JAPAN'S ENVIRONMENTAL IMPACT IN SOUTHEAST ASIA: LESSONS FOR SUSTAINABLE DEVELOPMENT

by

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B.A., University of Victoria, 2009

MAJOR PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in the
School for International Studies
Faculty of Arts and Social Sciences

SIMON FRASER UNIVERSITY

Summer 2011

APPROVAL

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Degree: **Master of Arts (International Studies)**

Title of Thesis: **Japan's Environmental Impact in Southeast Asia: Lessons for Sustainable Development**

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Date Defended/Approved: August 24, 2011

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ABSTRACT

Japan imported substantial amounts of tropical timber in the post-World War II period and the environmental impact of this on the rainforests in Southeast Asia has generated considerable controversy. This paper seeks to explore the environmental impact of Japan's involvement in Southeast Asia with particular regards to forestry and examine whether Japan can play a positive role in promoting sustainable development in Southeast Asia, especially in countries where major deforestation has taken place. Environmental impact of economic development has gained considerable attention especially since 1970s and sustainable development became crucial to consider. As a significant ODA provider and a consumer of imported forest products, Japan has an important role in supporting sustainable forestry in Southeast Asian countries and helping overall sustainable development in the region.

Keywords: Japan; Southeast Asia; forestry; environment; sustainable development.

TABLE OF CONTENTS

LIST OF FIGURES

GLOSSARY

ASEAN	Association of Southeast Asian Nations
DAC	Development Assistance Committee
FAO	Food and Agriculture Organization
FSC	Forest Stewardship Council
GDP	Gross Domestic Product
ITTO	International Tropical Timber Organization
JICA	Japan International Cooperation Agency
MDGs	Millennium Development Goals
MOFA	Ministry of Foreign Affairs of Japan
NFC	National Forestry Council
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
UN	United Nations
UNCED	United Nations Conference on Environment and Development
WCED	World Commission on Environment and Development
WTO	World Trade Organization

1: INTRODUCTION

Japan has actively sought to establish a close relation with Southeast Asia in the past few decades, and it has been the largest Official Development Assistance (ODA) donor for several countries in Southeast Asia (OECD 2011a). As a resource-scarce country, Japan heavily relies on imports from Southeast Asia for the supply of natural resources such as oil, minerals, and forest resources. Particularly, Japan imported substantial amounts of tropical timber in the post-World War II period, and the environmental impact of this on the rainforests in Southeast Asia has generated considerable controversy. Southeast Asia has old-growth tropical forests with vast terrestrial biodiversity; however, forests in the region have experienced a rapid loss after the World War II and exploitation of forest resources has led to deforestation and forest degradation in the region. Japan is considered to have played a critical role in accelerating forest exploitation in the region to supply its own demand.

Since the 1970s, the relationship between development and the environment has become a crucial theme to consider as the concept of sustainable development has become prominent. In particular, the Rio Earth Summit in 1992 brought attention to the importance of considering sustainable development that seeks to achieve both economic development as well as environmental sustainability. Environmental impact of forestry has tended to be overlooked in Southeast Asia, where tropical forests have been subject to severe

exploitation for generating economic growth. This paper seeks to explore the environmental impact of Japan's involvement in Southeast Asia with particular regards to forestry and examine whether Japan can play a positive role in promoting sustainable development in Southeast Asia, especially in countries where major deforestation has taken place. In doing so, this paper will evaluate Japanese involvement in the exploitation of forest resources in Southeast Asia and then discuss Japan's role in promoting sustainable forestry in the region.

1.1 Research Objectives and Research Methods

It can be argued that the tropical forests in Southeast Asia have been subject to exploitation at the expense of local economic development and that deforestation and forest degradation have been a severe problem in Southeast Asia over the several decades. International demand for tropical forest products played an important role in creating economic incentives that have led to the over-exploitation of these forests. The primary objective of this paper is to shed some light on the theme of environment and development in the context of Japan's relations with Southeast Asia. In particular, this paper seeks to assess the feasibility of sustainable development in Southeast Asia where forest-resources contribute to local as well as national economies. In doing so, this paper links Japan's past and current environmental impact in Southeast Asia with the prospective role of Japan in leading sustainable development in the region.

This paper is based on a case study that examines deforestation and forest degradation in Malaysia and Japan's involvement in this so as to provide a

contextual analysis of the environmental problems of forestry in Malaysia. More specifically, the case study will examine the role of Japanese private corporations, namely *sogo shosha,* and Official Development Assistance. Malaysia was chosen as a case study because income from forestry still plays an important role in its economy (especially in the states of Sabah and Sarawak) and hence it serves as a notable case to illustrate the relationship between development and environment.

Information used in this study is based on scholarly published books and journal articles; thus evidence will largely rely on secondary sources. Some primary sources such as governmental documents, Organization for Economic Cooperation and Development (OECD) reports, and Food and Agriculture Organization (FAO) reports will also be used. Since this study depends heavily on published sources by different authors with their varying interests, I attempt to avoid being misguided by potential bias in these sources. Yet, it is important to keep in mind that dependence on the secondary sources is the weakness and limitation of this study.

1.2 Outline of the Paper

Chapter 1 introduces the problem and the purpose of the study. Chapter 2 establishes the context of the study by providing literature review and an overview of Japan's relationship with Southeast Asia. Particularly, it explains Japan's development cooperation effort in Southeast Asia and discusses different perspectives on its implications for development and environment. It also discusses brief history of sustainable development and Japan's approach towards

sustainable development. Chapter 3 seeks to illustrate Japan's involvement in the exploitation of tropical forests in Southeast Asia by visiting Philippines, Indonesia and Malaysia. Chapter 4 further analyzes the factors that have contributed to the issue of deforestation and forest degradation in Malaysia and examines Japan's involvement in exacerbating the issue with particular attention to the role of Japanese private corporations and Japanese ODA. Chapter 5 observes the applicability of sustainable forest management in Southeast Asia and assesses Japan's role in supporting sustainable development in the region. The paper concludes that Japan has a great potential to play an important role in promoting sustainable development in Southeast Asia as a significant ODA provider and a consumer of imported forest products. Hence, it would be beneficial for Japan and Southeast Asia to cooperate and tackle environmental issues with forestry for the overall sustainable development in the region.

2: CONTEXT AND LITERATURE REVIEW

2.1 Brief History of Japanese Development Cooperation in Southeast Asia

Japan has provided substantial Official Development Assistance (ODA)[1] to Southeast Asia, which has had significant implication for development and the environment in Southeast Asia. Southeast Asia suffered under Japanese occupation from 1941 to 1945 during World War II, and the legacy of this shaped Japan's post-war relations with the region (Gilson 2009, 208). Starting in the mid-1950s, Japan made reparation payments to Southeast Asian countries for the damages it had caused during the war in the region (Kawai and Takada 2004, 258). Over the period of 1955 to 1965, Burma, Philippines, Indonesia, and South Vietnam received direct reparations while indirect reparations were provided to countries such as Thailand, Singapore, Malaysia and South Korea in the form of economic assistance (Kawai and Takagi 2004, 258). During this period, Japan's relations with Southeast Asia were focused primarily on economic cooperation through the payment of reparations as well as trade.

According to the Organization for Economic Co-operation and Development, Japanese ODA allocations have traditionally focused on Asia,

[1] According to the Development Assistance Committee (DAC) of the Organization for Economic Co-operation and Development (OECD), definition of ODA is a "Grants or loans to countries and territories on the DAC List of ODA Recipients and multilateral agencies that are undertaken by the official sector; with the promotion of economic development and welfare as the main objective; at concessional financial terms (if a loan, having a grant element of at least 25%)" (OECD 2010, 116). More specifically, OECD notes that ODA may be composed of grants and loans as well as technical cooperation (2010, 116).

particularly East Asia and Southeast Asia (OECD 2010, 16). In addition, the Government of Japan explicitly states in its ODA Charter, “Asia, a region with a close relationship to Japan and which can have a major impact on Japan's stability and prosperity, is a priority region for Japan” (Govt. of Japan and MOFA 2003, 4). In short, geographical concentration in the allocation of Japanese ODA reflects that Asia as a region (particularly East Asia and South East Asia) has been politically and economically important for Japan.

As a result, the average of Japan’s annual net bilateral ODA disbursement to Asia was the highest among other donors during 1980-1989 and 1990-1999 (see Figure 1 below). Araki (2007, 24) states that the 2000s has been “an era of renewed emphasis on ASEAN” for Japanese ODA as Japan adopted a “Global Strategy,” which “directed that economic cooperation should be strengthened with the four Indochina nations that lagged behind other ASEAN nations in terms of economic development (Vietnam, Cambodia, Laos, and Myanmar), in order to rectify economic disparities within the ASEAN region.” Furthermore, Japan was the largest donor for seven countries (Indonesia, Viet Nam, Philippines, Malaysia, Cambodia, Thailand, and Laos) out of ten ASEAN countries in 2008-2009 (OECD 2011a). Hence, Japan has maintained a close relationship with Southeast Asia especially through the provision of ODA.

4.2.3. ODA to Asia by DAC donor

USD million, 2008 prices and exchange rates, average annual net bilateral disbursements

	1970-79	1980-89	1990-99	2000-09	2000-09 % of DAC countries	2000-09 Asia as % of each donor's aid
Australia	335	428	568	873	4%	56%
Austria	30	122	63	331	1%	45%
Belgium	130	104	74	138	1%	14%
Canada	755	633	489	723	3%	35%
Denmark	164	272	292	387	2%	28%
Finland	9	71	117	151	1%	36%
France	519	703	871	1 098	5%	19%
Germany	1 467	1 797	1 900	2 338	10%	41%
Greece	-	-	6	49	0%	24%
Ireland	1	1	9	60	0%	13%
Italy	172	278	263	432	2%	35%
Japan	2 806	4 217	5 352	4 155	18%	67%
Korea	-	1	57	244	1%	72%
Luxembourg	-	-	14	50	0%	22%
Netherlands	686	959	641	742	3%	26%
New Zealand	46	18	25	55	0%	29%
Norway	183	327	422	639	3%	33%
Portugal	-	-	13	83	0%	21%
Spain	-	10	285	389	2%	17%
Sweden	378	439	371	500	2%	29%
Switzerland	118	175	236	307	1%	34%
United Kingdom	1 398	842	746	1 843	8%	38%
United States	5 653	3 672	2 558	7 052	31%	48%
Total DAC countries	**14 849**	**15 068**	**15 373**	**22 638**	**100%**	**41%**
EU institutions	515	680	1 122	2 142	---	23%

4.2.4. ODA to Asia by largest bilateral donors since 1970

USD billion, 2008 prices and exchange rates, 3-year average net bilateral disbursements

