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Social Movements and Scientific Forestry:  
Examining the Community Forestry Movement in Indonesia

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**Abstract**

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This dissertation examines the cultural aspects of collaboration between social movements and forestry science in the community forestry movement in Indonesia. This movement has served as a response to the application of industrial scientific forestry. This approach has been one of the main tools of state control over land and forest resources in post-colonial Indonesia, particularly since the beginning of the New Order era inaugurated by the military coup of General Suharto in 1966. Indonesian non-governmental organizations (NGOs) responded to this problem with intensive campaigns against state forest policies and the destructive logging practices and began to promote community forestry focused on issues of land tenure and resource rights as an alternative to industrial scientific forestry.

One of the groups involved in the community forestry movement in Indonesia has been the progressive academic forestry scholars. Participation of these scholars marked a critical point since, in general, academics have been associated with the ruling regime, and many of them were involved in the development of the forestry paradigms that lead to deforestation and its resultant social problems. In this dissertation I examine how collaborations between academics and social activists have transformed forestry science. Furthermore, I investigate the adoption of gendered local knowledge promoted by and circulated within social movements into academic forestry science, and the possible role of alternative forestry science in shaping social movements. I also explore the complex and contradictory position of academic foresters in order to understand their social, political, and scholarly framing of forests, how they mediate their political position and “situated knowledge” with the state, capital, and social movements, and how this positionality has affected the constitution of community-managed forests as an object of knowledge. The influential ideas and actions the “progressive” academic foresters and their contributions to the formulation of community forestry concepts, represent the complex ways of exercising their freedom. The notion of freedom they apply represents a complexity of ideas and practices of freedom that relate to their position in the web of relationships with their fellow progressive scholars, activists, forestry professionals, state apparatuses, funding agencies’ officers, and forest villagers.

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## Chapter 1

# **An Introduction to Social Movements and Scientific Forestry: Examining the Community Forestry Movement in Indonesia**

### *“Scientific” Forestry in Indonesia*

The claim of doing “scientific” forestry has been one of the main narratives used by the state to control land and forest resources in post-colonial Indonesia, particularly since the beginning of the New Order era inaugurated by the military coup of General Suharto in 1965-1966. The ideology of “scientific” forestry was initially developed by the Dutch colonial state and its foresters to manage the forested lands on the Islands of Java and Madura from the mid nineteenth century until the beginning of the Japanese occupation in 1942 (Peluso 1992, Simon 2001). Application of the colonial “scientific” forestry focused on producing and harvesting timber based on certain wood species that have high economic value on the world markets. Some scholars call it “scientific” timber-based forestry (Simon, 2001). This approach assisted Dutch colonial forestry to intensively manage teak forests in the Island of Java. Earlier forms of timber-based forest utilization already existed in Indonesia’s archipelago before the colonial era. Development of these models was closely connected with the vast trading networks that existed in the archipelago and were controlled by various rulers of native kingdoms across different periods of time. These forms of forest utilization, local institutions of forest access and property gradually phased out due to the application of the colonial scientific forestry (Peluso 1992).

After her independence in 1945, the newly independent Indonesia continued to apply scientific forestry on the Islands of Java and Madura, and began to develop it in a limited form

on the Outer Islands (which include Sumatra, Kalimantan, Sulawesi, Moluccas, and West Papua), where more than 90 percent of Indonesia's forests are located (Djajapertjunda 2001). The forests outside Java and Madura had been opened up to private investors in the early part of the 20<sup>th</sup> century, but lack of markets had limited the amount of logging these companies did (Boeke 1947). After the Second World War, markets for tropical hardwoods emerged in Japan, followed by South Korea and Taiwan. These countries, particularly Japan, needed tropical hardwood logs as raw material for their timber industries (Manning 1971). At the time, the dipterocarp timbers in Southeast Asia had important comparative advantages, including a high merchantable density per hectare and new technologies, especially the one-man chainsaw developed in the 1950s, that made the logging easier and more profitable. Other new technologies that were available at the time were bigger and more powerful trucks, four-wheel drive vehicles, and the special machine of the World War Two; the bulldozer (Brookfield et al. 1995, 62). In the 1950s and early 1960s the demands were filled by the Philippines and later two regions of Malaysian Borneo, Sabah and Sarawak (Manning 1971). Since these countries were not able to meet the rapidly increasing demands of Japan and South Korea, the dipterocarp forests in Indonesia's Outer Islands (particularly in the Indonesian Borneo, or Kalimantan) were immediately seen by Japanese and South Korean timber industries, as well as other foreign companies, as alternative sources. However, the critical political position of President Sukarno's regime toward foreign capital during the late 1950s and the early 1960s prevented their direct investment in logging operations. "Rejection of capitalism and the espousal of socialism as the preferred pattern of economic organization" functioned as an important element in Indonesian political ideology since independence (Castles 1965). In the early 1960s, responding to the business interests of Japanese and South Korean timber industries, Sukarno's administration

instructed foreign companies to enter into “Production Sharing” agreements with the State Forestry Company (Perhutani). The Ministry of Agriculture, to whom Perhutani reported to, granted this state company concession areas in all the forested areas in South Kalimantan, a substantial forest area in Central Kalimantan, and over 3 million hectares of forests in East Kalimantan. Through this arrangement, Perhutani had the sole right to exploit, maintain and develop forest resources in these regions.<sup>1</sup> All of this became the legal and administrative basis for Perhutani to develop the Production Sharing projects with Japanese companies. Perhutani’s monopoly of forest exploitation outside Java, however, ended with the establishment of the foreign and domestic investment laws in 1967 and 1968 by the new political regime (Manning 1971, 36-37).

The New Order regime, led by General Suharto from 1966-1998, facilitated a massive process of forest exploitation by licensing forest lands to both private and state-owned logging companies as well as to industrial plantation companies. Until 1966 some 75 % (144 million ha) of Indonesia was covered with tropical rainforest (Hurst 1990). The Basic Forestry Law No. 5 established in 1967 continued the legacy of the Dutch colonial administration by giving the state powerful control over forest lands. Using the Forest Land Use Policy (*Tata Guna Hutan Kesepakatan/TGHK*) established in the early 1970s, in particular the section on the allocation for production forest, the Ministry of Forestry licensed forest lands to both private and state-owned logging companies as well as to industrial plantation companies. The licensing of forest lands outside Java Island led to the massive extraction process of economically valuable timber (Gunawan et. al 1998)

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<sup>1</sup> At the same period of time, Perhutani was also granted to manage the production, processing and marketing of teak wood in Java (Manning 1971).

During the timber boom in the early 1970's, with the help of well-connected foreign companies, including those of Japan, Filipino, and the United States, Indonesia emerged as the world's biggest raw log exporter (Manning 1971, 40). Timber became the second biggest earner after oil and gas in the Indonesian economy after the oil price decrease in 1982. By 1983, 560 logging concessions had been granted on 65.4 million hectares, more than the total area of Indonesia's production forests stated in the Forest Land Use Policy. Timbers harvested from this process were mainly exported as round logs (Siscawati, 2000). Most of the companies that received logging concessions were closely associated with military institutions (such as military cooperatives) or high-ranking military officers. The strong connection with the military, along with the extremely high revenue from the timber, had driven the excessive logging (Dauvergne 1997, 71-72).

In the mid 1980s, the massive extraction process began causing an increasing shortage of highly economically valued timbers. At the same time, there were a group of promising foreign investments to support the establishment of timber-based industries such as plywood, pulp and paper companies. All of this encouraged the New Order Regime to decided to ban the export of round logs and established policies and programs that focus on the development of the forestry sector to support wood-based industries. This approach later emerged as industrial timber-based forestry, which refers to the industrial scale of the application of timber-based forestry with the primary objective of massively producing timber as the raw material for wood-based industries such as plywood, pulp and paper, and etc.

The forest lands across Indonesia's archipelago declared by the New Order regime as official state forest lands (*kawasan hutan negara*) are not empty lands. These areas are also homelands and customary territories of many different groups of people. They have been

managing these forest lands by applying a variety of forms of the so-called ‘community-based forest management,’ which are closely connected with local knowledge they have actively developed over many generations. Many of these customary communities and other local communities have their own ways in arranging the control and the use of these forest lands. However, their own forest tenure systems have been conflicting with the framework of state control over forest lands as stated by the Basic Forestry Law No. 5 of 1967. This resulted in the alienation process of local communities (Moniaga 1993, Lynch et al. 1995, Hafild 1998). Many of them were forced to leave their productive lands. Those who decided to stay faced different social, cultural and economic problems. In this situation they were not allowed to enter their own forest lands, which were already declared by the national government as state forest lands. Those who dared to enter these lands would be criminalized and would receive horrible treatment from military officers who served as the security guards of the logging companies (Gunawan et al. 1998). Meanwhile, limited jobs at the logging camps were not available for them. Poverty made some families let their teenage daughters leave the house to become what has been called contracted wives for the logging camp workers. Many of these young girls were trapped by the human trafficking networks that operated in the regions. I personally witnessed this process during 1990 when I did academic field work in different logging companies in Sumatra and East Borneo.

At the same time, the modernization efforts initiated by the New Order regime through development projects viewed forest-based agriculture performed by local communities as being synonymous with backwardness (Peluso 1992, Simon 2001, Vandergeest and Peluso 2006). A variety of forms of forest-based agriculture they practiced, known as “swidden agriculture,” was simply defined by government agencies and many foresters of the New Order era as “slash and

burn” agriculture or as “shifting cultivation.” Swidden agriculture refers to a cycle of agricultural activities where certain plots of land will be planted for just one year, or at most two or three continuous years, then the people will leave this plot to fallow while they open new fields in another area. They will return to the fallowed land after a certain interval of time (where these lands have been naturally regenerated), and cultivate it again (Dove 1981, 81). In certain locations in Borneo, the swidden agriculturists manage swidden lands in combination with rubber gardens (Cramb 1988, Padoch 1988, Dove 1993). The label “slash and burn” agriculture refers to transnational and national debates during 1980s and 1990s. This label was developed based on the myth which describes swidden agriculture of forested land as destructive and wasteful, and in the worst cases results in barren, useless grassland successions (Dove 1983, 85). Lack of understanding among foresters and government agencies about the application of the local knowledge on setting controlled fires in a limited size of land in certain locations contributed to misunderstandings about swidden agriculture. The label “shifting cultivation” (Indonesian: *perladangan berpindah*) was used by government institutions and development agencies because they assumed that the people who practiced this form of agriculture are themselves ‘shifting’ or semi-nomadic. This is in direct contrast with the facts, since most practitioners of this form of agriculture live in relatively permanent settlements (Dove 1983, 81).

### ***Responses from Social Movements***

Nonetheless, the late period of the New Order era is marked with the emergence of new discourses occurring throughout the system of community-based forestry. The main discourse refers to the adoption of forest resource management which is based on the concept that local

communities should have more input and control regarding the use of their forest and its resources. While the discussion on this topic was mostly initiated by non-governmental organizations (NGOs), who have been promoting community based forestry as an alternative approach to industrial based forestry (Afiff 2004, Hafild 2005), a few members of the academic forestry community began to participate in the process. Because this small number of scholars did depart from the dominant industrial based scientific forestry attitudes and produced alternative ideas that strive to bring social justice, particularly for forest villagers, I call them “progressive” scholars.

