies by Southern governments, encourage even greater extraction to earn foreign exchange, and preclude investment in sustainable production.⁵² Furthermore, "underpricing . . . natural resources encourages wasteful and environmentally destructive patterns of consumption throughout the world."⁵³ For a realistic chance of sustainable management, it is necessary to maintain stable world commodity prices that internalize environmental and social costs⁵⁴—that is, generate a price, perhaps through trade measures, that internalizes the added expense of careful, long-term management and that accounts for losses connected to inevitable ecological changes.⁵⁵ It is of course not possible, nor even desirable, to calculate the price of irreplaceable environmental costs, such as species extinction. In these cases, it is necessary to simply conserve environmental resources for future generations.

To combat ideological blinkers behind policies of ever-higher production and economic growth, there is a "world-wide effort . . . to explore the possibility of modifying the conventional economic accounts in order that they may better reflect environmental and natural resource degradation."⁵⁶ Robert Repetto argues that "failing to allow for depreciation of natural resource stocks when they are depleted or degraded disguises the sacrifice of future consumption, overstates income and capital formation, and justifies policies that waste natural resources in the name of economic growth."⁵⁷ By expressing environmental losses in monetary terms, economic statistics—touted by many governments as proof of their competence—can be corrected to reflect environmental degradation. Presumably, this will provide strong incentives to improve management as governments strive to raise these new economic indicators. Although technically difficult, the most innovative attempts to revise economic accounting include "the costs of environmental degradation

and resource depletion occurring outside the country but related to consumption within the country”—for example, when resources are imported “at a price below the costs of their sustainable exploitation.”⁵⁸ Ignoring these overseas environmental costs inflates the estimate of annual increases in gross domestic product (GDP).

Northern Tariffs and Import Restrictions

Tariffs can reduce resource consumption and raise consumer prices. In theory, if governments transferred tariff revenues to exporters, or if special tariffs were imposed on resources from unsustainable areas, then import charges could promote sustainable management. But this has never occurred in practice. Instead, import tariffs—which often escalate with the degree of finishing—have siphoned revenues from exporters, undermined local processors, and prevented economies from diversifying. Rather than protecting environments, tariffs have contributed to overexploitation and mismanagement.

Some environmental groups advocate import restrictions to promote sustainable management. But import barriers are crude instruments that easily misfire. Without compensation, import restrictions can create economic hardship for producers. These can lower prices and decrease the economic value of resource stocks. As well, import restrictions may reduce consumption only temporarily as new markets absorb the slack. In the case of tropical timber, a study for the ITTO concludes that a need exists to “improve rather than restrict access to import markets for tropical timber products.” The report argues that “by adding value to forestry operations, the trade in tropical timber products could act as an incentive to sustainable production forest management—provided that the appropriate domestic forest management policies and regulations are also implemented by producer countries.”⁵⁹

Export Restrictions and Subsidies

In theory, if resource prices reflect environmental and social costs, if trade is limited to products from sustainable sources, if consumption falls to sustainable levels, and if import tariffs are dismantled, then exports of unprocessed, semiprocessed, and processed products should *all* promote sustainable management. Given that these conditions do not exist, many resource producers, as well as some environmentalists, argue that it is essential to ban natural resource exports and subsidize local

processors. Advocates of export bans and subsidies maintain that, although temporary economic losses may occur, processing generates jobs, adds value, diversifies the economy, reduces the influence of MNCs, decreases the dependency on foreign markets, and creates long-term incentives to sustain the resource.⁶⁰ But in practice, export bans and subsidies have depressed prices and contributed to large numbers of inefficient and wasteful local processors, many of whom are protected by powerful political leaders.

Recognizing the economic and environmental drawbacks of export bans, some analysts argue that partial restrictions on unprocessed exports are more effective. They maintain that partial restrictions foster local processing, but still allow foreign demand and competition to increase prices and promote greater efficiency.⁶¹ Although partial restrictions do provide higher short-term state revenues than export bans, in practice there has been little difference in terms of environmental management. Resource prices still ignore environmental and social costs, resource extraction is still well above sustainable levels, and processors are still wasteful and inefficient. As a World Bank researcher notes in the case of tropical timber, “the economic consequences of imposing log-export restrictions have been negative, both from the perspective of the forestry sector and the country as a whole. No analysis exists that demonstrates any positive impacts.”⁶²

At some point, governments must eliminate export restrictions and processing subsidies to raise efficiency and internalize environmental and social costs. Yet it is not accurate to assume—as is common among free trade advocates—that removing bans and subsidies will immediately improve resource management. In the current political and economic context, liberalizing trade could even aggravate resource mismanagement as new corporations pursue profits and as processors struggle to survive.⁶³ Before eliminating resource export bans and state subsidies, it is first necessary to internalize environmental and social costs into export and consumer prices, eliminate markets for unsustainable and illegal exports, place constraints on multinational investment and purchases, dismantle import tariffs, enforce state regulations, and ensure that revenues are channeled to sustainable resource managers.⁶⁴

Having outlined the concept of shadow ecology and having sketched the broad theoretical debate over the environmental implications of bilateral state interaction, the next chapter examines recent changes to Japanese corporate and government policies that shape Japan's shadow ecology, especially regarding tropical forests. Chapter 2 then builds a

comparative framework—the patron-client model modified to give more focus on the state and policy implementation—to analyze the domestic political economies of resource management in Southeast Asia. Using these analytical tools, and drawing on extensive primary sources and more than one hundred in-depth interviews, chapters 3 to 5 outline the political economies of timber in Indonesia, East Malaysia, and the Philippines, with particular attention to Japan. Even though Japanese timber traders and investors first entered the Philippines, this case is examined last because the residual effect of Japan's ecological shadow is now far more important than the immediate impact. The Philippines also illustrates the failure of Japanese ODA to offset the cumulative environmental repercussions of these past practices. Building on these empirical studies, the final chapter compares and assesses the impact of Japan's ecological shadow of tropical timber in the context of Southeast Asian clientelist states.

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INTEP Newsletter (International Environmental Planning Center, University of Tokyo)
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Star

Straits Times

Times Journal

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Tokyo Business Today

Utusan Konsumer

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Interviews

From late January 1994 to the end of July 1994, I conducted more than one hundred in-depth, open-ended, confidential interviews—generally between one to three hours—with government officials, business leaders, academics, private consultants (whose firms remain anonymous), and nongovernmental organization representatives in the Philippines, the Malaysian states of Sabah and Sarawak, Peninsular Malaysia (Kuala Lumpur), Indonesia, Singapore, and Japan. I am indebted to numerous individuals at the following organizations.

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WALHI (Indonesian Forum for the Environment), Jakarta

Japan

Center for Environmental Policy and Advocacy (CEPAT), Tokyo

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International Tropical Timber Organization (ITTO), Yokohama

Itochu Corporation, Department of Global Environment, Tokyo

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Japan Overseas Forestry Consultants Association (JOFCA), Tokyo

Japan Plywood Inspection Corporation, Tokyo

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Peninsula Malaysia

Asian Wall Street Journal, Kuala Lumpur
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