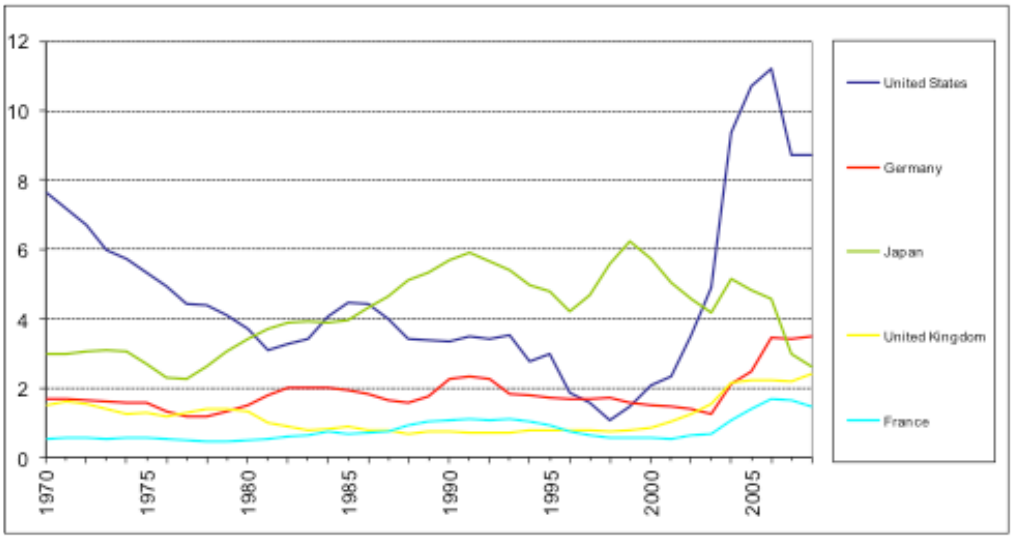

Figure 1: ODA to Asia by DAC donor
Source: OECD 2011b. (http://www.oecd.org/dataoecd/39/51/42139371.pdf/)

2.2 Perspectives: Development and Environment

Japan's involvement in Southeast Asia in the post-World War II period had several controversial implications for development and the environment in the region. Regarding Japan's development cooperation with Southeast Asia, some scholars believe that Japan has been a cooperative development partner while others articulate a concern that Japan's involvement in Southeast Asia has had an environmentally destructive impact in the region. Leheny and Warren (2010, 7) assert, "the Asian countries that have been the major targets of Japanese ODA have been among the world's most successful developing economies, far outpacing the Latin American and African nations that have traditionally been the beneficiaries of European and North American aid." Sudo (2002, 69) agrees by insisting, "Japan's economic assistance is helping to accelerate the export-oriented economic growth that ASEAN nations have sought long and hard to achieve." Sudo (1988, 514) also adds, "ASEAN needed Japan's economic assistance to reinforce regional cooperation, and Japan needed ASEAN to play its political role in the region and to develop multilateral economic relations." In short, according to this perspective, Japan and Southeast Asia have developed a mutually beneficial relationship in which Japan has sought to secure access to natural resources in Southeast Asia while many countries in Southeast Asia have received financial support from Japan in return that has helped them to develop.

However, Japan has also been criticised for strategically using its ODA to meet its own interests and accelerating natural resource exploitation in the region. Kawai and Takagi (2004, 259) assert, "Japan used aid as a way to secure

sources of raw materials for its industry and to open markets for its exports." Scheyvens (2005, 91) also points out, "as a resource-poor trading nation, Japan has often invoked ODA to secure stable supplies of energy, minerals and primary products from abroad." Seo and Taylor (2003, 94) are critical of Japan's reliance on imported natural resources such as timber from Southeast Asia since at the same time Japan has sought to conserve its own resources—in effect, doing so at the expense of other countries. In addition, Morita (2002, 57) argues that Japan has cast an "ecological shadows" over Southeast Asia, promoting unsustainable, destructive and often illegal logging. Jomo (1994, 191) states "Japan is the biggest donor to 29 developing countries, many of which have endangered forest resources." In other words, Japan's development cooperation is associated by such authors with environmental exploitation in the region.

2.3 Definitions: Deforestation and Forest Degradation

According to the Food and Agriculture Organization, deforestation is defined as "a transition from forest…to non-forest" which involves "the long-term or permanent loss of forest cover and implies transformation into another land use" (FAO 2007, 8). The FAO (2007, 8) adds, "The term specifically excludes areas where the trees have been removed as a result of harvesting or logging, and where the forest is expected to regenerate naturally or with the aid of silvicultural measures." Hence, logging does not constitute deforestation when the forest is managed properly to allow for regeneration.

Forest degradation is defined as "a human-induced, long-term, negative change in the forest's structure, function and capacity to provide goods and

services in general" which has the "clearly negative connotation of a long-term impairment of a forest" (FAO 2007, 12). Furthermore, the FAO (2007, 12) states, "Unsustainable logging practices can contribute to degradation if the extraction of mature trees is not accompanied with their regeneration or if the use of heavy machinery causes soil compaction or loss of productive forest area." Hence, this paper is concerned with effects of both deforestation and forest degradation especially with regards to their economic and ecological impact in Southeast Asia.

Seo and Taylor (2003, 95) assert that in Philippines, the two foremost causes of deforestation are logging and agriculture. They point out that logging leads to a loss of primary forests by converting them into secondary growth forests and secondary growth forests are then converted into agricultural land (2003, 95). Dauvergne (1997, 131) adds that logged areas are subject to slash and burn farming as well as devastating forest fires. Hence, although logging is not considered a direct cause of deforestation when the forest is expected to regenerate, logging often leads to deforestation since the logged areas are often turned into agricultural land.

2.4 Brief History of Sustainable Development

Recognition of the environmental impact of development gained increasing attention in the 1970s. The United Nations Stockholm Conference on the Human Environment was held in 1972, which considered "the need for a common outlook and for common principles to inspire and guide the peoples of the world in the preservation and enhancement of the human environment" (UN, 1972). It also recognized that "In the developing countries most of the environmental problems

are caused by under-development" while "In the industrialized countries, environmental problems are generally related to industrialization and technological development" (UN, 1972).

Furthermore, a report called *Our Common Future* was released in 1987 by the World Commission on Environment and Development which highlighted the need to strengthen international cooperation in order to achieve a balance between economic growth and environmental sustainability (WCED, 1987). The concept of sustainable development became even more prominent after the Earth Summit in Rio de Janeiro in 1992. In the Rio Declaration, the United Nations Conference on Environment and Development emphasized that "States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem" (UNCED 1992, Principle 7). The Millennium Development Goals in 2000, which were adopted by leaders of 189 nations in 2000, includes a goal that seeks to "ensure environmental sustainability" (UN 2011, Goal 7). Hence, the concept of sustainable development has grown in prominence since the 1970s and along with it the notion of considering the relationship between development and the environment.

2.5 Sustainable Development: Economic or Environmental Sustainability?

Although the term "sustainable development" is now widely used and discussed, its definition remains vast and vague. The most commonly acknowledged definition of sustainable development is provided by the WCED, which defines it as "development which meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED

1987, 8). Castro (2004, 196) states that the definition by WCED has been widely criticised “for being too vague, for not defining what needs are, or for not saying what are the mechanisms to achieve an environmentally sustainable society.” Castro (2004, 196) adds, “the mainstream approach sees this in terms of economic conditions primarily, whereas more critical perspectives emphasize ecological conditions directly.”

Agenda 21, which was adopted at the Rio Earth Summit, captures the important aspects of the approach towards development and environment taken by the United Nations that represents the mainstream approach to sustainable development. Pearce (1997, 475) points out that Agenda 21 emphasizes “the role that economic incentives must play in securing the conservation of global environmental assets.” More specifically, Agenda 21 states:

> “The international economy should provide a supportive international climate for achieving environment and development goals by: (a) Promoting sustainable development through trade liberalization; (b) Making trade and environment mutually supportive; (c) Providing adequate financial resources to developing countries and dealing with international debt; (d) Encouraging macroeconomic policies conducive to environment and development” (United Nations Conference on Environment and Development 1992, Sec. 2.3).

The above statement reveals that the United Nations seeks to address environmental issues through trade liberalization and economic incentives. In addition, the World Bank states, “We aim to make sustainability our comparative advantage, enhancing the quality of growth to help developing countries” (World Bank 2011a). Castro (2004, 201) highlights that “the World Bank approach to economic growth and environmental degradation is that a market-friendly

approach to development will reduce poverty, and that if poverty is reduced, environmental degradation will be reduced as well." Hence, both the United Nations and the World Bank highlight the important role of the market and economic growth in achieving environmental sustainability and tend to imply that economic development can help enhance environmental sustainability. Their approaches reflect a belief that economic development and environmental sustainability are not mutually exclusive and that economic growth should not be compromised for protection of environment.

This paper aims to recognize the importance of economic development and environmental sustainability rather than determining whether one is more important than the other. Therefore, sustainable development is broadly defined as a way of development which aims to achieve both economic development and environmental sustainability and maintain the balance between them for the well-being of human beings as well as the larger ecosystem as a whole.

2.6 Japanese ODA and Sustainable Development

Strange and Bayley (2008, 3) states that the world has made significant progress toward sustainable development in the last twenty years and that "most national governments have begun to incorporate sustainable development in their planning and policy." Japan is one of the countries that have incorporated environmental sustainability in its ODA policies towards developing countries. In response to the increasing awareness of sustainable development internationally, the Japanese government has actively pursued its environmental aid policies in Asia through its Green Aid Plan since the 1990s (Evans 1999, 826-7). Japanese

ODA received severe criticisms during the 1970s and 1980s for ignoring its environmental impact in Asia. In response, Japan has come to emphasize that "Protecting the environment is one of the most important themes of Japan's official development assistance" (Hall 2010, 167).

Currently, the Government of Japan identifies global environmental issues as "a top strategic priority" (OECD 2010, 22). Environmental aid involves "activities that have environment as a principal or significant objective" (OECD 2011b). OECD specifies that environment-oriented activities should "be intended to produce an improvement… in the physical and/or biological environment of the recipient country, area or target group concerned" or include "specific action to integrate environmental concerns with a range of development objectives through institution building and/or capacity development" (2011b). The Japanese Ministry of Foreign Affairs defines environmental aid as "assistance conductive to the resolution of environmental problems" such as "the improvement of the living environment, forestry conservation and afforestation, disaster reduction, pollution control, the conservation of the natural environment (including the conservation of biological diversity) and the protection of ozone layer" (Dauvergne 2001, 57).

Howard (1999, 429) maintains that Japan's own experience of dealing with development and environmental degradation could serve as a role model for other Asian countries and Japan can play a significant role in "re-greening" of Asia. Fukukawa (1992) also discusses Japan's successful experience of domestic anti-pollution and energy conservation efforts and insists that reinforcement of the cooperative efforts between Japanese government and industries can further

strengthen the scope of sustainable development in Asia. Yet other scholars maintain critical perspectives on the scope of Japan's role in environmental cooperation in Asia.

Dauvergne (1997) argues that although Japan appears to acknowledge the importance of the environmental sustainability for development, it has significantly contributed to the exploitation of natural resources through the commercial activities and the use of its foreign aid in Southeast Asia. Potter (1994) asserts that Japan's environmental aid has a limited scope for environmental protection as Japan's ODA is based on requests by the recipients.[2] Furthermore, Evans (1999) points out that there is a limit to environmental cooperation between Japan and Asian countries due to the lack of incentives among Japanese private corporations to share their environmental technologies with less developed countries. Overall, several scholars remain critical of the role of Japanese environmental aid due to varying constrains.