The alliance between these “progressive” academic forestry scholars and activists during the late New Order period enabled the creation of new alternative forestry ideas. These ideas challenged the hegemony of industrial based scientific forestry. Since most of these scholars had previously been involved in various research projects sponsored by either the Indonesian Ministry of Forestry, state forestry companies, or timber industries, it is interesting to explore how they negotiate their knowledge and political positions within these institutions while generating these alternative forestry ideas.

The collaborations of scientists and activists are an increasing trend in Southeast Asian countries (Lowe forthcoming). For example, the political activities of Thai networks on community forestry-related issues have inspired Indonesian activists to develop similar types of alliances (Jeff Campbell, Ford Foundation 2006, personal communication). Despite the prominent contribution of a few forestry scholars in integrating local knowledge into academic forestry, the social possibilities of their work have been largely understudied.

Our limited understanding about the relationship between forestry scholars and civil society relates to a more general pattern of analysis of environment and development that

positions foresters merely as an apparatus of state power (Dove 1994, Robbins 2003). In Indonesia, however, environmental science and activism have been interconnected and have influenced each other. There has been a common perception that science is supposed to facilitate a direct, unmediated representation of nature. Science and Technology Studies (STS) scholars, however, have demonstrated that the questions scientists ask about nature also reflect their interests as social actors (Hayden 2003). In Indonesia, as elsewhere, scientific knowledge is created by people and institutions with particular situated and partial perspectives (Haraway, 1988, Latour, 1993), and has been critically shaped by history, as well as domestic and international political, economic, and cultural forces (Sivaramakrishnan 1999). For these reasons, my dissertation explores how collaborations between academics and social activists have transformed forestry science, particularly in Indonesia.

The role of forestry scholars in developing community forestry has not always been “progressive.” Community-based forestry, aside from being developed as a response to an extended critique of traditional industrial scientific forestry, has also been adopted as both a state strategy for controlling rural citizens and as a transnational approach to accessing local resources (Agrawal and Gibson 2001, Li 2005). In the case of Indonesia, academic forestry scholars who work on community forestry have participated in state-driven social forestry schemes that maintain state control over forest lands and resources. These projects position local communities as laborers rather than managers or owners of the forests (Peluso 1992, Simon 2001). These scholars have also been involved in donor-sponsored research projects that try to identify local concepts that are instrumentally useful for state-run community forestry projects (Mohamad 2003), but are not always beneficial for the communities in which they occur. Having such a background, their alliance with social-justice-oriented community forestry movements may seem

paradoxical. My dissertation explores these contradictions, and the connection between the notions of progressiveness, freedom and knowledge accumulation and dispersing. I examine how the notion of the academic freedom exercised by the progressive forestry scholars, which was in opposition to academic “unfreedom”, were shaped by the ways the authoritarian state conducted the political restrictions of members of the academic community. At the same time, the notion of freedom they apply represents a complexity and a heterogeneity of ideas and practices of freedom that relate to their position in the web of relationships.

Drawing from the theories and methods found within political ecology, social movement theory, and feminist science studies, this dissertation examines the cultural aspects of collaboration between social movements and forestry science. It explores the complex and contradictory position of a selection of academic foresters in order to understand their social, political, and scholarly frames of mind regarding forests, how they negotiated their political position and knowledge with the state, capital and social movements, how this position has affected the constitution of community-managed forests as an object of knowledge, how gendered local knowledge promoted by and circulated within social movements translated into academic forestry science, and the possible role of alternative forestry science in shaping social movements.

### ***Community Forestry***

Community forestry has been the subject of a rich and growing body of literature. The term “community forestry” in many relevant works of literature refers to efforts to give communities greater control over nearby forests so that they will receive direct benefits from the

use of those forest resources (Menzies 2007, Arnold 2001, Gibson et al. 2000, Lynch and Talbot 1995, Poffenberger 1996). The growing debates and body of knowledge regarding community forestry focuses on its defining elements and contents. Some scholars have critically discussed the meaning of “community” within the term (Li 1996, Agrawal and Gibson 1999). Community-based forestry, aside from being developed as a response to an extended critique of traditional industrial scientific forestry, has also been adopted as both a state strategy for controlling rural citizens and as a transnational approach to accessing local resources (Agrawal and Gibson 2001, Li 2005). Contemporary critiques relate the efforts of community forestry to reduce the role of the state as part of changing environmental governance that is associated with neoliberalism (see Schroeder 1999, Liverman 2004, McCarthy 2005, Li 2007).

For the case of South and Southeast Asia, some literature reveals that community forestry also refers to a political intervention to secure the rights of forest dwelling villagers and as a technical intervention to improve their practices regarding the management and use of their forest resources (Colchester 1994, Talbot 1995, Lynch and Harwell 2002). In Indonesia, community forestry concepts and practices supported by civil society organizations have been used as a collective tool to form an arena for emancipatory political struggles not only for rural communities but also for other social groups who have opposed authoritarian rule and the destructive power of capital (Moniaga 1993, Hafild 2005). The debates between the critics and the proponents of community forestry continue to predominate in the body of literature available on this subject (see Tsing et. al 2005).

There has been limited attention given to the actual formulation of community forestry, which links to the debates within scientific ideas and institutions. As a cultural project, we can trace the development of community forestry, which I would call “alternative science” or “pro-

people science,” not only as a global trend but also as part of the politics of alternatives to state control over forest lands and forest resources at both national and local levels. Many documents mention the 1978’s World Forestry Congress as the turning point where mainstream foresters gave international recognition to the importance of developing forests in ways that directly benefit local communities (Simon 2000; Colchester, et.al., 2003, Leach and Feather 2003). This congress took place in Jakarta, Indonesia, was organized by the Food and Agriculture Organization of the United Nations (FAO), and had “Forest for People” as its main theme. However, within the available literature there are very limited discussions that link this “turning point moment” with theoretical debates within forestry institutions and their members. Prior to this congress, during the late 1960s to the mid of 1970s, some high officers of FAO had begun to voice their concerns regarding the emergent problems caused by the application of industrial scale scientific forestry in developing countries (Simon 2000). One of these individuals was Jack Westoby, who offered a strong argument regarding the need to develop the concept of social forestry, which refers to the consideration of social aspects when managing the forests (Westoby 1987, 1989).

### ***The Formation of “Community Forestry” in Indonesia***

From the late 1960s to the late 1980s the Indonesia’s New Order administration intensified the application of timber-based forestry management. To some extent the New Order regime allowed the development of a slightly different approach to forestry called “social forestry.” However, the New Order’s social forestry failed to address underlying causes of injustices faced by forest dependent communities. Nevertheless, the formation process of social

forestry in Indonesia opened new opportunities that served as ‘seeds of change’ and provided a foundation for the reform movement in later years. Key individuals of the community-based forest management movement in the mid 1990s, and the justice-oriented community forestry movement that began in 1997, had previously participated in the formation process of New Order social forestry.

While “social forestry” was being developed by the New Order administration, beginning in the mid 1980s, despite facing heavy political controls over popular social movements, Indonesian non-governmental organizations (NGOs) addressed the problems of deforestation by organizing intensive campaigns against the environmentally and socially destructive practices of logging companies. These organizations also advocated for the change of forestry policies that supported those destructive operations. Although their efforts were organized in collaboration with transnational campaigns organized by international environmental NGOs, the Indonesian environmental NGOs had their own domestic agenda: they wanted political reform.

Gradually, the Indonesian NGOs began criticizing the centralized, state-controlled scientific forestry concepts. Along the way, they started promoting a variety of local models of community-based forest management as an alternative approach to the centralized, state-controlled scientific forestry in New Order Indonesia. In 1997 some activists of these organizations coined the term “community-based forest system” (sistem hutan kerakyatan/SHK), which refers to the diversity of local forms of community-based forest management. These activists emphasized that these forms have existed for many generations and they were developed based on “local knowledge.” Their ideas were expressed in active dialogues with the transnational concept known as community-based forest resource management (CBFM), colored with both disagreements and various forms of collaboration.

During the late years of the New Order regime, the process of searching for CBFM models in Indonesia created an arena that included emancipatory political struggles not only for rural communities but also for other social groups who opposed authoritarian rule and the destructive power of capital. A few members of the academic forestry community began to participate in the process. Collaborations between these academic forestry scholars and activists during the late New Order period enabled the creation of alternative forestry ideas. These ideas served as seeds of change. The reform actions in the contemporary era are being developed based on these seeds.

### ***Studying the Formation of ‘Scientific Forestry’ and ‘Community Forestry’***

Anthropologists have begun to trace the history of scientific practices and to ask how practices of science related to social and political values (Latour 1993, Fairhead and Leach 2003). Feminist science and technology studies scholars recognize that scientific knowledge is created by people and institutions from within particular situated and partial perspectives (Haraway 1988, Harding 1986, Smith 1997, Hartsock 1998). This approach, known as “feminist standpoint theory,” serves as “a theory of knowledge, a methodology, and a form of scientific and emancipatory political practice” (Harding 2006). Feminist standpoint theory, is relevant to this dissertation as it allows for the idea that the knowledge developed and brought into play by each social group within the community forestry movement in Indonesia is “situated” and each perspective is necessary in a theory of “strong objectivity” (Hartsock 1998).

Scientific knowledge is also not created in a vacuum; it is developed by people and institutions with certain interests and goals (Latour 1993, Haraway 1991). Some scientific

projects find funding, others do not; some projects receive political support, others do not. It is the “embeddedness” of science, particularly its development process within a social, institutional and political field that attracts anthropologists to ethnographically explore the process (Fairhead and Leach 2003, p. 13). This approach is in line with Michel Foucault’s project in tracing the co-evolution of forms of knowledge with institutional practices, which he calls “discourse.” Foucault examines the formation of a series of specialized intellectual discourses, starting with biology, linguistics and economics in *The Order of Things*, and on the transformation in the medical discourse in *The Birth of the Clinic* (Hunt and Wickham 1994). To Foucault, discourses have real effects. Discourse produces the possibility of thinking, speaking, and doing. At the same time, discourse authorizes some to speak, some views to be taken seriously, while others are marginalized, excluded and even prohibited. In other words, discourse “produces its subjects” (Foucault 1978). Foucault further explores the idea that “dubious” sciences, such as psychoanalysis and criminology, are linked with a whole range of institutions, economic requirements and political issues of social regulation (Foucault 1980).

The environmental and forest sciences followed the same type of path and developed in the same way (see Fairhead and Leach 2003). Bruno Latour and the ‘Paris School’ in science studies (Callon 1986, Calon et al 1986), however, questions Foucauldian approaches to power/knowledge. They problematize the divisions between the ‘social’, the ‘natural,’ and “commentary on them” adopted by Foucauldian analytical traditions. Bruno Latour uses these following examples to support his argument: “the ozone hole is too social and too narrated to be truly natural; the discourse on the ecosphere is too real and too social to boil down to meaning effects” (Latour 1993, p. 6). Latour therefore suggests the combination of “natures-cultures” as the object of inquiry, through the study of “actor-networks” where the actors are not limited to

people and institutions but also include nature as well as “hybrid objects” in which the elements of culture, nature and technology work together. Latour further argues that the study of power and knowledge must consider the roles of these actors and their networks (Latour 1993). In order to study how these actors, who may share similar or different dreams and desires, interact with their fellow humans and with non-human materials in the community forestry movement in Indonesia, I will have to uncover multiple layers of these interactions. I am imagining these layers as what Donna Haraway calls “the onion of scientific and technological constructions” (Haraway 2004 [1988], p. 290), and this paper will peel the “onion layers” so that we can understand the evolution of the community based forestry movement in Indonesia .

In studies of society and the environment, standpoint theory has usually been adopted as an analytical tool to show that local knowledge developed by local communities are situated practices with great relevance for understanding both nature and social life. Only recently have social studies of the environment opened up to the wider insights of the Feminist Science and Technology Studies (STS) to analyze the situated knowledge of various social groups that are involved in the operations of scientific regimes. As the practice of environmental science has been enriched with the emerging presence of NGOs, public pressure groups, community-based organizations and local people in various public arenas (Fairhead and Leach 2003, Lowe 2006), Feminist STS allows me to explore how positionality affects the constitution of forests as objects of knowledge.

The scientific and technical discourse on community forestry in Indonesia is shaped by a variety of factors. A small number of Indonesian academic forestry scholars have been involved in this process by creating a body of knowledge about community forestry through their representations of the forest and its people. In addition, they have been key actors during both

negotiations with national and local structures of authority, and collaborations with domestic and transnational social movements, as well as international forestry networks. This phenomenon is not unique to Indonesia. The neighboring countries which had been ruled under military or authoritarian regimes, such as Thailand and the Philippines, have been experiencing a similar process. The collaborations of scientists and activists are an increasing trend in Southeast Asian countries (Lowe 2007).

Despite the prominence of these scholars in appreciating the value of and interpreting the meaning of local knowledge, adopting it into scientific forestry, and entering the policy advocacy conversations, they are largely understudied. This relates to a more general pattern in analysis of environment and development. Little work is done in understanding the roles of the scientists, development officers, professional foresters, and extension agents in contemporary political ecology (Robbins 2003, Dove 1994). Political ecology studies primarily focus on the underlying political, economic, and social forces that become major factors in the process of degradation of natural resources. Political ecology also points out that the changes of landscape and resource regimes cannot be separated from the context of local land use practices and the wider political economic and social systems that contribute to the decision making process of the land users (Blaikie and Brookfield 1987). Within this theoretical framework, development agents such as professional foresters and academic forestry scholars, are viewed merely as an apparatus of state power who have limited or perhaps even no agency or efficacy what so ever (Robbins 2003, Dove 1994, Fairfax and Fortmann 1990). Along with other actors, the Indonesian academic forestry scholars and professional foresters who have 'progressive' ideas participated in the community forestry movement. In Indonesia, this movement represents a series of collaborations of people and institutions, including academic and scientific communities, NGOs

and their activists, government agencies and their officials, funding agencies and their staffs. Their active participation in “community forestry movement” provide important contributions to the production process of community forestry knowledge, particularly since the late 1990s which was the late period of the New Order era.

### ***Collaborations and “Academic Freedom” in the Community Forestry Movement***

The Indonesian community forestry movement itself is an assemblage of actors, practices, stories, events, and other non-human materials such as landscapes, forests, trees, and seeds. The main actors of this movement, which include academic forestry scholars, activists, and forest villagers, are groups of people whose actions are influenced by a variety of aspects. This dissertation investigates the cultural aspects and spatial dynamics of collaboration between social movements and forestry science. In particular, it examines how male and female activists, academic forestry scholars and government officials, forest villagers and other proponents of community forestry movement mediate their political positions and knowledge with the state and capital, and contribute to community forestry knowledge production in Indonesia. By examining the knowledge, actions, and cultures of the groups who join the movement, this dissertation investigates the complex analytical and practical associations among members of academic institutions and civil society organizations in which knowledge and practices are encoded, negotiated and contested (Peet and Watt 2004).

Recent scholars have explored environmental activism through “new social movement” (NSM) theory (Edelman 2001). An NSM approach views members of social movements as actors articulating one or another political ideology or collective identity (Touraine 1988,

Melucci 1989). Environmental movements in many developing countries have been tied to transnational environmentalism (Brosius 1999) and have many global interconnections (Tsing 2005). However, in studying NSMs, anthropologists have not provided adequate analysis of how national political cultures and the nation-states mediate the connection between local movements and global processes (Brosius 1999, Edelman 2001). Environmental movements in many developing countries are closely linked to broader social struggles for democratization and human rights (Brosius 1999, Hafild 2005). In the case of Indonesia, these social struggles include democratization of the academy as well (Hadiz and Dhakidae 2005, Nugroho 2005).

Social movements' studies have sometimes examined resistance as pure (Escobar 1995). New studies of social movements move the discussion beyond the confrontation between opposing interest groups, to explore the details of collaborations (Tsing 2005, Dove 2006). Collaboration is not a simple sharing of information, and collaborators do not necessarily share common goals (Tsing 2005). Tsing further argues that collaborations create new interests and identities, but these are not always to everyone's benefit. This approach of NSM is relevant to this dissertation research because it provides analytical tools to investigate how differences (i.e. political positions, interests and needs) among members of the community forestry movement stimulate social mobilizations.

By analyzing collaborations of various actors in the community forestry knowledge production process, this dissertation tries to cover several points of discussion. The first point addresses the position that the operations of scientific regimes are not simply performed by the states and their scientists. The emerging presence of non-governmental organizations, public pressure groups, community-based organizations and 'local people' in various public arenas and policy negotiation events, have enriched the complexity regarding the functions and practices of

science (Fairhead and Leach, 1996, 1998, 2003). This point of view is in line with what Latour suggests; in order to explore how a scientific regime works, one should apply the ethnographic approach of anthropology where she/he can examine links between existing scientific frameworks, material practices, and political, domestic and economic structures. The second point deals with the history of scientific discourse in relation to the histories of politics and landscapes. The discourse of community forestry has been developed along with, and by the dynamics of world history as well as regional and national events that occurred over time. The third point addresses how transnational linkages of knowledge production, social movements, globalizing environmental governance contribute to the process of assembling community forestry knowledge in Indonesia. In particular, I examine the ways that international, national and local practices carried out by various actors and institutions interlock with each other. The fourth point focuses on the facts that in Indonesia, as elsewhere, community forestry knowledge is created by various actors and institutions with particular perspectives, backgrounds, reasons, and interests.

Participation of the “progressive” forestry scholars in the community forestry movement reflects a complexity of notions of progressiveness and “academic freedom.” I examine how the notion of the academic freedom exercised by the progressive forestry scholars, which was in opposition to academic “unfreedom”, were shaped by the ways the authoritarian state conducted the political restrictions of members of the academic community. At the same time, the notion of freedom they apply represents a complexity and a heterogeneity of ideas and practices of freedom that relate to their position in the web of relationships. Freedom in this context is understood in terms of the act of liberation from bondage, the condition of existence in liberty,

the right of the individual to act in any desired way without restraint, and the power to do as one likes. In this context, freedom can be seen as a form of political resistance (Rose 1999, 84).

However, it is also essential to note that the academic freedom the Indonesian progressive academic scholars have been exercising since the late New Order era in the early 1990s is in line with a certain social setting which began during that period where non-state actors such as NGOs, funding agencies, and multilateral institutions (such as United Nations Food and Agriculture Organization/FAO) began to play significant roles. This social setting opened up “conditions of possibilities” that enabled the Indonesian progressive scholars to make their own choices on the nature of the scientific ideas they wanted to formulate and which actors they wanted to develop collaborations with as well as with whom to form alliances. Since that time, their sources of affiliation and funding have not been limited to the Ministry of Forestry, state forestry companies, or private timber industries. In this context, freedom is in line with what John Ransom refers to as “the actual set of choices that a determinate social setting provides – and cannot help but provide – for the participating actors” (Ransom 1997, p. 125). Ransom’s notion of freedom is influenced by Foucault’s conception. Foucault argues that we need to view freedom as a relationship which consists of both “reciprocal incitation and struggle” (Foucault 1983 in Ransom 1997, p. 124). Adopting and extending Foucauldian’s conception of freedom, Nikolas Rose asserts that the problem of freedom now comes to be understood in terms of “the capacity of the autonomous individual to establish an identity through shaping a meaningful everyday life.” Here, freedom is seen as autonomy, as “the capacity to realize one’s desires, to fulfill one’s potential through one’s own endeavors, to determine the course of one’s own existence through acts of choice” (Rose 1999 p. 84).

Yet, Rose reminds us that freedom of autonomy is not merely about ideas or concepts. Quoting political scientist Wendy Brown who argues that freedom is “a relational and contextual practice that takes shape in opposition to whatever is locally and ideologically conceived as unfreedom,” Rose asserts that freedom should also be understood as “a set of practices, devices, relations of self to self and self to others, of freedoms as always practical, technical, contested, involving relations of subordination and privilege” (Rose 1999 p. 94). For progressive academic scholars, their academic freedom is a set of practices they perform relative to their previous political positions that were limited by the authoritarian regime. So, the notion of the academic freedom they exercised, which was in opposition to academic “unfreedom”, were shaped by the ways the authoritarian state conducted the political restrictions of members of the academic community.

### ***Research Design and Methods***

This dissertation adopts a multi-sited ethnography approach (Marcus 1995) as the data collection process was conducted in several contexts. In particular, I seek to convey a humanistic portrayal of those individuals and groups who participate in, or are excluded from, various interconnections across institutions and geographic regions. In exploring roles and contributions of various actors and institutions in community forestry knowledge production process, I adopt Latour’s approach of studying “science in the making” by entering the realm of activists, academic forestry scholars, forest villagers and other proponents of community forestry, observing their conversations and relations with their colleagues, and exploring the controversies they make (Latour, 1987).

Research sites for my multi-sited ethnography are offices and events organized by NGOs, offices and events of community forestry networks, forestry schools, government offices, offices and events of funding agencies, community-managed forests and forest villages. I have chosen these sites for the following reasons: NGOs are the place where activists have been facilitating a variety of processes on social-justice-oriented community forestry and empowerment of forest farmers (Hafild 2005). Offices and events of the community forestry networks have become venues for interactions among scholars, activists, and villagers. Forestry schools have been associated with the establishment of conventional state forestry policies in Indonesia (Vandergeest and Peluso 2006, 2006b, Simon 2001), and yet have also managed to shelter a community of progressive academic forestry scholars who have contributed to the development process of alternative forestry. Community-managed forests are field “laboratories” where male and female villagers of various social groups exercise their practical and analytical skills in developing local management systems for forest resources (Tsing 2005). Offices of funding agencies are sites where financial and technical assistance or the collaboration between social movements and scientific forestry have been designed and evaluated.