[2] Request-based ODA requires the recipient to "design their own projects or programmes" and "the request for assistance must, in principle, come from the recipient country, after it has formulated and prioritized its own development programme" (Kawai and Takagi 2004, 266).

3: JAPAN'S IMPACT ON THE FORESTS IN SOUTHEAST ASIA

Southeast Asia has old-growth rainforests that are rich in biodiversity. Japan is often associated with environmental degradation, especially with deforestation in Southeast Asia. Seo and Taylor (2003, 95) argues, "In Southeast Asia deforestation has been closely linked to international trade, largely with Japan." In addition, Dauvergne (1997, 2) asserts that "over the last four decades, over 91 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." In other words, rainforests in Philippines, Indonesia, and Malaysia are considered to have been subject to deforestation and degradation for meeting Japan's demand for forest resources. In particular, Japan is often criticized for moving to new sources of forest-resources depending on the availability.

In the 1950s and 1960s, Japan relied on log imports from Philippines, and consequently commercially valuable logs became scarce in Philippines. As the demand for tropical logs increased in Japan in the 1970s, Japan shifted to Indonesia and Malaysian state of Sabah to secure access to forest products. When the Indonesian government banned log exports in the early 1980s, Japan sought to maintain its access to log imports by moving to Sarawak in Malaysia (Dauvergne 1997; Morita 2002). To date, Japan has continued to import

substantial quantities of logs from Southeast Asia especially from Indonesia and Malaysia (see Figure 2 below). Dauvergne (1997, 3) asserts that “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.” In the following sections, Japan’s impact on the forests in Philippine, Indonesia, and Malaysia will be discussed in order to provide a brief overview of how Japan has changed its source of log imports over time.

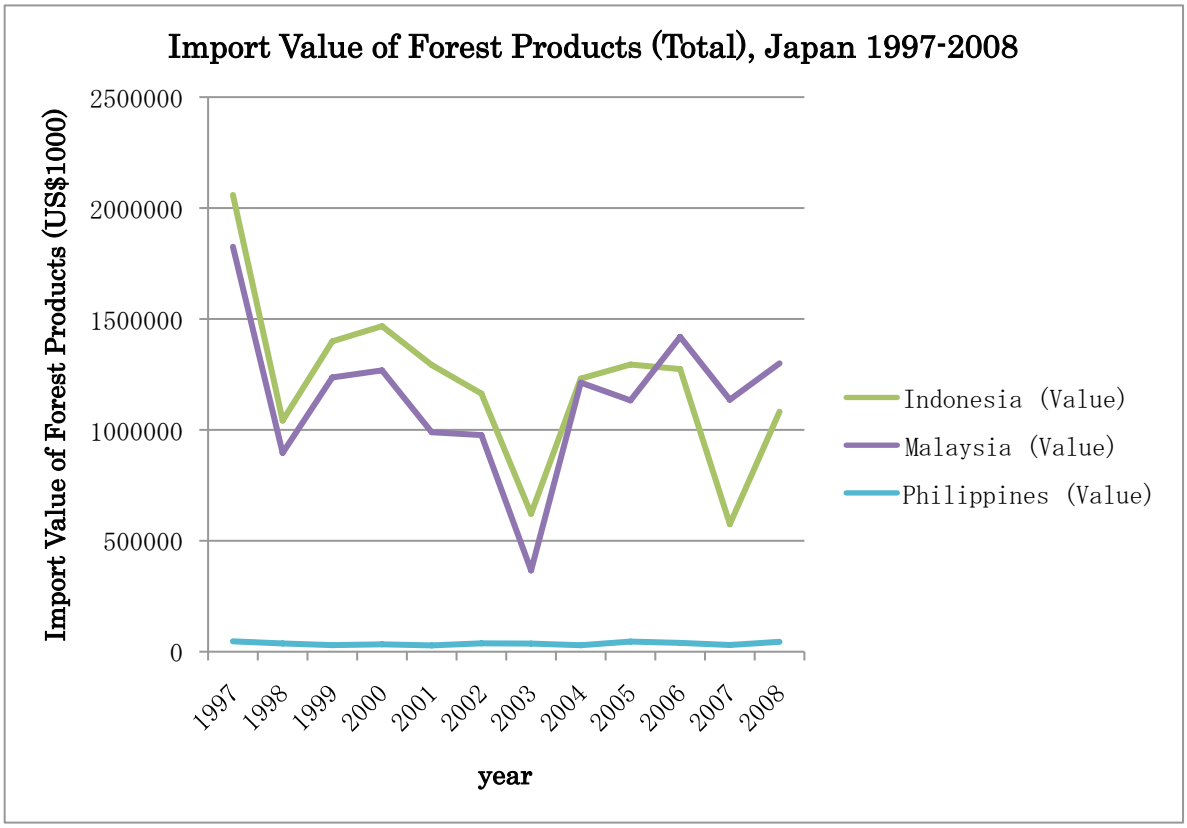

Figure 2: Import Value of Forest Products (Total), Japan 1997-2008
Source: FAOSTAT 2011 (http://faostat.fao.org)

3.1 Philippines

The Republic of Philippines is comprised of roughly seven thousand islands, and forests used to cover three-quarters of the country at the time of its independence in 1946 (Dauvergne 1997, 145). Commercial forestry in Philippines took place under the Spanish rule in the eighteenth and nineteenth century, yet forest cover remained at 70 to 80 percent at the end of the nineteenth century (Braganza1996, 302). However, by the early 1990s, only about 20 percent of the Philippines were still forested and 90 percent of its primary forest has disappeared (Broad 1995, 326). Dauvergne (1997, 158) states, "Japan's greatest impact on Philippine timber management has been massive purchases of logs from unsustainable sources" and suggests that Japan indirectly accelerated deforestation in Philippines.

In the 1950s and 1960s, Philippines was the largest log exporter in Southeast Asia, and it was also Japan's largest log exporter (Seo and Taylor 2003, 95). Seo and Taylor (2003, 101) note that "trade between Philippines and Japan…was effectively regulated effectively" for dealing with environmental impacts and as a result, it led to deforestation in Philippines. In order to meet its domestic demand, Japan relied heavily on the tropical log imports from Philippines especially in the 1960s and it left severe impacts on the forests in the Philippines (Jomo 1994, 186). As Figure 3 shows, the export of industrial roundwood[3] increased during the 1960s and reached the highest around 1970, then the export decreased significantly during the 1970s and 1980s. As

[3] Industrial roundwood includes "sawlogs or veneer logs, pulpwood, other industrial roundwood and, in the case of trade, also chips and particles and wood residues" (FAOSTAT 2011).

Dauvergne (1997) and Morita (2002) point out, commercially valuable logs became scarce in Philippines during the 1970s due to severe exploitation of forests during the 1950s and 1960s (also see Jomo 1994). The government of Philippine imposed a ban on logging in primary forests in 1992 and the export of roundwood decreased considerably in the 1990s (Dauvergne 1997, 146).

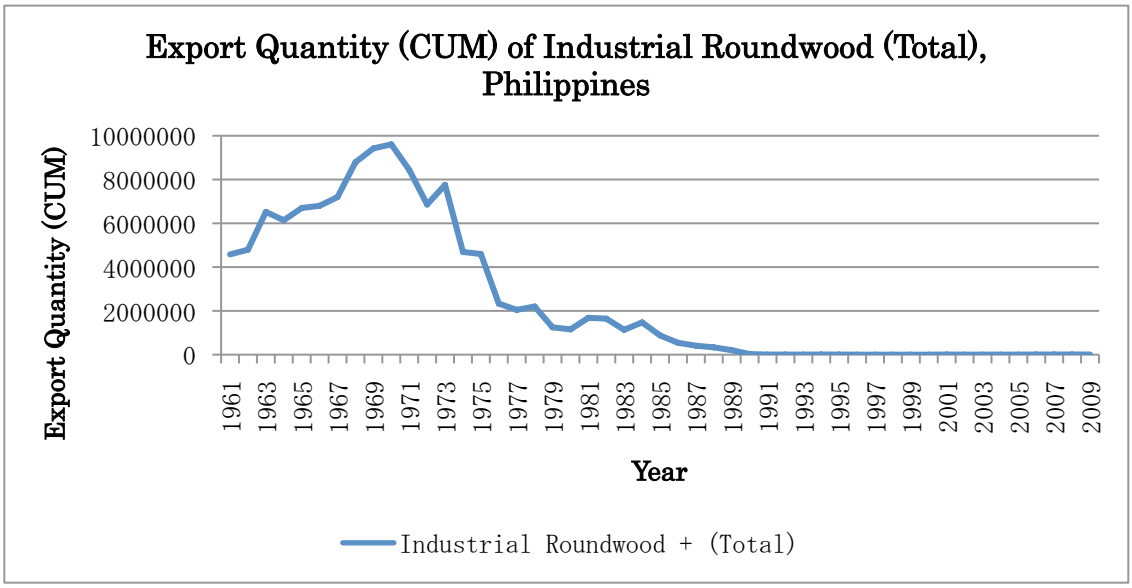

Figure 3: Export Quantity of Industrial Roundwood in Philippines (1961-2009)
Source: FAOSTAT 2011 (http://faostat.fao.org)

3.2 Indonesia

The Republic of Indonesia has the third largest tropical forest in the world while Brazil and the Democratic Republic of Congo have the largest tropical forests (ITTO 2011, 13). Broad (1995, 326) states that Indonesia is the second after Brazil "in the amount of forest that is lost each year." Japan's demand for tropical logs rapidly increased in the 1970s when the stock of commercially valuable logs became rapidly scarce in Philippines (Morita 2002, 61). Subsequently, Indonesia became Japan's new major source of log imports in

1971, replacing the role of Philippines in the previous two decades (Dauvergne 1997, 89).

The Indonesian government gradually banned the exports of logs by 1986 in an attempt to promote the domestic wood-processing industry (Jomo 1994, 187) and as the Figure 4 shows, the export of industrial roundwood by Indonesia rapidly declined in the early 1980s. Following the ban on log exports in 1986, Japanese imports of logs from Indonesia ceased, while Japanese imports of plywood from Indonesia increased rapidly (Dauvergne 1997, 69). Hence, Indonesia was able successfully to build domestic sawnwood and plywood industries and export higher-value forest products (Jomo 1994, 190; Dauvergne 1997, 7). After Indonesia banned the log exports, Japan switched to Malaysia, particularly Sabah and Sarawak, for new source of logs (Dauvergne 1997, 7; Seo and Taylor 2003 96; Morita 2002, 61).