The specific localities of Banten, West Java, Bogor, and Yogyakarta are important to my study in several ways. First, there has been an interesting dynamic of collaboration between scholars, activists, and forest villagers in these regions. Second, the two oldest public forestry schools that have significant roles in the development of scientific forestry and forestry education in Indonesia, Gadjah Mada University and Bogor Agricultural University (Simon 2001, Buchori and Malik 2005), are located in Bogor and Yogyakarta.

Before I entered the realm of proponents of community forestry, I started my field work with archival research and document analysis. They are two important steps that provide a

temporal context for contemporary debates. Archival research is a significant tool to examine sedimented histories, political interventions, and cultural forces that have shaped the process and establishment of scientific knowledge by people and institutions (Sivaramakrishnan 1999).

Document analysis is a useful instrument to explore the social setting of groups of people under investigation since documents are “an integral feature of everyday life and work” (Hammersley and Atkinson 1995:158). In particular, the documents that I analyzed are the work of academic forestry scholars and activists as well as other proponents of community forestry. The work will include scholarly and popular articles, as well as the memoirs they wrote. Doing this archival research, helped me to understand the discourse of scientific forestry and alternative forestry that are closely related to the “history of doing” (Sivaramakrishnan and Agrawal 2003) of academic forestry scholars and activists. Using archival materials in the National Archive Center (Pusat Arsip Nasional) and Manggala Wanabakti Library of the Ministry of Forestry, both located in Jakarta, Indonesia, as well as materials in the libraries of Bogor Agricultural University, Gadjah Mada University, and personal collections of senior forestry scholars and former high ranking forestry officials, I explore the intersection between the history of Indonesian forestry education and scientific forestry, as well as the history of social movements in Indonesia.

In order to do ethnographic research, I applied a participant-observation approach. Participant-observation is the “foundation” of cultural anthropology (Bernard 1995) since intensive engagement in others’ worlds provides the researchers first-hand information and knowledge that enable them to view their experience as meaningful and significant (Emerson et al. 1995). I carried out this participant-observation method by doing several different roles for various events that I was observing. For workshops, seminars or other types of public meetings that I closely observed, I primarily served as a meeting facilitator. On other occasions, I served

as a volunteer for the meetings' organizing committee. At other events, I was asked to become a resource person/guest speaker. In one training workshop organized for forest villagers by one NGO, I served as a note taker.

The next step I took was to enter the realm of scholars' and activists.' In this process I collected stories of scholars and activists, particularly stories of their involvement in the community forestry movement, through in-depth, unstructured interviews. Unstructured interviews that are "based on a clear plan that you keep constantly in mind" (Bernard 1995: 209) allows the researcher to direct the flow of conversations to themes and explanations that are relevant and significant to the research. During these interviews, I explored how their political agencies and identities have become meaningful to them, and how these aspects contributed to their participation in the process of the development of 'progressive' concepts. I also investigated how scholars and activists translate gendered local knowledge. Moreover, I explored how scholars and activists communicate with their colleagues, and how they negotiate their political positions. In particular, I observed how mutual understanding, agreements, disagreements, tensions, and controversies are produced and how this network of scholars and activists communicates its "collective" knowledge on community forestry to authorities and decision makers at various levels.

At the forest villages, which I consider as community forestry 'laboratories,' I gathered cultural aspects of community-based forest management by participating in daily life and interacting with local residents of various social groups that are based on social class, gender, age, and occupation. I observed how various social groups within the village communicate their gendered knowledge, politics, and needs to scholars and activists. In addition, I tried to

scrutinize how political actions of scholars and activists based on their “translation” of local forest management systems affected the local processes.

Since most of my research subjects are individuals who occupy various “powerful” positions, I tried to apply a “studying up” method (Nader 1996). Feminist Science and Technology Studies (Feminist STS) provides a model for studying dominant individuals and institutions, including their practices and cultures. Appropriate objects of the Feminist STS are not limited to “women’s voices” or the voices of other marginalized groups, but they expand to cover dominant institutions and men’s lives, and the implications of their “conceptual practices of power” on the lives of women and subjugated populations (Smith 1997).

My position as a “native” to the study areas (Yogyakarta is my matrilineal homeland, while Bogor is where I spent most of my adult and professional life), and as someone who speaks Bahasa Indonesia, Javanese and Sundanese, I have been able to understand the cultural dynamics and political contexts of relevant archival materials and literature. My intensive involvement in the community forestry movement prior to my departure to the U.S. to pursue graduate study, provided some advantages. At the same time, my position as a graduate student in an American university and as someone who had been physically absent for five years placed me as an “outsider”. During the whole course of my field work, proponents of community forestry movement whom I know personally treated me as an “insider” and an “outsider” at the same time. The following questions emerged during my field work. How to develop appropriate research methods when my own friends and former teachers are “the other”? How to address conflicting stories from these people? Will I turn into what Visweswaran (1994) calls “an unwilling architect” of a series of betrayal acts? In dealing with these questions, Kirin Narayan reminds me that “the very nature of researching what to others is taken-for-granted reality creates

an uneasy distance. Objectivity therefore must be replaced by an involvement that is unabashedly subjective as it interacts with and invites other subjectivities to take place in an anthropological productions” (Narayan 1993, 682). Knowledge produced from my own research process resonances with what Narayan describes. It is partial, situated, negotiated, and engaged, since it is of an active conversation.

In narrating the stories where I occupy a certain space, I adopt the way Carolyn Kay Steedman (2003) delivers a set of personal stories of her past, in which she takes her readers to both the present and the past of her life to explore her dreams, hopes, and desires. In doing so, I try to include my own stories and my personal involvement in various events within the community forestry movement and broader social movements in Indonesia as well as different occasions that are related to scientific forestry.

### ***Chapter Outline of Dissertation***

As discussed here in the introduction, my dissertation, *Social Movements and Scientific Forestry: Examining the Community Forestry Movement in Indonesia* is a study, based in ethnographic and historical approaches, of the formation of “scientific forestry” as the dominant paradigm of forest management in Indonesia and “community forestry” as the alternative model, the cultural aspects of collaboration between social movements and forestry science, the adoption of gendered local knowledge promoted by and circulated within social movements into academic forestry science.

In the following chapter, *Chapter Two: The History of Forest Knowledge and Scientific Forestry in Indonesia*, I trace the genealogies of scientific forestry that developed and operated

in Indonesia during the colonial period. I examine how the set of ‘ancient’ cosmopolitan knowledge regarding forests and forest utilization as well as preliminary forms of timber-based forest management of the pre-colonial era contributed to the formation of scientific forestry in the colonial period. I investigate how “sedimented histories,” (Sivaramakrishnan 1999), political interventions, cultural forces, social tensions as well as transnational and local interactions and collaborations have shaped the process and the establishment of scientific knowledge by different groups of people and institutions in Indonesia during the pre-colonial and the colonial periods.

In *Chapter Three: Scientific Forestry and Foresters in Post-Colonial Indonesia*, I investigate how industrial scientific forestry evolves and remains the dominant scientific paradigm of forest management in Indonesia across different political regimes. The formation of forestry science in Indonesia has close connections with the histories of politics, landscapes, land tenure, as well as higher education and other social aspects. I examine how state academic forestry institutions and their scientists have provided the main contributions to the development and the operations of a scientific forestry regime in Indonesia. I also explore how the connections between male-dominant forestry scientists and the related business community during the New Order era have shaped the development and the operation of scientific forestry regimes. In addition, I discuss how the networks of foresters carry a strong spirit of the “forester’s corps” (Indonesian: *korps rimbawan*), and how this strong sense of “foresters’ solidarity” contributed to this process. I examine how gender roles contributed to the establishment of gendered networks of foresters.

In *Chapter Four: The Formation of Social Forestry*, I focus on the examination of the development of social forestry in Indonesia. I trace “the travels and transformations of thought

across space and time” (Lowe, 2006). In particular, I investigate how the formation process of social forestry in Indonesia opened new opportunities that served as ‘seeds of change’ in later years. In doing so, I explore how state institutions, state forestry companies and their officers conceptualized social forestry across periods of time, in particular during the New Order era in 1966- 1998. Considering the involvement of transnational entities in New Order social forestry, I also examine how collaboration with international institutions, particularly the United Nations (UN) agencies and bilateral donors, in the late 1970s to the mid 1990s contributed to the formulation process of “social forestry.” Other institutions that played significant roles in providing support for this process are funding agencies, academic institutions, and the “development” Non-Governmental Organizations (NGOs).

In *Chapter Five: Community-Based Forest System (Sistem Hutan Kerakyatan/SHK): Claiming Local Knowledge for Political Dialogues*, I examine the formation process of the “community-based forest system” (Sistem Hutan Kerakyatan/SHK), an alternative concept that has been promoted by environmental justice NGOs since the mid 1990s. The development of the term SHK cannot be separated from a particular history that closely relates to the history of social movements in Indonesia, particularly the history of environmental movements during the New Order period (1966-1998). Therefore, I trace the historical events within these movements combined with my observations and personal accounts in order to show how political, social, cultural, and gender aspects shaped the movements. As the formulation of SHK also cannot be separated from the advocacy process for customary rights and grass-roots efforts to reclaim community territories using the participatory mapping process, as well as the agrarian reform movement, I explore how these processes provided contributions to the development and the promotion of the SHK concepts.

In *Chapter Six: Academic Forestry Scholars and Community Forestry (Kehutanan Masyarakat)*, I explore the formation process of the concepts of “community forestry” (*kehutanan masyarakat*) in Indonesia, by focusing on how the progressive academic forestry scholars and their interactions with various actors have contributed to its formation process. I discuss academic scholars’ direct and localized relationship to scientific knowledge and institutions and how their positions enable them to speak with authority and to negotiate possible resolutions. I voice their thoughts and ideologies, which they have shared simply by their participation in the community forestry movement, and their contributions to the formulation of community forestry concepts, which also represent the complex ways of exercising their freedom.

## **Chapter 2**

# **The History of Forest Knowledge and Scientific Forestry in Indonesia**

### ***Introduction***

Indonesia has the world's third largest tropical forest. The major forest types range from evergreen lowland dipterocarp forests on the islands of Sumatra and Kalimantan, to seasonal monsoon forests and savanna grasslands in the Nusa Tenggara region, and non-dipterocarp lowland forests and alpine areas in West Papua. Indonesia also contains the most extensive mangrove forests in the world (GFW 2010). In addition, Indonesia's forests also host high levels of biodiversity, including 10 % of the world's plant species, 12 % of its mammals, 16 % of its reptiles and amphibians and 16 % of its bird species (Djajapertjunda 2002).

Unfortunately, from the years 2000 through 2005, Indonesia was listed among the top ten countries in the world with large annual net losses of forested areas (FAO 2006). In addition, Indonesia has recently been considered one of the world's top three emitters of greenhouse gases, due to land use changes and deforestation (PEACE 2007). The current loss of Indonesia's forest areas, along with the continuing process of deforestation and forest degradation, is closely connected with timber-based forestry practices implemented during the New Order period (1966 -1998). Timber-based forestry refers to the science and art of cultivating, maintaining, and developing forests with a special focus on producing and harvesting timber based on certain wood species that have high economic values on the world markets. The "modern" timber-based forestry approach was initially adopted by the Dutch colonial administration to manage the

forested lands on the Islands of Java and Madura from the mid nineteenth century until the beginning of the Japanese occupation in 1942 (Peluso 1992, Simon 2001).

Earlier forms of timber-based forest management already existed in Indonesia's archipelago before the colonial era. Development of these models was closely connected with the vast trading networks that existed in the archipelago and were controlled by various rulers of native kingdoms across different periods of time. These earlier management forms were also influenced by a variety of 'ancient' knowledge and practices of forest utilization, which evolved from active social interactions, cultural exchanges, and ecological adaptations to disturbances. In other words, this set of 'ancient' knowledge on forests and forest utilization practices had both transnational and local dimensions. All of these factors contributed to the development of the pre-colonial forms of timber-based forest management and the scientific timber-based forestry that was practiced during the colonial period.

In this chapter I trace the genealogies of scientific forestry that developed and operated in Indonesia during the colonial period. I examine how the set of 'ancient' cosmopolitan knowledge regarding forests and forest utilization, as well as preliminary forms of timber-based forest management of the pre-colonial era, contributed to the formation of scientific forestry in the colonial period. I investigate how "sedimented histories," (Sivaramakrishnan 1999), political interventions, cultural forces, social tensions as well as transnational and local interactions and collaborations have shaped the process and the establishment of scientific knowledge by different groups of people and institutions in Indonesia during the pre-colonial and the colonial periods.

I first explore the 'ancient' cosmopolitan knowledge about forest and forest utilization through stories and ancient legends that are still alive in various forms within Indonesia today. I

then examine preliminary forms of timber-based forestry that existed during Indonesia's pre-colonial era by describing global trading networks and ship making industries in which timber and other forest products played critical roles. I investigate how timber extraction activities continued and were intensified by the Dutch Trading Company (VOC) and later by the Dutch colonial administration through a series of experiments to develop various harvesting techniques. This process represents active interactions between transnational and local knowledge. The German scientific forestry, adopted during the colonial period, does not merely represent European Enlightenment it also exemplifies interactions with sophisticated knowledge from other regions of the world. At the same time, it also embodies political interventions, cultural forces and social tensions, including forest land tenure conflicts. I will examine how scientific forestry in colonial Indonesia took relatively different forms and processes, and how this way of controlling forest lands and resources resulted in tensions and conflicts between the VOC and the local populations. These traditions continued in the post-colonial era and exist even today in contemporary Indonesia.

### ***Knowledge of Forests and Forest Utilization in Pre-Colonial Indonesia: Learning from Stories***

One warm evening in August 2010 I took a pedicab (*becak*) from my late maternal grandparents' house to go to the house of Professor Hasanu Simon<sup>2</sup>, a prominent forestry scientist from the University of Gadjah Mada in Yogyakarta, Indonesia. Many Indonesian activists call him Pak Simon. This trip reminded me of my very first trip to Pak Simon's house

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<sup>2</sup> Professor Hasanu Simon passed away on July 8 2011. He was 66 years old.

in December 1998. At that time I was also staying in my late grandparents' house in Yogyakarta while I participated in a one-week workshop Pak Simon was facilitating. This workshop was aimed at developing an independent academic draft of revisions for the Indonesian Basic Forestry Law No. 5 of 1967. Participants in the workshop were a small group of forestry scientists whom I call "progressive scholars" and several activists including myself. On the last day of the workshop Professor Simon invited me and several other activists to have dinner at his house.

When I opened the wooden gate of his home my eyes were drawn to the two big wooden pillars on the front porch of their house. The two pillars were made from old teak trees. I was certain they were teak because of the unique pattern on the wood surface, and I roughly calculated the age of these teak pillars from their diameters. I had learned these skills when I did my undergraduate study at the forestry school at Bogor Agricultural University (IPB), in particular from classes on forest inventory and wood anatomy. Entering Pak Simon's house, I was immediately struck by the artistic nature of the home's interior. Many parts of his house are made from teak wood. Pak Simon and his wife Bu Sri took us on a tour inside their house. At that time they were just completing the initial building process. As we took the tour, they shared stories about the teak in almost every part of the house. In particular, Pak Simon told stories about where the teak woods came from and their journey before they finally became part of their home.

When I arrived during my 2010 trip I was again greeted by the two teak pillars on the front porch, however, more construction was taking place within the house. Pak Simon and Bu Sri updated me about certain additions to their house, also decorated with teak, which were not installed when I visited the house twelve years ago. They shared more stories about these

additional teak woods. In sharing these stories, Pak Simon enriched them with historical accounts and scientific facts about teak. As he shared the beauty of his home with me I remembered my first visit and I felt that instead of merely talking about teak, he was describing the history of old friends that lived in his home and were important to him.

Also during my 2010 visit Pak Simon stated that “teak woods are products of an old history of forest utilization on the Island of Java. Forest utilization on this island had been organized in certain ways long before the colonial era,” he said. These sentences, along with his other stories suggested to me that contemporary practices of forest utilization in Indonesia cannot be separated from the historical processes.

Stories on forest utilization have been part of legends and traditions that have been transferred over generations and have been circulated among various groups of people across different parts of Indonesia. Scientists have determined that numerous groups of people across Indonesia’s archipelago were successfully managing their natural resources, including forest resources, in many different ways for a variety of purposes during the pre-colonial era (Kartasubrata and Wiersum, 1993). Some groups managed forest resources to meet their subsistence needs, while other groups of people, who had more power, managed their forests for commercial purposes beyond subsistence (Brookefield et al. 1995). Forest products circulated within ancient global trading networks where a variety of woods served as the main raw material for industry, such as ship making. The utilization of forest products for trading purposes indicates the existence of a set of forest-related knowledge prior to the arrival of Europeans. This includes local knowledge of botany, forest utilization, and the processing and trading of forest products. All of this had contributed to the development process of the early forms of timber-based forestry within the islands of Indonesia. This process continued, intertwined with the

economic interests of the colonial and the post-independence governments, and is closely connected with certain discourses circulated internationally. All of this has contributed to the formulation process of the contemporary forestry science in Indonesia.

The forests of Indonesia have always been important to the native inhabitants, not only for their commercial value, but their cultural aspects as well. According to some legends in ancient Java the forest was understood to have multiple functions. First, the forest was the place where the ancestral spirits lived. Members of royal families believed that the spirits of the late kings remained in the jungle. At the same time, the forest was also the place where royal families would flee should they be attacked by their enemies. These legends continue to be narrated today through different cultural performances. These include the Javanese's shadow puppet (*wayang kulit*)<sup>3</sup> and the Sundanese' wood puppet (*wayang golek*) performances, as well as Javanese and Sundanese traditional dances. In the Javanese version of the ancient Sanskrit epic of Ramayana, the female main character of the story, named Sita (Javanese: *Dewi Shinta*), experiences the forest as both a safe sanctuary and an unknown territory. She is left alone in the forest while her beloved husband Rama went to catch the golden deer. This golden deer was apparently the incarnation of the demon king, Ravana (Javanese: *Rahwana*). In the story Ravana abducted Sita while she was alone in the forest, took her to his kingdom, and wished her to become his wife.

Watching the live performance of the Javanese version of the Ramayana Ballet performed at the Hindu Temple of *Prambanan* in Central Java, Indonesia in mid 2009, I was able to observe how the modern Javanese version of this ancient legend positions forest as both

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<sup>3</sup> See Laurie Sears (1996) for intensive examination on how Javanese shadow theater served as “staging area for negotiations between colonial power and indigenous traditions”

an unknown territory and a sanctuary. At the same time, I reflected back to my own personal experience on how the function of the forest in another legend, called the Mahabharata, was translated into a contemporary cultural ceremony. The Javanese adaptations of the Hindu epic Mahabharata, especially the Battle of Kurukshetra (Javanese: *Perang Barathayudha*), portrays the forest as a spiritual domain that has a protective function for the Pandava (Javanese: *Pandawa*), the five acknowledged sons of Pandu, when they fight in a great war against their cousins the Kauravas (Javanese: *Kurawa*).

Attending this performance reminded me of a Javanese cultural ceremony known as *ruwatan*, which my family and I had participated in during the late 1980s. *Ruwatan* is a Javanese traditional ritual ceremony aimed at freeing people from all kinds of bad luck and bad fate in life. There are different kinds of *ruwatan*. The *ruwatan* that I experienced is known as *ruwatan pandawi lima*. My parents, both of whom are regular Javanese with no affiliation to the Javanese courts, followed the tradition of conducting a ritual ceremony of *ruwatan pandawi lima* in order to protect their five daughters. During this *ruwatan* ceremony, which was conducted in a more simplified version, my four sisters and I went through various ritual acts. We were treated as the female *Pandawa* who needed to be saved from potential dangers. My parents' small house in one of the crowded *kampongs* (urban villages) in the middle of Jakarta, the capital of Indonesia, served as an imaginary forest sanctuary during the ceremony.

The legends of Ramayana and Mahabharata describe the multiple functions of the forest that exist at the same time: a spiritual domain, an unknown territory (considering that it was believed to be inhabited by evil spirits), and a political sanctuary. In addition, the forest was also seen as a productive area to be utilized. Djajapertjunda (2002) noted that several local oral stories referring to the life of the Hindu Javanese of ancient Java had titles and narratives describing

certain occupations in forest use and wood procurement, known as a forest officer (*juruwana*). The existence of a *juruwana* in ancient Java could be interpreted as an indication that the forests in Java were utilized long before the colonial period. Within the legend of Ramayana, there is a story of the burning of the forest to build the Pandawa Kingdom known as Ngamarta (Sears, 1996, p. 198). Sears states that in the Javanese's shadow puppet, this story is narrated in two plays namely *Lakon Babad Wana Khendawa* and *Lakon Babad Wanamarta*. The first story is considered the branch story of the second one. *Lakon Babad Wanamarta* “describes the preparation of the forest for the building of the kingdom of Ngamarta (Indraprastha) while simultaneously reinforcing Javanese cultural beliefs about the purification of the ogres (Sears 1996, 198).

Utilization of forest resources in Java and other islands in the Archipelago during the pre-colonial period had close connections with trading networks. Interpreting archaeological and early local historical records, Christie (1998) notes that by the Iron Age, that is, by about 500 B.C., Javanese ports were part of the trading networks that connected Java and other islands in the Archipelago with mainland Southeast Asia, South China, and the east coast of India. These trading networks facilitated the export of both Javanese produce and the spices and sandalwood of eastern Indonesia. During the first century A.D., the trade network of Java and the Archipelago entered the Old World sea trade system that linked Han China to the Roman Mediterranean (Christie 1998, 345).