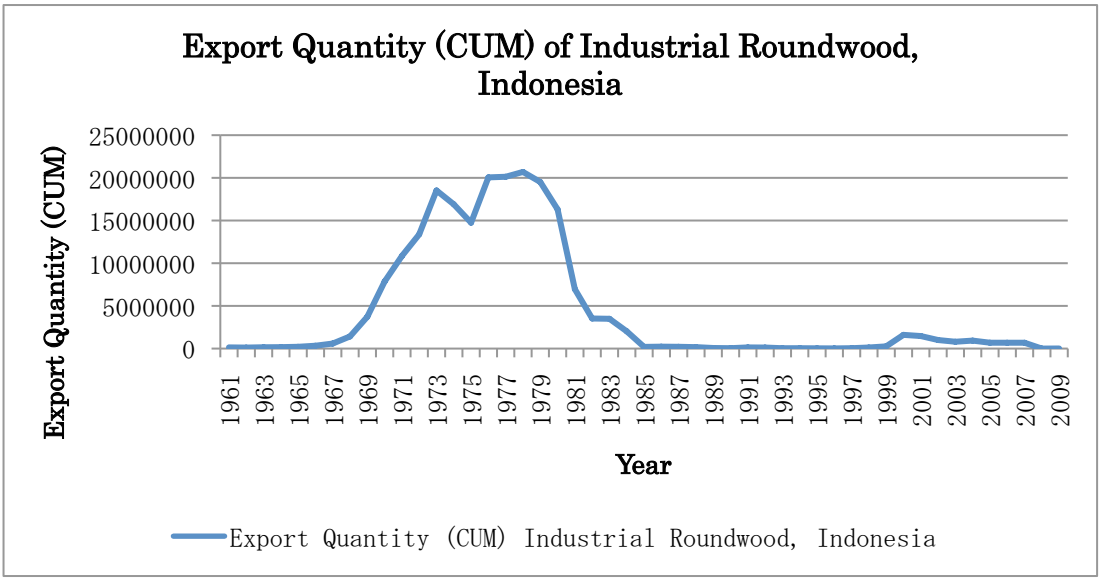

Figure 4: Export Quantity of Industrial Roundwood in Indonesia (1961-2009)
Source: FAOSTAT 2011 (http://faostat.fao.org)

3.3 Malaysia

Malaysia also has vast tropical rainforests, and Morita (2002, 54) states that “The two eastern Malaysian states of Sabah and Sarawak are known to have the world’s oldest terrestrial ecosystems.” The two states, Sabah and Sarawak in particular, have been subject to intensive logging for the past several decades. Japan turned to Sabah for forest resources when commercially valuable logs in Philippines became scarce in 1970s and also turned to Sarawak when the Indonesian government banned the log exports in the 1980s (Morita 2002, 61). Seo and Taylor (2003, 96) states that “In the 1980s, round wood export from Malaysia increased 10% from 15.9 to 18.1 million cubic meters, while natural forest area decreased 20% from 21 to 18 million hectares.” Japan imported substantial tropical wood from Malaysia and is considered to have contributed to deforestation in Malaysia.

Figure 5 shows that the export of industrial roundwood in Malaysia steadily increased throughout 1960s, 1970s and 1980s until it dropped sharply in the early 1990s. The International Tropical Timber Organization (ITTO) concluded in 1990 that the forests in Sarawak would disappear in eleven years if the current rate of logging were to continue (Jomo, Chang, and Khoo 2004, 50). Accordingly, as Figure 6 shows, the production of industrial roundwood was reduced in the 1990s. Sabah banned the log exports in 1993 and Sarawak imposed restrictions on log exports in the following year. Nevertheless, they continue to harvest substantial tropical logs (Dauvergne 1997, 105). Hence, although the export of industrial roundwood fell in the 1990s, it still remained considerable throughout the 1990s

and 2000s. Jomo, Chang, and Khoo (2004, 50) assert that “the pillage of Malaysia forests, primarily for export to Japan, will grind to a near-halt…when there will be little forest left to harvest” as happened in other Southeast Asian neighbours such as Philippines and Thailand with Indonesia going towards the similar direction.

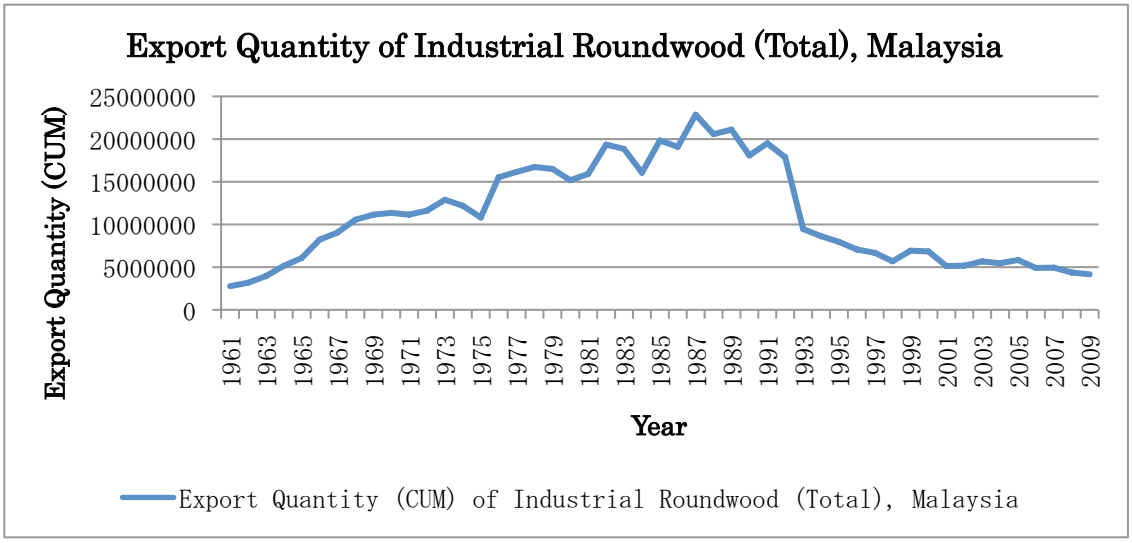

Figure 5: Export Quantity of Industrial Roundwood in Malaysia (1961-2009)
Source: FAOSTAT 2011 (http://faostat.fao.org)

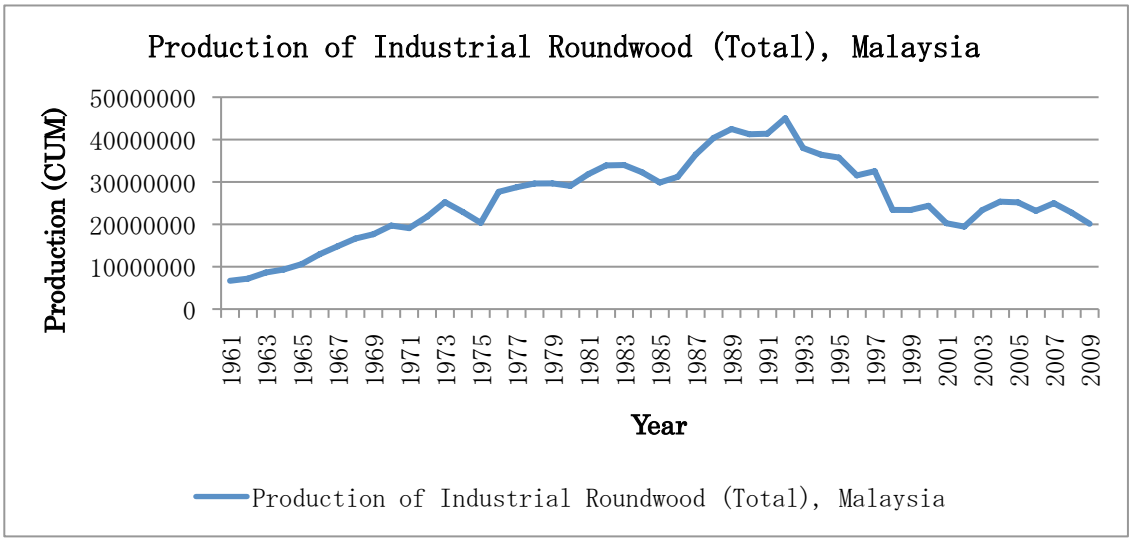

Figure 6: Production of Industrial Roundwood (Total), Malaysia 1961-2009
Source: FAOSTAT 2011 (http://faostat.fao.org)

3.4 Japan's Thirst for Logs from Southeast Asia

Morita (2002) identifies four reasons why Japan came to rely on the imports of forest resources from Southeast Asia:

> "(1) the rapid economic growth in Japan since the end of World War II that has necessitated a large supply of timber and paper; (2) high cost of domestically grown timber resulting from high labor costs, low productivity, and complex land/forest ownership in Japan; (3) tactics and economic functions of Japan's general trading companies called sogo shosha; and (4) availability of cheap and high quality timber in the nearby countries of Southeast Asia" (Morita 2002, 59-60).

As Morita (2002) suggests, complex factors led to Japan's interests in the forests of Southeast Asia. Japan used to be able to meet its demand for logs with its own domestic supply and did not always rely heavily on imported logs. Forests cover approximately two thirds of Japan and forest resources are one of a very few natural resources that Japan has as a resource poor country (Jomo 1994, 185). During and after World War II, demand for wood increased, which led to depletion of domestic forest stock (Jomo 1994, 185) and domestic resources were replaced by the imported forest resources as they were much cheaper than domestic supply (Seo and Taylor 2003, 95). Cheaper labor costs in Southeast Asia allowed Japan to import tropical logs from Southeast Asia at a low cost and such relatively cheap imported wood made Japanese wood non-competitive in the domestic and international market (Jomo 1994, 185).

3.5 Private Corporations

Japanese private corporations have played a critical role in facilitating deforestation in Southeast Asia while not paying enough attention to

environmental impact of logging. *Sogo shosha* are involved in all processes of logging from extraction, processing, importing to distribution within Japan as well as outside Japan (Jomo 1994, 189). *Sogo shosha* are Japanese trade intermediaries that “supply a range of services to facilitate and coordinate trade” (Dauvergne 1997, 6). Morita (2002, 61) points out that *Sogo shosha* “work at “profit margins as low as one percent, and thrive on income generated from purchase and resale of a large volume of natural resources often extracted from unsustainable sources.” Hence, in order to keep their business, *Sogo shosha* need to keep the price low and maintain the trade volume high by aggressively seeking an access to “resource extracted from unsustainable sources and sold at prices that ignore environmental and social costs” (Dauvergne 1997, 6).

3.6 Japanese ODA

Japanese ODA allocated to the forestry sector has helped Japanese private corporations to exploit forests in Southeast Asia. Dauvergne (1997, 32) asserts, “Strategically allocated ODA has contributed to Southeast Asia being a crucial zone of trade and investment, led by sogo shosha.” Once the Japanese government receives a request for aid from the recipient country, the fund is often distributed to Japanese companies that get the contract for aid projects (Jomo 1994, 192). In the case of the Philippines, Indonesia, and Malaysia, ODA has lowered the cost of Japanese corporate investment “by providing essential infrastructure for host economies” (Dauvergne 1997, 32). Furthermore, critics argue that Japanese ODA has been allocated “to establish plantations, pulp mills and transportation networks that have helped facilitate resource extraction”

(Armitage 2009, 26). Hence, such critics argue that Japanese ODA has been used as a tool for assisting its private corporation to do business in Southeast Asia and to promote logging by providing necessary facilities for further resource extraction.

3.7 Patron-Client System

Several scholars have discussed the contribution of patron-client relationships in Southeast Asia to deforestation and forest degradation. Patron-client relationships involve “a personal exchange relationship between two persons with unequal status, power, or resources” in which “higher ranked person provides protection and benefits (often material) to a lower ranked person in exchange for loyalty and assistance” (Dauvergne 1997, 42). Dauvergne (1997, 56) asserts that the patron-client system in Southeast Asia has contributed to deforestation and forest degradation, as it undermines the state’s capacity to enforce regulations on forest management. The role of the patron-client system will be analyzed in more detail in Malaysia’s case study in the following chapter.

4: FORESTRY IN MALAYSIA

Map of Malaysia
Source: CIA World Factbook (2011)
(https://www.cia.gov/library/publications/the-world-factbook/geos/my.html)

4.1 Background

The federation of Malaysia is composed of thirteen states and can be divided geographically into Peninsular Malaysia (West Malaysia) and Malaysian Borneo (East Malaysia) (FAO 2007, 2). Malaysia has a total land area of 329,750 square kilometres (FAO 2007, 2). Among the total land area, the forest covered 22.3 million hectares in 1990, 21.5 million hectares in 2000, and 20.8 million hectares in 2005 (FAO 2007, 2-3). Of all forest area, Peninsular Malaysia accounts for 5.88 million hectares, Sabah accounts for 4.4 million hectares, and Sarawak accounts for 9.24 million hectares in 2005 (FAO 2007, 3). Malaysia has

tropical rainforests that sustain one of the oldest and richest terrestrial ecosystem in the world. The forest types in Malaysia are diverse and they include “montane forests, upper-, hill-, and lowland-dipterocarp, freshwater/peatswamp forest, coastal vegetation and mangroves” (FAO 2007, 3).

4.2 Peninsular Malaysia, Sabah and Sarawak

In Peninsular Malaysia, 10.15 million hectares out of 13.17 million hectares of total land area were covered by forests in 1946, whereas it had been reduced to 5.89 million hectares in 2009 (Jomo, Chang, and Khoo 2004, 87; Forestry Department of Peninsular Malaysia 2010). However, the rate of deforestation and the rate of agricultural expansion have been slowing down since the 1980s, and the forest coverage showed some increase, as more forest areas were designated to be forest reserves during the 1990s (Jomo, Chang, and Khoo 2004, 87). Peninsular Malaysia produced 3.69 million cubic metres of logs in 2009, as well as 2.08 million cubic metres of sawn timber and 0.36 million cubic metres of plywood (Forestry Department of Peninsular Malaysia 2010). This is a significant decrease compared to 1983, when Peninsular Malaysia produced 9.8 million cubic meters of logs and 5.8 million cubic meters of sawn timber; yet this is still above 3 million cubic meters of sustainable yield suggested by the Malaysian Primary Industries Minister (Berger 1990, 27).

Morita (2002, 55) notes that the primary forest cover in Sabah rapidly decreased to 25 percent of the total land area in 1983 compared to 55 percent of in 1973. In an attempt to make logging sustainable, the government of Sabah announced in 1993 that the harvest of logs had to be reduced under 6 million

cubic meters; however, the Malaysian Primary Industries Minister claims that yield level in Sabah must be kept as low as 3 million cubic meters so as to be considered sustainable (Dauvergne 1997, 105; Morita 2002, 55). In the following year, Sabah produced about 8 million cubic meters of logs which were still 5 million cubic meters above the sustainable yield suggested by the Primary Industries Minister (Morita 2002, 55).

Large-scale logging started later in Sarawak than in Sabah, and as the commercial log stock began to decrease in Indonesia in the 1980s, Sarawak became a major source of log for Japan (Dauvergne 1997, 104). In the late 1980s, the annual log production in Sarawak totalled to about 18 million cubic metres and in the early 1990s, it still remained at around 17 million cubic metres (Dauvergne 1997, 105). In Sarawak, suggested sustainable yields vary from 4 million cubic metres to 9 million cubic meters (Dauvergne 1997, 106); nonetheless Sarawak's production exceeded the level of sustainable yield by far. In the late 1980s, log production remained over 18 million cubic metres, although it slightly decreased to 16.7 million cubic metres in 1993 (Dauvergne 1997, 105). Sarawak imposed strict restrictions on log export in 1994, yet the quantity of harvested tropical logs has remained one of the largest in Southeast Asia (Morita 2002, 54).

4.3 Colonial Exploitation of Forest Resources

Malaysia gained independence from Britain in 1957, and Sabah and Sarawak became part of the federation of Malaysia in 1963 (Morita 2002, 54).[4]

[4] Malaysia was also under Japanese occupation between 1941-1954 (Jomo, Chang, and Khoo 2004, 5).

McMorrow and Talip (2001, 217) state that before exploitation of Malaysia's forests began in 1890s by the British, there had been "an almost complete cover of lowland dipterocarp, montane, swamp and mangrove forest" in Sabah. Borneo Island, in which Sabah and Sarawak are located, is known for having tropical rainforests with the richest biodiversity in the world. However, colonial exploitation between 1890 and 1930 caused more than two million hectares of natural forests to be cleared by the British for developing rubber plantations before Malaysia gained independence in 1957 (Morita 2002, 54).

4.4 The Role of Forests in Malaysian Economy

Malaysia is endowed richly with natural resources, and accordingly, its economy heavily engages in forestry and mineral extraction. Barbier (2005, 360) points out that "Malaysia is…a major world exporter of tropical timber products, and is the leading world exporter of wood-based panels" and acknowledges that "Malaysia's development has been [achieved] …especially at the expense of tropical forests" (358). Sachs and Warner (2001) discuss "the curse of natural resources" and argue that resource abundance is correlated with poor economic growth in developing countries compared to resource-scarce countries. While they focused particularly on the role of mineral resources in economic development, they concluded, "natural resource abundant countries systematically failed to achieve strong export led growth or other kinds of growth" (Sachs and Warner 2001, 837). With regard to the case of Malaysia, Barbier (2005) suggests that Malaysia is one of a few countries, which have successfully accomplished resource-based development.

The Malaysian economy has achieved stable growth over the past several decades except for a few years in which the growth rate fell significantly (see Figure 7 below). Economic development in Malaysia has been based on the "primary commodity exports-led policy" which involves exploitation of natural resources such as petroleum, gas, and timber as well as production of cash crops such as palm oil and cocoa (Jomo, Chang, and Khoo 2004, 18). During the 1970s, the Malaysian government adopted industrialization policy, which sought to promote manufacturing for exports (Jomo, Chang, and Khoo 2004, 18). As a result of industrialization policy, Malaysia has achieved successful diversification of its economy by re-investing its export revenue from natural resources in other sectors, namely "export-oriented, labor-intensive manufacturing" sector (Barbier 2005, 358).

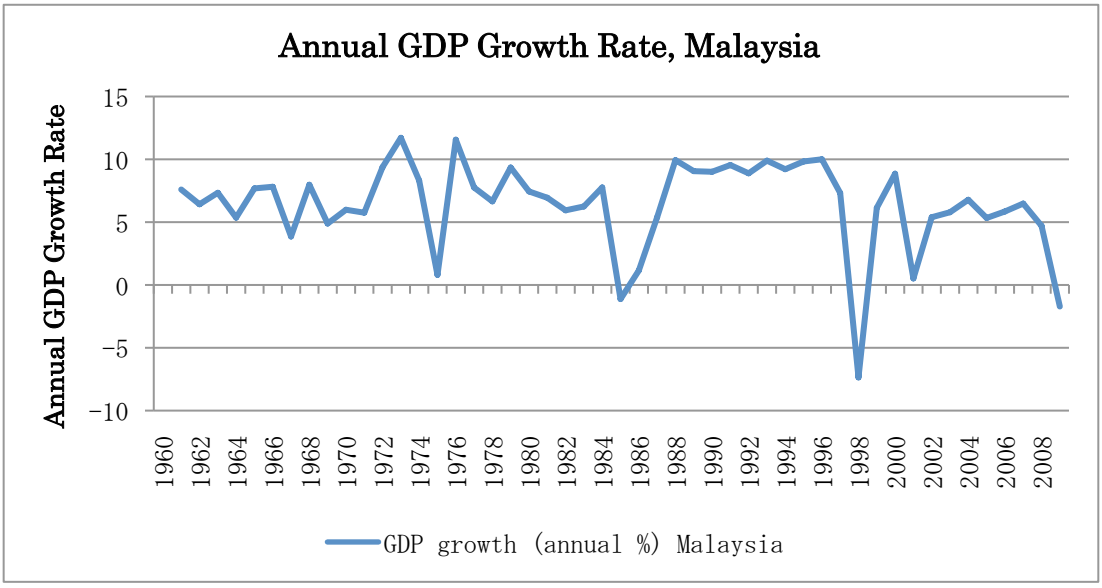

Figure 7: Annual GDP Growth in Malaysia 1960-2009
Source: World Bank 2011b. (http://data.worldbank.org/indicator)

Despite successful diversification of its economy, Jomo (1994, 198) asserts “Timber has been Malaysia’s second largest export earner after petroleum, since the early 1980s.” Figure 8 shows that the export of industrial roundwood contributed significantly to the Malaysian economy, providing US$1.68 billion in export income in 1987 at its prime time for timber exports and still providing US$566 million in 2009. Hence, although Malaysia has diversified its economy to reduce its dependence on primary commodities, timber still played and continues to play an important role in Malaysia’s economy. Furthermore, industrialization has been concentrated in Peninsular Malaysia and the role of the primary resources sector (which includes agriculture, forestry, fishing, and mining) has been more significant in Sabah and Sarawak than in Peninsular Malaysia (Jomo, Chang, and Khoo 2004, 18).

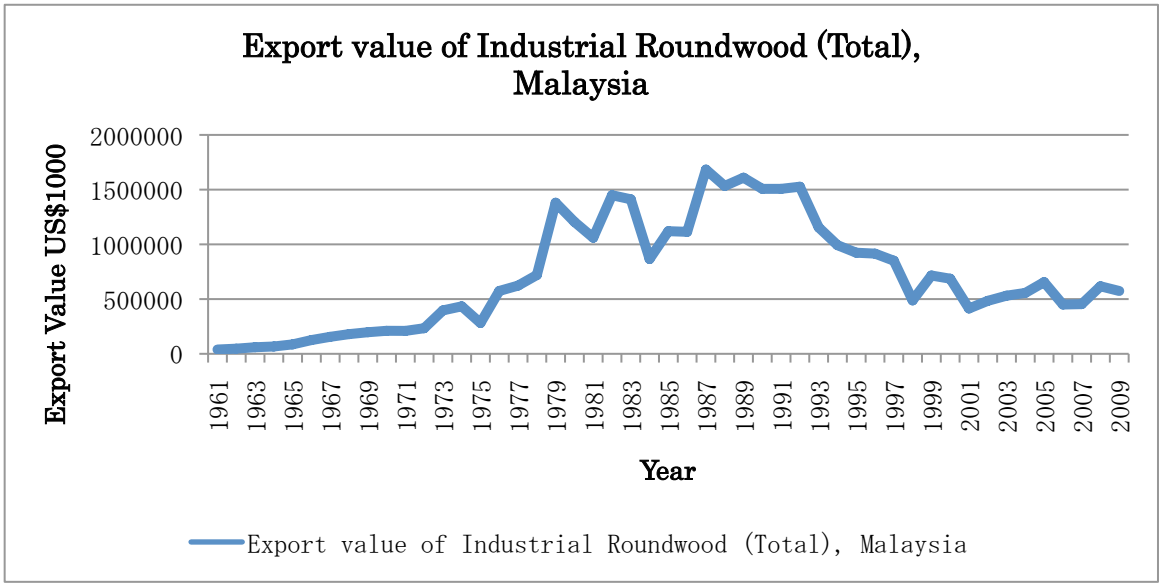

Figure 8: Export Value of Industrial Roundwood (Total), Malaysia 1961-2009
Source: FAOSTAT 2011 (http://faostat.fao.org)

In Sabah, its economy experienced the annual average growth rate of 8 percent largely based on log exports between 1973 and 1983, during which time

log exports were at their peak (Dauvergne 1997, 105). The primary sector has made a significant contribution to Sabah's economic growth, accounting for over half of GDP since 1970s (Jomo, Chang, and Khoo 2004, 20). In Sarawak, the share of the primary sector in its GDP increased from accounting for 40 percent in 1970 to 51 percent in 1980 and 1990 (Jomo, Chang, and Khoo 2004, 20). In contrast, the share of the primary sector in Peninsular Malaysia's GDP decreased from 36 percent in 1970 to 23 percent in 1990, while the share of the manufacturing sector in its GDP increased from 14 percent in 1970 to 30 percent in 1990 (Jomo, Chang, and Khoo 2004, 20). Therefore, logging remained particularly important especially in Sabah and Sarawak for their economy while diversification in Peninsular Malaysia led to reduced dependence on the primary sector.