When the Javanese state of Mataram was formed in the agriculturally-rich interior of Central Java in the eight century A.D., Java had established the trading networks beyond Southeast Asia for over a millennium. Mataram gained its power by annexing its older neighbor, the coastal state that had already established a trading network with China. The geopolitical shift

of the center of economic power from the coast into the interior during the 8th century seems to have contributed to the decline of the sea trade activities facilitated by Javanese ports. As the Mataram state expanded and became stronger it constructed large stone-built temple complexes (Christie 1998). This includes the construction of the 9<sup>th</sup> century Hindu Temple of *Prambanan* by the Hindu Sanjaya dynasty of the Mataram Kingdom as a response to the construction of the Buddhist Temple of Borobodur (and the nearby smaller temple of Sewu) by the Buddhist Sailendra dynasty which was under the influence of the Srivijaya Empire in Sumatra at the time (Munoz 2006).

The Borobodur, which is renowned as one of the largest Buddhist temples in Southeast Asia, has bas reliefs known to illustrate everyday life, both within the courtly palace and the village, of 8<sup>th</sup> and 9<sup>th</sup> century ancient Java. One hot and humid day in the middle of the dry season of 2009, during a visit to this temple with two close friends from the University of Washington, the bas reliefs of the ancient ship at the Borobodur Temple attracted my attention. We were visiting the temple as part of our ground trip from West Java to Central Java, a trip we did after we completed our first dissertation writing workshop which took place in an upland area in West Java. The visit to Borobodur was obviously not my first visit to the temple. On my previous visit in the mid 1990s I was mostly attracted to the bas reliefs of the temple depicting the multipurpose uses of forests. However, during this visit I paid more attention to the ancient ship that I assumed had been made from durable timbers such as teak wood. Looking at this ancient ship I felt it embodied the journey forestry science in Indonesia has traveled from earlier times to present day.

The ships depicted on the walls at Borobodur were most likely the type of vessels used for inter-insular trades and naval campaigns by the Sailendra and the Srivijaya empires that ruled

the Indonesia's Archipelago around the 7th to 13th century (Dumarçay and Smithies 1991). The Srivijaya Empire, with its center in southern Sumatra, was considered a dominate sea-power in Southeast Asia, stretching its control over sea-traffic towards China, India and Arabia (Peterson, 2006). Scholars argue that the ships might also be used in ancient trading routes that linked Indonesia to Africa during that same period time (MacGregor 2010). Other scholars argue that the Borobudur ship should not be considered as representative of a large ocean-going ship; instead, they claim, it was only used in the protected seas of the Indonesian archipelago (Manguin 1980).

In spite of academic debates regarding the function of the Borobudur ship, a transnational team consisting of ship building experts, including Indonesian traditional ship builders, reconstructed this ship in 2003 with the ambitious idea of retracing the ancient sea trade route that linked the Indonesian Archipelago to Africa (known as the Cinnamon Route). This team was successful, both in reconstructing the ship and in retracing the Cinnamon Route. The journey of the reconstructed Borobudur ship across the Indian Ocean started in Jakarta, Indonesia in September 2003 and finished in Accra, Ghana in February 2004. Since August 2005, this ship has been placed in the Samudra Raksa Museum, a maritime museum located within the Borobudur Temple complex that features the ancient maritime trade links, particularly the Cinnamon Route.

In mid 2009, a team of archeologists from Gadjah Mada University reported an archeological discovery of an ancient wooden boat in the Rembang district on the northern coast of Central Java (Suherdjoko 2009). The archeology team estimates that the boat could hold 30 people. In order to determine the boat's age, the team sent samples of the palm fiber to ancient vessel specialist Pierre-Yves Manguin in France. Manguin is also director of the Ecole Francaise

d'Extreme-Orient research institute and has been studying antique ships and boats in Southeast Asia and East Asia. He relayed the samples to the Beta Analytic Radiocarbon Dating Laboratory in Miami, United States for examination. Laboratory test results showed the boat was used sometime during 670–780 A.D. This set of scientific data helped the Gadjah Mada archeology team to conclude that this ancient boat was a merchant boat used toward the end of the Hindu Mataram kingdom in Java and the Srivijaya kingdom in Sumatra (Suherdjoko 2009).

The Srivijaya Empire had established their maritime power and the trans-Asiatic trade from the 8th to the 12th centuries. Their wooden ships, which played a critical role in their extraordinary trading networks, were considered powerful. The Chinese texts written from the 3rd to the 8th centuries refer to the Srivijayan ships as the *K'un-lun po*, which can be interpreted as the ship of the *K'un-lun* people (Manguin 1980). One of the Chinese texts from the 3rd century describes as follows: “The people of foreign parts call a ship *po*. The large ones are more than fifty meters in length and stand out of the water four to five meters .... They carry from six to seven hundred persons, with 10,000 bushels of cargo [according to various interpretations, from 250 to 1,000 tons].” (Manguin 1980, 275). Another text, written by a Chinese monk during the 8th century, narrates that “their ships are fast and can transport more than 1,000 men, apart from cargo” (Manguin 1980, 275).

The power of the Srivijaya Empire declined due to the emerging power of the Java-based Majapahit Kingdom in the early 13th century. Majapahit was considered to be one of the greatest pre-Islamic states of Indonesia. At this time, utilization of forest resources in Java gradually moved in the direction of providing support for trading activities. This occurred because several ports in Java served as commerce centers within the vast trading networks that linked Southeast Asia with China and India between the early 10th to the mid 13th centuries

(Christie, 1998). During this period of time, certain commodities such as cloves, nutmeg, and pepper were intensively exported from the Indonesian Archipelago (Reid 1995, Christie 1998). Before the 15th century, the earliest European witnesses noted that the majority of these exported products came from foraging rather than cultivated trees or plantations (Reid, 1995). Tome Pires, the Portuguese writer, notes that these products began to come from cultivated trees in the 15th century (Pires 1515 in Reid 1995). At the same time, forest products from the Indonesian Archipelago such as aromatic woods (sappanwood, gharu, sandalwood, and cinnamon), gums and resins (camphor, benzoin, frankincense, dammar), and forest fauna (lac, rhinoceros horn, ivory, bird of paradise, birds-nest) were also exported to the international markets from Javanese ports. These products were shipped to China, India and the Middle East (Reid 1995, Ricklefs 2008). At this time, structural timbers were not yet intensively traded globally; instead they were used as raw materials for the shipbuilding industry that consequently grew along with the boom of the Asian trade.

Forest resources in Indonesia's archipelago had been commercially utilized during the periods of the 13th - 14th centuries, which was the peak of the Majapahit kingdom. At the time when the active trading process occurred, the Indonesian Archipelago was controlled by various kingdoms. Some kingdoms had managed to exploit timber from forest areas within their territories to provide raw materials for ship making industries (Simon 2001, Peluso 1992). During this period, forests provided raw materials for producing trade ships and war ships (Simon 2001). But, as shown above, the practices of utilizing forest resources for ship making had begun long before the 13th century.

The use of trading ships was continued during the reign of Majapahit. During the peak period of the Majapahit ,in the 13th and 14th centuries, the ship industries seemed to play a

critical role in supporting the ambitious plan of the Majapahit rulers to control the commercial trading network and at the same time to expand their territorial control over the archipelago. The Majapahit rulers supported the development of the Chinese merchant shipping industries in the northern region of Java, including Pasuruan in East Java and Tegal in Central Java. The shipping industry, which used Javanese teak and other tropical timbers as the main raw materials, supplied the needs of merchant ships and warships of the Majapahit empire. Rafles noted that all of this enabled this kingdom to strengthen trade links with other kingdoms in Asia (in particular China, India, Champa, Siam, the Burmese), and Africa (Rafles 1816). When the influence of Majapahit began to decline in the late 14th century, another strong trading empire, the Malacca Kingdom, ruled the archipelago. Referring to an intensive account written by the Portuguese writer Tomé Pires in the 16th century, Ricklefs (2008) states that forest products continued to be a large part of the important commodities circulated within the vast trading networks of the Malacca Kingdom. Trading ships made from wood were critical to maintaining the Malacca Kingdom in their superior role within these trading networks. In addition, 16th century Portuguese sources mention several main areas they referred to as the shipbuilding centers, which were also renowned for their production of wood. These areas include the northern coast of Java (particularly the regions around Rembang and Cirebon) and the southern coast of Borneo and adjacent islands (Manguin 1980).

Taxation of timber and other forest products was also an important indicator of preliminary forms of forest utilization in this pre-colonial era. According to Boomgard (1999), in many areas of the Archipelago the local rulers levied a tax, usually 10%, on all forest products sold at the local market or exported to oriental markets. The forest products that were taxed included valuable species of wood, such as eaglewood, sandalwood and teak. Boomgard further

asserts that in certain areas the taxation encouraged local rulers to hold extraction monopolies over highly valuable timbers. This was the case of certain teak forests on Java and Southern Sulawesi as well as the sandalwood forests of Timor (Boomgard 1999). The existence of pre-colonial trading networks, local taxation systems and extraction monopolies of certain forest products seems to indicate the existence of a good supply of products from forest lands. In other words, the knowledge of forest utilization for trading purposes may have already been in existence prior to the colonial period.

Other records in several areas on the island of Java show indications of the presence of well-managed teak forests and some teak replanting that took place during the pre-colonial period (Boomgaard, 1999). According to a note written by a European traveler prior to the arrival of the European traders in the 16th century, most of the forests on the island of Java, especially Central Java and East Java, were covered with teak forests in which the teak trees were in well-managed rows (Djadjapertjunda 2001, 81). Interpreting this note many years later, a group of Dutch colonial scientists believed that the teak trees in certain parts of Java were planted. This opinion is different from the one argued by another group of scientists, who believed that the teak forests on Java were natural forests guarded by local communities for the kings (Djadjapertjunda 2001, 81). A record dated 1675, found in the Residency of Jepara of Central Java, mentions that the Dutch Trading Company (the VOC) had found a ‘sacred,’ old growth teak forest that was previously protected by local communities. The VOC immediately negotiated with local rulers to cut the old teak trees from this ‘sacred’ forest. It is unknown whether this ‘sacred’ forest was a “natural” one or an old-growth planted one (Boomgard 1999). The debates about the “status” of Java’s teak forests during the pre-colonial era, whether they were natural forests or planted ones, continue today.

Above observations on the existence of preliminary forms of forest management are in line with the accounts about a specific group of local people on the Island of Java known as the Kalang People who were considered to have specific knowledge of teak wood (Altona 1927 in Peluso 1992). The Kalang were reported to have professions centered on tree felling, woodworking, carpentry, and house-building (Seltmann 1987 in Wieringa 1998). Stories about Kalang's expertise in wood-based construction and architecture appear in several manuscripts of Javanese literature. According to Nancy Florida, who has conducted extensive research on Javanese literature, the Javanese manuscript on house construction and architecture and the lore surrounding the craft are called (*Serat Kawruh Kalang*). This manuscript, written in 1890, includes notes on architectural terminology and measurements as well as the evolution of various house forms (Florida 1993, 138). Another manuscript entitled *Kawruh warna-warni tumrap ing tiyang kalang*, that was composed between 1920-1930, narrates "the history and lore surrounding abdi-dalem kalang (house builders, architects, wood-workers)" in the Surakarta Palace of Java (Florida 1993, 142).