4.5 Malaysian Government and Institutional Arrangement

4.5.1 *Ownership, Management and Institutions*

Federal policies on forestry began to develop in the 1970s and had a different impact in Peninsular Malaysia, Sabah, and Sarawak (Jomo, Chang, and Khoo 2004, 46). The ownership of all forested areas in Malaysia is granted to the state governments under the Article 74(2) of the Malaysian Federal Constitution 1957 (Morita 2002, 54). The Department of Forestry, the Forest Research Institute of Malaysia (FRIM), and the Malaysian Timber Industry Board (MTIB) are the three agencies that deal with forestry matters in Malaysia (Jomo, Chang, and Khoo 2004, 49). The role of the federal government is limited to "financing research and development, providing technical assistance and training, issuing

export licenses, and approving large foreign investments" (Dauvergne 1997, 112). Hence, the individual states, such as the state of Sabah and Sarawak, have the sovereign right over how the forest is maintained in their respective states.

Department of Forestry at the state level deals with operations and enforcement of forest management and revenue and royalty collection (Jomo, Chang, and Khoo 2004, 49). In Sabah, the Sabah Foundation, the Forestry Department, and the Chief Minister's Office share the responsibility over timber management, and there are three main licenses regarding logging, which are concessions, special licenses, and annual licenses (Dauvergne 1997,113). In Sarawak, the Sarawak Forest Department has the responsibility regarding "forestry policy and enforcement, and issuing and cancelling timber concessions" (Dauvergne 1997, 113). In addition, the Chief Minister's Office formulates the timber tax and royalty policies while Sarawak Timber Industry Development Corporation (STIDC) is in charge of negotiating with foreign investors (Dauvergne 1997, 113).

4.5.2 *Forestry Policy*

The National Forestry Council (NFC) was set up in 1971 "to serve as a forum for discussing and co-ordinating forestry policies in the peninsula" (Jomo, Chang, and Khoo 2004, 46). The chief ministers of all states in the peninsula and relevant federal ministers were represented in the NFC while Sabah and Sarawak maintained the observer status rather than joining as a full status member (Jomo, Chang, and Khoo 2004, 49). In response to the concern over the unsustainability of logging practices, the NFC issued the National Forestry Policy 1978 which

subsequently became a federal legislation as National Forestry Act 1984 (Jomo, Chang, and Khoo 2004, 46). National Forestry Policy 1978 considered the "environmental effects of deforestation" and called for the "protection of watersheds and areas subject to soil erosion, flooding or other natural elements" (Jomo, Chang, and Khoo 2004, 47). Yet, the states in East Malaysia refused to comply this law, as they feared that it would intervene with their right to freely exploit the forest in their respective states (Morita 2002, 55).

Furthermore, the federal government has sought to address deforestation by passing numbers of legislations (Jomo, Chang, and Khoo 2004, 48). For example, Federal Environmental Quality Act 1974 requires all state logging companies to conduct environmental impact assessment; yet no logging companies in East Malaysia follow the guideline (Dauvergne 1997, 112). Therefore, the central government has a limited power to regulate the forestry activities in individual states, especially in East Malaysia (Morita 2002, 55). As a result, state governments were able to exploit forests in their respective states despite the federal government's effort to regulate forestry.

4.5.3 Patron-Client Relationships in Malaysia

In East Malaysia, Dauvergne (1997, 106) points out that "virtually all political leaders have had extensive ties to timber operators, and profits from illegal and legal logging fund political parties and powerful patron-client networks." Consequently, timber concessions are often given to politicians, their families, cronies and royalty and they are further subcontracted, which Jomo (1994, 201) calls "a system which encourages corruption and illegal logging owing to the lack

of accountability." In addition, Morita (2002, 64) points out that logging companies, often illegal ones, are protected by patrons at the state level in order for the state officials to secure the patron-client relation for personal benefits. Patron-client relation among state officials and timber operators weakened the role of state supervision and undermined the states' ability to enforce regulations in Malaysia (Dauvergne 1997, 112). Furthermore, due to the patron-client relation, the majority of profit from log exports went into the pockets of politicians as well as corporate elite (Morita 2002, 57). In both Sabah and Sarawak, powerful politicians, such as Chief Ministers, have built strong patron-client networks and gained personal fortunes by distorting state policies and timber regulations (Dauvergne 1997, 131). Hence, the patron-client system has allowed exploitation of forests while government officials as well as timber operators have largely ignored the environmental impact and unsustainability of logging.

4.6 The Role of Japanese Private Corporations and Trade

As mentioned above, Japan's interest turned to the forests of Malaysia when Philippines had little commercially valuable trees left to export and Indonesia imposed a ban on log exports in 1986. In the following sections, I will discuss the role of Japanese private corporations, namely *Sogo shosha,* in arranging trade and assess the environmental impacts of Japanese ODA.

Sogo shosha have facilitated the timber trade between Japan and Malaysia and purchased vast quantity of logs from Malaysia, particularly Sabah and Sarawak. Morita (2002, 60) highlights that "In Malaysia, sogo shosha…have dominated tropical log trade chains by serving as investors and primary trade and

financial intermediaries." According to Jomo (1994, 189), the ten largest *sogo shosha* that have had an important role in Malaysia are "C Itoh & Co., Marubeni Corp., Yuasa Sangyo, Sumitomo Forestry, Ataka Mokuzai, Nissho Iwai Corp., Nichimen, Mitsui & Co., Mitsubishi Corp., and Tomen," and together they accounted for more than half of the tropical logs imported into Japan in 1987. As the quality of wood was slightly higher in Sabah than Sarawak, *Sogo shosha* turned to Sabah after valuable trees were depleted in the Philippines (Dauvergne 1997, 127). In addition, because *sogo shosha* worked at a low profit margin, they imported from unsustainable sources where logs could be purchased at a low price (Morita 2002, 61).

Japan has imported substantial amount of logs from Malaysia through *sogo shosha,* particularly first from Sabah and then from Sarawak. Japan imported 9.2 million cubic meters of log from Sabah and 1.5 million cubic meters from Sarawak in 1978 and 7 million cubic meters from Sabah and 5.5 million cubic meters from Sarawak in 1987 (Dauvergne 1997, 127). Between 1972 and 1987 when Sabah's log exports were at their height, Japan imported nearly 70 percent of total log exports from Sabah (Dauvergne 1997, 127). After Sabah banned its log export in 1993 and Sarawak imposed export restriction, Japanese imports have significantly decreased; yet as Figure 2 shows, Japan continues to import considerable amounts of logs from Malaysia.

Sogo shosha have strategically secured their access to logs in Malaysia by first loaning capital and equipment to timber merchants in charge of organizing logging, and then selling the necessary equipment to the loggers for the logging

operations (Jomo 1994, 189). Repayments were paid in log shipments, which ensured supply of logs for Japan. *Sogo shosha* have sent their technicians to Sabah in order to ensure that logs and sawn timber fulfill Japan's cutting and manufacturing stipulations and at the same time they have provided "equipment, advice, and credit that has facilitated unsustainable logging" (Dauvergne 1997, 128-131).

Sogo shosha have been responsive to the increasing environmental concerns regarding logging since the 1990s and have set up environmental sections (Morita 2002, 66). Citing a claim in an article in the *New York Times* that Mitsubishi Corporation was destroying tropical forests, Dauvergne (1997, 36) argues that Japanese corporations' increased attention to the environmental issues is simply "to improve corporate image." From this perspective, Japanese private corporations have merely set up rhetorical environmental departments and still have not done enough to offset the environmental impact of their activities.

4.7 Japanese ODA in Malaysia

In the Country Assistance Program[5] for Malaysia, the Japanese Ministry of Foreign Affairs states, "Malaysia is one of the most important partners in our effort to establish the East Asian Community," and hence, Japan seeks "to promote the advancement of its economy and to establish good relationship as sincere partners" (Government of Japan 2009, 2). Japan has provided substantial ODA to Malaysia and it has been, by far, the largest ODA donor to Malaysia on

[5] Country Assistance Programme is "a document which lays down Japan's country-specific aid policy effective for a period of about five years with a view to further enhancing strategic value, efficiency, transparency and accountability of ODA" (MOFA 2011a).

average between 2005 and 2009 (see Figure 9 and Figure 10). Japanese ODA has focused on infrastructure, agriculture and mining development which account for roughly 40 percent of all projects, and Jomo (1994, 192) argues that not enough Japanese ODA has been allocated to promoting sustainable forestry.