Other Javanese literature known as *Serat Centhini*, which portrays the Javanese journey of life, has a special section about the teak related knowledge of the Kalang people. *Serat Centhini* was written by Ki Ng. Ronggasutrasna in 1814. It was commissioned by the Crown Prince of Surakarta (the future Pakubuwana V). *Serat Centhini* narrates stories of the adventures of the wandering princes of Giri, set in the early 17th century Central and East Java, that are enriched with encyclopedic passages on both traditional Javanese lore and Javano-Islamic mysticism and theology (Florida 1993, 252-258). *Serat Centhini* describes the Kalang people as "officials of the court of Mataram whose official duties were to look after the forest." The section about the Kalang people in *Serat Centhini* narrates a series of conversations between the

main character of Serat Centhini , Mas Cabolang, and Ki Wreksodikiro who was the chief of the Kalang people. These conversations take place in a hut located deep inside the forest where this Kalang chief resides. During his five day stay in the hut of Ki Wreksodikiro, Mas Cabolang learned from him the history of the Kalang people and how their “expertise in cultivating trees, preparing timber for building materials and constructing homes” enabled them to be appointed as lower ranking officials by King Widoyoko of the Medangkamulan Kingdom with their main task being the building of the wooden palace (Santoso 2006). This appointment conferred the position of a regent, known as kalangbandong, to the chief of the Kalang People. He had four types of assistants, each of them had specialized task. One of them is known as kalangblandong, whose main duty was tree felling. Mas Cabolang also learned that the Kalang People had extensive knowledge about teak. This includes the ecological and anatomical characteristics of the different varieties of teak, the harvesting and processing techniques of teak wood, and the architectural knowledge of teak-based construction (Santoso 2006). This set of knowledge contributed to the position the Kalang People had in the shipbuilding industries during the period of the Mataram Kingdom, which was later continued under the control of the Dutch Trading Company (Peluso 1992).

The legends, stories and personal accounts I have briefly described show the existence of knowledge and the practices of forest utilization during the pre-colonial period that closely suggests preliminary forms of forest resource use. The vast and complex trading networks during the pre-colonial period contributed to the development of knowledge and practices of these initial forms of wood use and other forest products in the Indonesian Archipelago. Active dialogues of various sets of forest-related knowledge continued with the arrival of European traders to the Archipelago. The European traders not only acted as commercial brokers, they also

brought Enlightenment dreams and ideas. The dynamic process of forest-related knowledge exchanges between Europeans and Indonesians, colored with tensions regarding the control over forest products and later forest lands, produced a fusion of knowledge and practices on timber-based forest management in the Indonesian Archipelago during the colonial period.

In order to understand how the interactive connections of forest knowledge works in the colonial Indies<sup>4</sup>, I will first explore how a range of knowledge on timber-based forest management evolved in Europe through an active dialogue with a variety of relevant knowledge developed in Asia, particularly India and Burma. The following examination shows what Richard Grove eloquently argues about “historically decisive diffusion of indigenous, and particularly Indian, environmental philosophy and knowledge into western thought and epistemology” (Grove 1996). At the same time it tries to uncover the connection between the development process of scientific ideas and efforts to address political, social and cultural tensions in the utilization of forest resources. This process was later adopted in the Dutch Indies, and it continues in some way in contemporary Indonesia.

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<sup>4</sup> Indies was the official term of the Dutch colonial territory of the archipelago. The term “Indonesia” was coined in 1850 by British Anthropologist J.R. Logan, from the Greek *indos*, meaning India, and *nesos* meaning Island, referring to the island region between mainland Asia and Australia where he thought Indian cultural influence had been significant. “Indonesia” came into more widespread public use with the influence of the 1884 publication of a book in German by Adolf Bastian entitled *Indonesien*. By the third decade of the 20<sup>th</sup> century, “Indonesia” had become a political term. Among the first times it was used in the new political sense when Mohammad Hatta used it in 1922 to rename the Indies Association into the Indonesian Association (*Perkumpulan Indonesia/PI*). It was firmly established in 1928 by the Youth Congress which declared the Youth Pledge: “one nation: Indonesia, one homeland: Indonesia, and one language: Indonesian” (Crib 2004, Jones, 1978. Nagazumi, 1973).

## ***Forest and Timber Knowledge in Europe***

Many literary works mention that scientific forestry was originally developed during the period of 1765 to 1800 in the German regions of Prussia and Saxony (Schwappach 1904, Lowood, 1991, Hölzl, 2010). Prior to the development of scientific forestry, local knowledge and traditions for forest utilization had existed in Europe. The history of forest and timber knowledge in Europe is closely connected with social and political changes as well as the political economy, which consequently contributed to forest tenures. In order to understand how this process contributes to the development of scientific forestry, in the following paragraphs I will examine the history of forest and timber knowledge in Europe with particular emphasis on German regions.

### ***Forest utilization and forest tenures***

Forests in German regions were initially controlled by the German tribes who were considered conquerors of the country. Each tribe was composed of families aggregated into communal groups with an elected Duke and it was organized as a socialistic and economic organization known as *Mark*. Each group owned a territory in common. Each family owned a house, yard, and garden. The land outside these three properties had no private title, it was owned in common but each family was assigned a parcel of land for field use. The forests were used in common for hunting, pasturing, and other domestic purposes. The need for wood was still very limited at this time. Although the communal approach of the *Mark* appeared to be egalitarian, this system had aspects of inequality. The group who owned a larger number of

slaves (the conquered tribes) was able to clear the forests for the purpose of expanding the settlement, which included the enlargement of the agricultural lands of the settlement (Fernow, 1913).

The growth of a strong royal sovereignty and the emerging roles of the great ecclesiastic and civil magnates changed the forest tenures. Starting in the seventh century, these powerful individuals possessed larger parts of forested lands by acquiring both previously communal forest lands and the previously unclaimed forest lands. They also appropriated the forests belonging to the original free settlements without restricting the peasants in utilizing these areas. Since they wanted to extract the value from their extensive forest land possessions, these land owners established schemes of settlement with certain rules where each community was assigned a part of the forest for common use. Until the year 1000 A.D. the forested lands were divided into two arrangements. The first was the private property of the sovereign or of ecclesiastical and civil authorities. The second was the communal forests accessible to the original free settlers or to communities subordinate to the lord of the manor (Schwappach 1904).

The actions of expanded control over lands through land appropriation, particularly of the peasantry, continued throughout the Middle Ages. These efforts were connected with the political power of territorial possessions. The reorganized political economy and the developed feudal system during this era impacted the tenure of the old communal forests. These forests were divided and different feudal lords began controlling the individual forest parcels (Schwappach 1904). Those who possessed larger properties tried to extract the value from their possession by colonization, especially by utilizing their serfs. Gradually, the serfs became “freedmen” by paying land rent in product or labor. Progressively, this approach developed into the so-called *servitudes* or *rights of user* where the freedmen were able to acquire the rights of

usufruct (use) in forest lands. This was a form of Roman property doctrine known as the *praedium*, which is a limited right to use the property of another (Fernow 1904, 31).

Development of the private property rights described above was consequently followed by the enactment of the exclusive right of the king to reserve the forests and other lands within the king's territory for hunting purposes. This right was extended by the German kings to territory outside their own country's boundaries. This conception made non-forested areas such as fields and pastures, woods and waters, and whole villages with their inhabitants "inforested" grounds. This approach was adopted by kings in England (Fernow 1904, 31). Years later, this strategy was used by the Dutch colonial administration as part of their efforts to establish the so-called "political forest" in Java. According to Peluso and Vandergeest (2001), the term "political forests" refers to lands declared by the State as official forest areas. They argue that political forest have played a critical role in the establishment of the territorialization and legal framing of forests. In colonial Indonesia, the Dutch Colonial Forest Service (*Boschwezen*) developed "political forests" through colonial forestry laws by drawing boundaries between agricultural and forested lands, declaring all unclaimed and forest lands to be the domain of the state (Peluso and Vandergeest 2001, Peluso 1992). Following the Dutch pattern, the post-colonial government of Indonesia attempted to continue holding and controlling "political forests" across the Indonesian Archipelago.

Similar reactions to this attempt to establish "political forests" occurred in Middle Age German regions and the colonial Indonesia. In Middle Age German regions, heavy resistances from the peasants turned into peasant revolts. This resulted in hundreds of thousands of German peasants being killed in their attempt "to preserve their commons, forests and waters free to all, to re-establish their liberty to hunt, fish and cut wood, and to abolish tithes, serfdom and duties"

(Fernow 1913, 35-36). In the case of Colonial Indonesia, Nancy Peluso provides extensive examinations on forms of Javanese peasant resistances in response to specific forms of control of forest lands and forest resources (Peluso 1992).

### ***Experimental Preliminary Silviculture Systems and the Formation of Scientific Forestry***

Across different periods of time, prior to the eighteenth century, different methods of raising forest trees evolved in German regions, which are the basis of all modern silvicultural systems (James 1996). The term silviculture is derived from the Latin *silva*, meaning forests; while the Romans had a forest god named Silvanus (Britannica Encyclopedia). In the contemporary era, the term silviculture refers to the art of producing and tending a forest. In general it contains the theory and practice of controlling forest establishment, composition, structure and growth (Smith 1987). Examples of these silvicultural systems are the selection, group, strip, uniform, and clear cutting systems. These four silvicultural systems are based on the use of natural regeneration to provide young trees for the succeeding generations of crops (Smith 1987).

The development of the silvicultural systems in German regions took a great deal of thought and research (James 1996). This process contributed to the initiation of the scientific forestry used today. The first book concerned solely with forestry appeared in 1713 and was titled 'The Economics of Silviculture' (*Sylvicultura Oeconomica*) written by Hans Carl von Crlowitz. At the practical level, during the sixteenth to the nineteenth century (Fernow 1903), various forms of silviculture combining timber felling methods and tree regeneration techniques

were experimented with using various types of forest ecosystems in numerous places within German regions. Along with the development of silviculture systems, the need for forest management was also recognized. However, organized forest management techniques were slower to develop than silvicultural methods (Fernow 1903). The link between silvicultural methods and forest management is explained by Schwappach (1904) as follows:

A forest permanently placed under silvicultural control is under rules regulating sustained management. It is the foundation of systematic forestry to secure to the proprietor continuously (annually or periodically) a regular yield or income. When the timber output is approximately equal every year, it is the most positive evidence of sustained management (Schwappach 1904, 131-132).