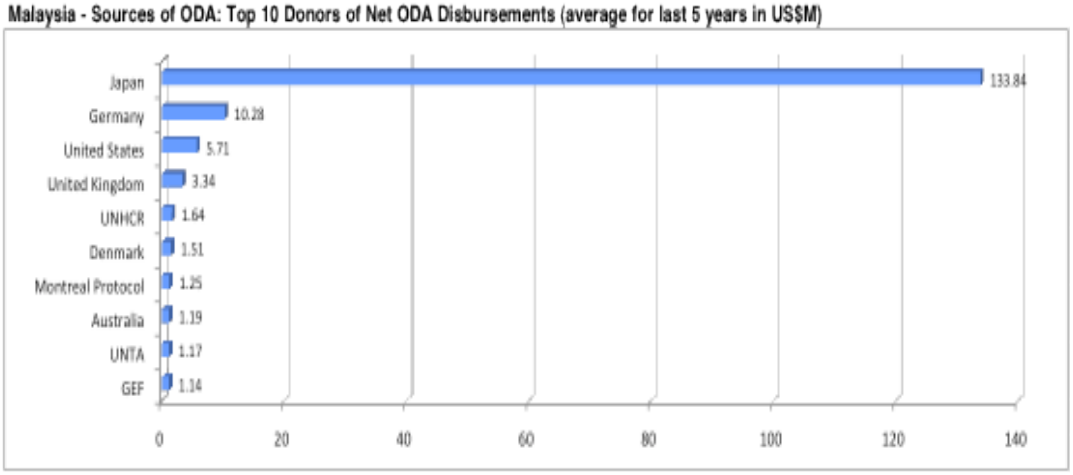

Figure 9: Malaysia Top Ten Donors of Net ODA Disbursements (5-year average) 2005 - 20011
Source: OECD DAC Database 2011
http://siteresources.worldbank.org/CFPEXT/Resources/299947-1266002444164/index.html

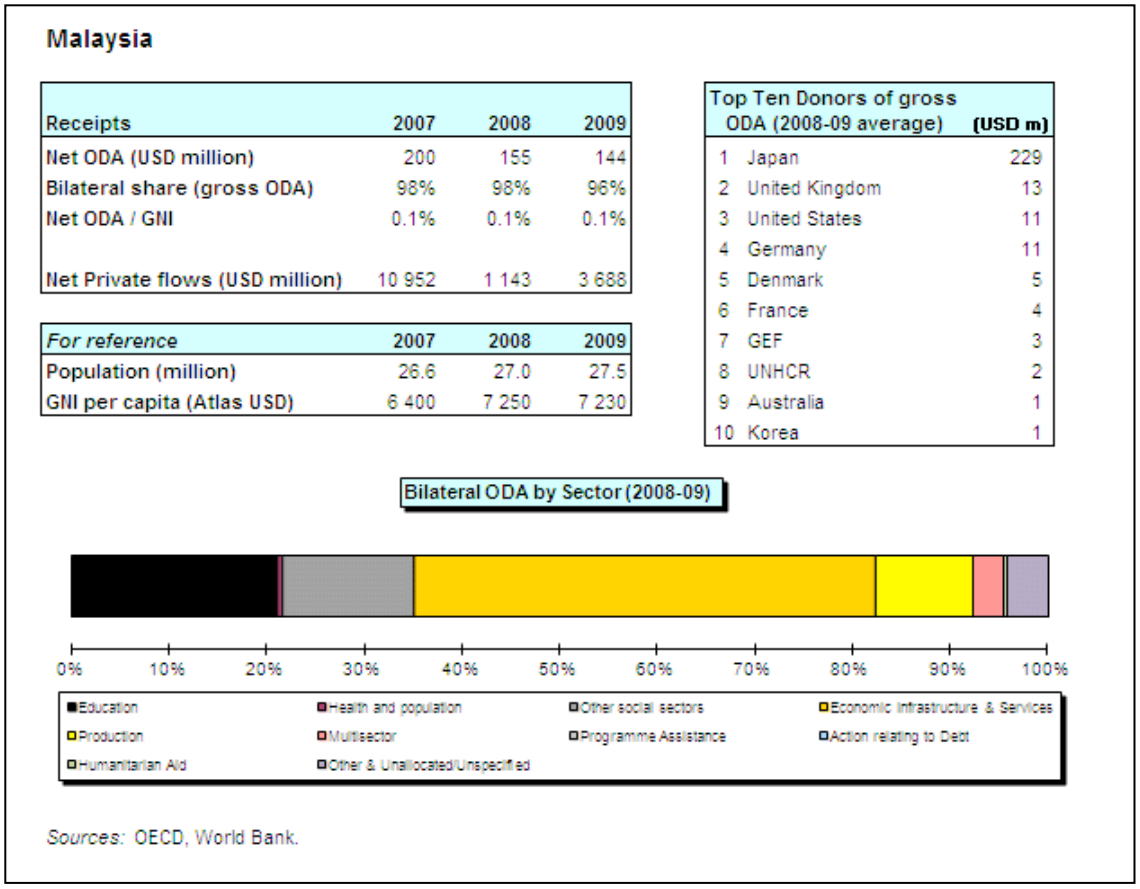

Figure 10: Malaysia Aid at a Glance
Source: OECD 2011c (http://www.oecd.org/dataoecd/18/58/42090926.gif)

Japan ODA supported seven projects for the forestry sector in Malaysia between 1995 and 2000 which include “Sabah Re-afforestation Technical Development and Training Project; Technical Cooperation Programme for Borneau Biodiversity and Ecosystems Conservation in Sabah; Multi-storied Forest Management Project; Master Plan Study on Forest Plantation Development in Northern Sabah; Study on Forestry Development Plan in Northern Sabah; Study on Forestry Development in Marak Parak in Northern Sabah; and Development Cooperation for High Quality Fast Growing Indigenous Species Afforestation Project” (MOFA 2011b).

One of the projects, Sabah Re-afforestation Technical Development and Training Project, was implemented three times from 1987 to 1992, 1992 to 1994, and 2000 to 2002 through the Sabah Forestry Development Authority (JICA 2011). The aim of the project was “to enhance planting techniques and train forestry personnel in silvicultural methods for timber plantations” (Dauvergne 1997, 123). The state government of Sabah provided funding and the Japan International Cooperation Agency (JICA) provided reforestation experts, equipment, and training in Japan. The project had overseen the planting of twenty five thousand hectares with *acacia mangium* (an Australian hardwood) and eight thousand hectares with rattan by 1993 (Dauvergne 1997, 123).

Although such plantation efforts have had some positive and valuable effects, critics continue to argue that Japanese ODA has not done enough to offset the past and current environmental impact of logging on the forests in Malaysia (Dauvergne 1997, 3). Moreover, Japanese reforestation projects that favour non-indigenous species such as acacia have been criticized for promoting monoculture forests while leading to a loss of indigenous biodiversity (Armitage 2009, 26). Such critics have argued that while *acacia mangium* planted in Malaysia was improved to be tall, straight and fast growing, replantation with such trees is not sufficient to restore biodiversity of indigenous forests or to replace the commercial value of high quality native dipterocarp trees (Dauvergne 1997, 124). From this perspective, Japanese environmental ODA is seen to contribute to regeneration of forests solely for economic benefits, while failing to restore or improve the ecological values of forests.

There are other issues relating to the environmental impact of Japanese ODA. Jomo (1994, 192) argues, “Official development assistance projects involved more directly in logging have seen the introduction of unsustainable logging techniques - incredibly considered ‘technology transfer’.” Furthermore, instead of addressing environmental problems associated with forestry, Japanese ODA often aimed to facilitate logging by providing the necessary infrastructure. Road construction projects in Sabah dedicated to forestry development funded by Japanese ODA aim to help local people bring goods in and out of their community; however, Jomo (1994, 193) argues, most road construction takes place where “they are most useful for loggers” and they are “rarely maintained after the logging finishes.” In other words, such critics argue that Japanese ODA to the forestry sector has further exacerbated environmental problems with logging by providing advanced technology as well as necessary infrastructure that allowed unsustainable logging instead of promoting sustainable forestry management.

In order to receive Japanese ODA, recipients must formulate their projects, apply for aid, and get them approved by the Japanese government (Kawai and Takagi 2004, 266). With regards to forest conservation, Japanese request-based ODA has been criticized for its passive approach, as recipients are required to initiate projects for forest conservation (Armitage 2009, 26). Jomo (1994, 192) argues that due to their lack of knowledge about the ecological value of tropical rainforests, the approach of Japanese and Malaysian officials is not ecological. Moreover, when the recipient governments such as the states of Sabah and

Sarawak have the economic incentive to exploit the forests for generating revenue, request-based Japanese ODA has a limited scope in addressing environmental problems with forestry. Thus, it can be argued that Japanese environmental ODA in Malaysia has not only failed to address the environmental impact of logging, but also has further worsened the destructive effects of logging in some cases.

4.8 Conclusion

There are various factors that contributed to destructive logging in Malaysia. The patron-client system has encouraged corruption and weakened the state's capacity to enforce forestry management regulations, especially with profits going into the pockets of high ranking officials. State officials failed to recognize the ecological value of the forests; hence tropical forests were subject to destructive exploitation for economic benefit. Trade with Japan played a critical role as the *sogo shosha* purchased substantial amount of logs from unsustainable sources in order to keep their business by maintaining the lowest price and generating demand for cheap logs.

In addition, Japanese ODA also helped *sogo shosha* to have access to logs by providing advanced technology and necessary infrastructure for further resource extraction. Ineffective forest management under the patron-client system in Malaysia made it easy for Japanese private corporations to import from unsustainable sources. Overall, Japan has significantly contributed to deforestation and severe forest degradation in Malaysia. The following chapter considers prospects for sustainable development in Southeast Asia by linking

Japan’s environmental impact in Southeast Asia with Japan’s responsibility to actively support sustainable forestry management in the region.

5: PROSPECTS FOR SUSTAINABLE DEVELOPMENT IN SOUTHEAST ASIA

5.1 Current International Framework for Sustainable Forestry and Its Evaluation

There are several international organizations as well as agreements and regulations that try to address unsustainable logging practices. The FAO notes that it is “difficult to explicitly define what sustainable forest management is” (FAO 2011b). Forest Europe (Ministerial Conference on the Protection of Forests in Europe) has defined sustainable forest management as “the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems” (Forest Europe 2011). Fundamentally, sustainable forest management should harvest not more than the annual growth of trees so as to ensure both economic profit and environmental sustainability (Lagan, Mannan, and Matsubayashi 2007, 416). There are several international statements and declarations that encourage sustainable forest management, such as MDGs, World Forestry Congress statements, and the FAO Ministerial Meeting on Forests (FAO 2011a).

Forest certification has been a method that seeks to ensure that logging is practiced and managed sustainably. Lagan, Mannan, and Matsubayashi (2007, 414) state, “Certification of forest management and labeling of forest products

indicates that timber is legally produced from a sustainable source." To date, 124 million hectares of the world have been certified by several different certification schemes (Rametsteiner and Simula 2003, 87). For example, the Forest Stewardship Council was established in 1993 in response to global deforestation and its certification "provides a credible link between responsible production and consumption of forest products, enabling consumers…to make purchasing decisions that benefit people and the environment" (FSC 2011). A third-party auditor monitors the forest management every six months to ensure compliance with sustainable forestry principles (see Appendix) and the certification process considers "the environment (conserving biodiversity and rare species, watershed protection, erosion control), the economy (costs and benefits), and society (involvement of local communities)" (Lagan, Mannan, and Matsubayashi 2007, 414). In short, forest certification allows consumers to make a choice to buy from a sustainable source by encouraging producers to follow sustainable forestry principles.

However, only about 10 percent of total forest certification covers tropical forests because most certified forests are in Western Europe and North America, and as a result, Rametsteiner and Simula (2003, 87) argue that certification programmes have largely failed to protect the tropical biodiversity that it intended to protect. In addition, there are several forest certification schemes that follow diverse principles for different regions (Rametsteiner and Simula 2003, 87) and it is difficult to determine how effective overall they have been. Hence, there remain

challenges that need to be overcome in order to address exploitation of the forests with forest certification.

In support of international free trade, World Trade Organization articulates a concern that certification and labeling may hinder free trade by raising non-tariff trade barriers, while the Doha Development Agenda highlights a need to enhance access to the forest products by reducing or eliminating tariffs (FAO 2003). The WTO holds that “environmental labelling schemes could be misused for the protection of domestic markets” and monitors the environmental labelling carefully (FAO 2003). Hence, while certification and labelling has a potential to encourage sustainable forestry management, there remains a tension between free trade and efforts to promote sustainable forestry management through international certification and labelling, and WTO regulations may limit the effectiveness of such efforts.

5.2 Prospects for Sustainable Forest Management in Southeast Asia

As timber continues to make an important contribution to several economies in Southeast Asia such as those of Indonesia and Malaysia, sustainable forest management is crucially important. With regards to forest certification, in Malaysia there are two forest certification programs. The first is the FSC and the other is the Malaysian Timber Certification Council (Siwar 2009, 4146). Deramakot Forest Reserve in Sabah was certified as a well managed forest in 1997 by the FSC and it was the first natural forest reserve maintained in accordance with sustainable forestry principles in Southeast Asia (Lagan, Mannan, and Matsubayashi 2007, 415). Timber certification by FSC has provided

“easier market access, evidence of legality, multi- stakeholder participation, conservation of biodiversity, and best forest management practices” as well as “green premium” which gives added-value to certified logs compared to uncertified logs (Lagan, Mannan, and Matsubayashi 2007, 414). Yet, as discussed above, there are several challenges with forest certification that need to be solved for it to be effective. Nevertheless, forest certification can be a useful tool to encourage sustainable forest management if it extended to cover more tropical forests and all forest certifications schemes could maintain solid consistency in their sustainable forest principles.

Forests provide not only timbers but also “‘secondary forest products’ such as fruits, nuts and oils” (Jomo 1994, 195). Although timber provides significant economic benefit for log producing countries, timber harvests need to be maintained within sustainable levels. At the same time, secondary forest products, such as citronella oil and dyes can provide secondary yet substantial income even though they may not completely substitute for economic benefits of timber (Berger 1990, 92). Good maintenance of forests is necessary in order to take advantage of secondary forest products and it can enhance not only economic value but also ecological value of the forests. Hence forest certification and utilization of secondary forest products can help Southeast Asia to achieve sustainable forest management while also generating economic profit.

5.3 Learning from the Past: Japan's Role in Promoting Sustainable Development in Southeast Asia

With regards to environmental impact it has had on the forests of Southeast Asia, Japan has a responsibility to provide support for sustainable development in the region that considers both economic development and environmental sustainability. Despite its severe environmental impact in Southeast Asia and on-going criticism of its activities, Japan has made a considerable attempt to help the international effort to encourage sustainable forest management. Particularly, Japan has provided substantial financial support to forestry programs of multilateral organizations such as the World Bank, FAO and United Nations Environmental Programme (Armitage 2009, 26). With the ITTO's headquarter office located in Yokohama, Japan has been the largest financial contributor to the ITTO and has covered roughly half of its running cost since its establishment in 1985 (Armitage 2009, 26). ITTO was created by the timber producer and consumer countries, which signed the International Tropical Timber Agreement in 1985 in order to promote sustainable forestry (Jomo, Chang, and Khoo 2004, 197). The following sections will discuss how Japanese ODA and private corporations can help to support sustainable development in Southeast Asia.

5.3.1 Responsible ODA: Technological Transfer and Reforestation

With regards to its position as the largest ODA provider in several Southeast Asian countries, Japan has a great potential to encourage sustainable development in the region. As discussed above, Japanese ODA to the forestry

sector has been used to facilitate logging, often exacerbating environmental impact of logging by providing equipment that accelerated logging practices in Southeast Asia. Therefore, in order for Japan to contribute to more environmentally sustainable development in the region, Japan could improve its ODA instead of simply increasing the amount of aid and address environmental issues by encouraging sustainable forest management rather than facilitating further logging through its ODA.

Transferring environmentally friendly technology through technical cooperation can help to support sustainable forest management by “replacing inefficient processing facilities and reducing pressure on a resource” (Dauvergne 1997, 13). For example, reduced-impact logging with helicopter logging, though not completely harmless, is considered less damaging to the condition of the forests compared to conventional logging technique as it “reduces disturbances in soil and residual forest” (Morita 2002, 71). Reduced-impact logging refers to “the intensively planned and carefully controlled implementation of timber harvesting operations to minimise the environmental impact on forest stands and soils” (ITTO 2011). However, the cost of helicopter logging is extremely high (Morita 2002, 72) and the technique may not be economically feasible. Hence, Japan could provide resources to support the use of such environmentally less destructive technology or to explore less costly alternatives through its use of ODA as a means of encouraging environmental sustainability as well as economic development.

More Japanese ODA could be allocated towards reforestation in Southeast Asia to reduce the destructive impact of forestry; also, reforestation projects

should consider the ecological value of the indigenous forests rather than solely focusing on the commercial value. In Malaysia, the majority of plantations are planted with non-indigenous softwood species instead of indigenous tropical hardwood species (Morita 2002, 73). As discussed above, Japanese reforestation projects have been criticized for promoting monoculture with commercially valuable non-indigenous trees (Armitage 2009, 26). Hence, it would be more beneficial for Japanese ODA projects to put more focus on reforestation with indigenous species such as dipterocarp or other tropical trees, which not only provides commercially high quality timber but also supports indigenous ecological state on which local people depend for their living.

5.3.2 Private Sector: Technological Transfer, Reforestation and Forest Certification

Sogo shosha have increasingly acknowledged global environmental issues and implemented environmental activities as a part of Corporate Social Responsibility. Critics tend to emphasize the environmentally destructive impact of Japanese private corporations in Southeast Asia, and at the same time they tend to play down the role of private corporations in supporting sustainable forestry in recent years. Private corporations have a critical role to play in delivering technological transfer through ODA projects as well as private investments as private corporations are almost always the owners of environmental technology (Evans 1999, 826). Thus it would be practical for Japanese government to strengthen its cooperation with the private sector to

encourage environmental technology transfer if Japan were to help sustainable development in Southeast Asia.

The private sector can also play an important role in encouraging reforestation and several *sogo shosha* such as Itohchu Corporation and Mitsubishi Corporation have tree planting or reforestation projects as a part of their CSR in Southeast Asia. For example, Mitsubishi Corporation launched the Experimental Project in Forest Regeneration for Malaysia in 1990 in Sarawak to recreate forests that resembled native forests (Mitsubishi Corp. 2011). According to Mitsubishi Corporation, to date it has planted a total of 300,000 trees in Sarawak, and fifty hectares of cleared land have been turned into prosperous forests through this project (Mitsubishi Corp. 2011). In addition, in Sabah, Itohchu Corporation launched “Forest for Orang-Utan” in 2010 to regenerate tropical rainforests that provide habitat for orang-utans and support larger ecosystem (Itohchu Corp. 2011). Instead of focusing on enhancing the commercial value of the forests, this project aims to restore the ecological value of the forests.

With regards to the past and current environmental impact private corporations have had on the forests of Southeast Asia, they should invest a proportion of their profit in reforestation or tree planting projects that aim to restore biodiversity and overall ecological well-being that sustain lives in the forests. While reforestation and planting projects may not be enough to completely offset the past environmental destructions associated with logging, it can reduce the pressure on the remaining natural forests as well as planted forests that are subject to logging.

In addition, private corporations should also always follow forest certification along with their environmental activities in order to support sustainable forestry management. Purchasing certified forest products can be slightly more expensive compared to forest products from unsustainable sources (Morita 2002, 74); however, by being committed to buying certified logs, private corporations can ensure that logging is practiced with the least destructive techniques while providing appropriate income to timber producer. Hence, private corporations can support sustainable forest management in Southeast Asia by contributing to technological transfer, reforestation projects and forest certification.

5.4 Conclusion

Japan has sought to establish political and economic leadership in Southeast Asia In the post-World War II period (Sudo 2002, 117); hence its effort to maintain strong political and economic relation with countries in Southeast Asia could help Japan to promote regional cooperation for achieving sustainable development. Overall, Japan has a great potential to take on regional leadership in promoting sustainable forestry management as a timber consumer as well as a significant ODA provider. Jomo (1994, 198) asserts that “it presents an ideal opportunity for Japan to take on a more responsible position internationally, and to lead the world, not just economically, but also in the increasingly important environmental issues for the future.” Positively, it could be beneficial for Japan to assume regional leadership in encouraging sustainable development for greater regional prosperity. As timber trade provides economic benefit to economies in

Southeast Asia, supporting sustainable forest management is an important process towards achieving sustainable development as a whole.

6: CONCLUSION: OVERCOMING CHALLENGES THROUGH REGIONAL COOPERATION

As the largest timber importer, Japan has played a critical role in indirectly facilitating deforestation and forest degradation in Southeast Asia, especially in Philippines, Indonesia and Malaysia. Japan has also provided substantial environmental aid to Southeast Asia, yet it has been criticized for further exacerbating environmental problems with forestry in the region. Deforestation has been a serious environmental issue at the global level and an international approach should be taken to address it. Japan has a great potential to take the leadership in promoting sustainable development and a more responsible role not only as a consumer of forest products but also as an ODA provider especially in Southeast Asia. By strengthening cooperation with the private corporation, Japanese government could better address destructive impact of forestry which have degraded the environment in the region over the past several decades and contribute to the overall sustainable development in Southeast Asia.

While Japan has an important role in promoting sustainable development, Japan alone cannot achieve sustainable development in the region, and countries in Southeast Asia should cooperate with each other as well as Japan to pursue sustainable development. Particularly, commitment to sustainable forest management is important for maintaining commercial as well as ecological value of the forests. Challenges such as corruption and patron-client relationship, which

often exacerbates illegal and unsustainable logging, need to be overcome and transparency in forestry management should be improved. In addition, forestry policies should be well-coordinated between the central government and state governments especially in the case of Malaysia where state governments have independent control over the forests in their respective states.

While sustainable development remains a vague concept, maintaining the balance between economic development and environmental sustainability is crucial. International approach to address deforestation is necessary and it requires extensive cooperation between timber producer and consumer countries. With the concerted efforts of Japan and Southeast Asian countries, sustainable forest management could provide a more environmentally sustainable economic opportunity for producers while also providing forest product supplies to consumers.

APPENDIX

Overview of the FSC Principles and Criteria

Principle 1. Compliance with all applicable laws and international treaties

Principle 2. Demonstrated and uncontested, clearly defined, long–term land tenure and use rights

Principle 3. Recognition and respect of indigenous peoples' rights

Principle 4. Maintenance or enhancement of long-term social and economic well-being of forest workers and local communities and respect of worker's rights in compliance with International Labour Organisation (ILO) conventions

Principle 5. Equitable use and sharing of benefits derived from the forest

Principle 6. Reduction of environmental impact of logging activities and maintenance of the ecological functions and integrity of the forest

Principle 7. Appropriate and continuously updated management plan

Principle 8. Appropriate monitoring and assessment activities to assess the condition of the forest, management activities and their social and environmental impacts

Principle 9. Maintenance of High Conservation Value Forests (HCVFs) defined as environmental and social values that are considered to be of outstanding significance or critical importance

Principle 10. In addition to compliance with all of the above, plantations must contribute to reduce the pressures on and promote the restoration and conservation of natural forests.

Source: Forest Stewardship Council (2011) (http://www.fsc.org/pc.html)

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