Further development of silvicultural methods and forest management in German regions supported the formation process of scientific forestry. Referring to the historical account and relevant literature, James Scott considers this new forestry science as part of the “sub discipline of what was called “cameral science,” which was an effort to reduce the fiscal management of a kingdom to scientific principles that would allow systematic planning” (Scott 1998). The term “cameral science,” (German: *Kameralwissenschaft*) which emerged during the Age of Enlightenment in German regions, applied to economics, finance, mining, agriculture, and trade (Lowood 1991). “Cameral science” was first introduced in Prussia at the universities of Halle and Frankfurt an der Oder in 1727. By the last third of that century, it was further developed and established in the university curriculum throughout German regions. The call for professional training in “cameral science” and its gradual emancipation from the faculties of law led to the creation of new professorial chairs and schools for teaching a body of theory and techniques needed for the administration of the state and its domains. “Cameral sciences” was crucial in subjecting a variety of economic, administrative, and social practices to rational or “scientific” scrutiny (Lowood 1991, 316).

The beginning process of the development of scientific forestry in German regions was partly influenced by the growing concern among German fiscal officials regarding the declining yields of wood from the old-growth forests due to both planned and unplanned felling that caused severe degradation. These officials were worried for two primary reasons. The first one was the alarming decreasing yields that could negatively influence the state revenue. The second one was that the declining yields, which influenced the availability of firewood, might trigger villagers, mostly peasants, to poach within the borders of state forests in order to meet their needs for firewood (Scott 1998, Hölzl 2010). However, according to Hölzl (2010) most environmental historians doubt the actual existence of a large-scale resource crisis in German regions between 1750 and 1850. They argued that the shortage of timber (and fuel as well) at both local and regional levels that happened during this period was mainly induced by market phenomena and territorial politics (Knoll 2006, Schmidt 2002 and Grewe 2004 in Hölzl, 2010). The concern among German fiscal officials regarding poaching actions, which they believed would be carried out by forest villagers, was a reflection of many battles regarding the state management of forests in German regions and other European Countries during the eighteenth and nineteenth centuries. These battles put the state and its officials on the one side, and the peasants, pastoralists, charcoal ironmakers, basketweavers, and other forest-dependent groups on the other side (Guha 2001). Guha further notes that responding to these battles, social protest movements against state management of forests appeared in German regions and continental Europe at the time. This inspired Karl Marx to write one of his first political writings in 1842 entitled “Debate on the Law on Theft of Wood” (Guha 2001).

Although state management of forest lands generated protests, the development of forestry science as the “cameral science” continued considering the economic value of the

revenue from the timber. One of main subjects within forestry science in German regions at the time was “forest management.” Considering the importance of administering forest lands and the management of both the lands and the forest themselves, the subject of “forest management” became one part of the state administration. State administration officials felt that the process of forest management needed to be scrutinized. The main purpose of this scrutiny was to fit "scattered pieces of knowledge into systems" and to transform "all sorts of activities previously left to habit into a science" (Lowood 1991, 316). The primary rationale behind this process was economic rationalization. The forest displayed the size of the task of managing the resources from which the prince of the late 18th century ultimately derived his wealth. Discharging the task from the royal authority forged new links between state administration and science. The result was quantification and rationalization as applied to both the description of nature and the regulation of economic practices (Lowood, 1991).

The quantification and rationalization approach narrowed the focus of management to wood. Lowood notes that ‘identifying wood mass as the crucial variable of forestry set the state for quantitative forest management’ (Lowood 1990, 326). Timber-based quantitative forest management can be seen from one of the scholarly works on scientific forestry produced by Georg Grünberger (1749-1820) professor of mathematics and co-director of the Bavarian Royal School of Forestry in Munich. This forestry school was established in 1786/1790 (Hölzl 2010). In one of the first academic textbooks on scientific forestry, used by the first generation of scientifically trained foresters, Georg Grünberger introduced a fundamental principle of scientific forestry by producing a map that shows an imaginary forest patch structured by a mathematical grid. The center of the map is determined by two diagonals, while the unevenly

outlined forest is equally divided into 84 rectangular cells (Hölzl 2010, 435-436 referring to Grünberger 1788).

The Grünberger map is strikingly similar to what I learned in an undergraduate forestry class of forest planning at the Forestry School of Bogor Agricultural University/IPB in 1988. This type of map contains detailed information of trees by size class and an estimate of the harvestable timber in any year. The map is further used to support the development and the application of the management plan of a specific area of production forest to be managed by a licensed forest company in Indonesia. This forest management plan is technically known as the working plan. For forest companies whose main business is logging Indonesia's primary forests in the Outer Islands, the map and the working plan are two critical things that they must have when applying for the forest utilization licenses from the Ministry of Forestry. The combination of these two things and some other plans to comply with government regulations is known as the working plan (*rencana karya*). In overseeing the operation of the forest companies, bureaucratic foresters at the Ministry of Forestry will use the working plan and the companies' annual report. There are many technical aspects of the map and the forest management plan. They function as tools forestry companies use to establish quantifiable and measurable plans in managing state-controlled forests. Interestingly, the map and the forest management plan as well as the working plan are usually created in the headquarters of forestry companies (mostly in Jakarta). Official approval of the working plan is also made by the central government, represented by the Minister of Forestry. Examining similar processes in colonial India, K. Sivaramakrishnan calls the map and the forest management plan "the instruments of remote control" (Sivaramakrishnan 1999).

Certain types of maps similar to the Grünberger map, as well as the quantification and rationalization approaches of forest management, were also part of the materials learned by

undergraduate students of IPB's Forestry School that I interviewed in 2010. This continuing adoption of similar academic materials partly represents the reproduction of German scientific forestry. However, at the same time this remaining exercise should not simply be analyzed as the linear translation of German scientific forestry. This paradigm was spread to German regions's neighboring countries, including France, England, and the Netherlands, during the eighteenth century and its applications were extended to the United States and the colonies of European countries, including India, Burma and the Dutch East Indies.<sup>5</sup>

Knowledge and field experiences in Burma and India, gained by German-trained European foresters, also played an important role in development process of colonial forestry education in India and England. One of these foresters was Sir Dietrich Brandis, a German scientist with a doctoral degree in botany, who worked for the British Empire in India and Burma during the period of 1856 – 1883. Seven years of experience in Burma and twenty years of appointments in colonial India seemed to influence the way Brandis viewed tropical forest management. Brandis facilitated the enactment of regulations on forest management in colonial India. At the same time he produced an extensive set of publications and helped the establishment of research and training institutions in colonial India, including the Indian Forest College at Dehra Dun. Some scholars refer to him as “the father of tropical forestry” (Negi 1991). Considering Brandis' intensive role in the adoption of local knowledge into colonial forestry in India, Ramachandra Guha calls Brandis “a democratizing forester” (Guha 2001). Brandis was also involved in forestry education in England, particularly at the Coopers' Hill, as well as in German regions. He was also known for his role in mentoring influential foresters like Berthold Ribbentrop, W. Schlich and C.A. Schenck of German regions, as well as Gifford

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<sup>5</sup> In the case of Colonial India, please see Grove (1996), Sivaramakrishnan (1999). In the case of Colonial Burma, please refer to Bryant (1996) and Bryant (1997).

Pinchot and Henry Graves (the first and second chiefs of the USDA Forest Service) of the United States (Saldanha 1996).

In the case of Dutch East Indies, the process of active dialogue among people with various sets of forest-related knowledge happened within the people in trading networks during the pre-colonial period and continued with the arrival of European traders to the Archipelago. Besides their main role in economic activities, these European traders also served as cultural brokers, particularly in the process of knowledge exchanges. In the following section, I will investigate the exchange of timber-based ideas in the Dutch East Indies during the period of the Dutch Trading Empire.

### ***Timber Knowledge of the Dutch Trading Empire***

Since as early as the Middle Ages (8<sup>th</sup> -13<sup>th</sup> centuries) the Netherlands was a major importer of wood. However, it wasn't until the seventeenth century that timber imports developed a real importance to the Netherlands. This was primarily due to the growth of the Dutch shipbuilding industry. Nearly all the wood necessary for this industry was imported into the country from elsewhere (Buis 1985). Much of the early imports of timber passed down into the Netherlands through the River Rhine from its eastern neighbors, including German regions. Gradually this international timber trade was heavily involved in tropical timbers, mostly extracted by the Dutch East India Company (*Vereenigde Oostindische Comagnie* or VOC) from the Dutch East Indies. During the 17<sup>th</sup>-19<sup>th</sup> centuries the Dutch East Indies served as the main source of raw materials for the shipbuilding in the Metropolitan Netherlands (Lette et al. 1998). In the following paragraphs I will explore how the extraction operations of these coveted tropical

timbers from the Dutch East Indies, organized by the VOC, were linked to the active interactions of a variety of relevant knowledge that was both local and transnational.

### ***Dutch Shipbuilding Industry and Timber Extraction***

In the summer 1997 I had a chance to visit the National Maritime Museum of Holland (*Het Scheepvaartmuseum*) in Amsterdam. My friend, who is a Dutch environmental activist, took me to this museum with one agenda: to show me the replica of one of the VOC ships in which parts of it were made from tropical timbers. The National Maritime Museum of Holland has the exact replica of the *Amsterdam*, which represents a type of ship known as an “East Indiaman” used by the VOC to sail to Asia in the 17th and 18th centuries.<sup>6</sup>

The East Indiaman ships were produced by the Dutch Admiralty ship yards during the 17<sup>th</sup> century, which was the peak of the Dutch shipbuilding industry. This industry was considered one of the foundations of the economic prosperity of the Netherlands during the 16<sup>th</sup> - 17<sup>th</sup> century. This period of time was renowned as the Dutch’s Golden Age. During this era, Dutch shipbuilders dominated the European ship market. The success of the Dutch’s shipbuilding industry was based on several factors, their technical superiority, the low costs that included the lower cost of imported wood and other raw materials, and the strong organization of the ship carpenters’ guilds that guaranteed equal access to wood and other raw materials to all shipwrights (Unger 1981).

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<sup>6</sup> The original *Amsterdam* was lost on her maiden voyage in 1749. Centuries later, archaeologists were able to learn much about the construction of the VOC ships, their cargo and life on board by studying the wreck of the *Amsterdam*. Attempts to construct this exact replica of the *Amsterdam* began in 1985. She has been placed at the dock of this maritime museum since 1991 (The Het Scheepvaartmuseum’s website <https://www.hetscheepvaartmuseum.nl> retrieved on March 15 2012

The extensive use of tropical timbers from the Archipelago as raw materials for the Dutch shipbuilding industry started in the early 1600's when the VOC constructed a wharf on a small island in the Java Ocean. The VOC ruled the port city on the northern shore of western Java, then known as Jakatra<sup>7</sup> (today's Jakarta) and renamed it Batavia (Boomgaard 1992). The VOC built several shipyards that became the major consumers of Indonesia's timbers, mostly teak. Along with the establishment of these shipyards, two wind-powered sawmills were also established. In addition to the VOC's shipyards, there were other shipyards owned by the Chinese shipwrights in Batavia that were supported by one private water-powered sawmill (Boomgaard, 1992).

Besides playing a critical role in the shipbuilding industry, timber was also needed to support the expansion of commercial administration facilitated by the VOC, particularly as materials for construction, fuel, and furniture. Since the arrival of the VOC in Batavia, this city grew significantly and timber became the main material for the construction of a variety of buildings including administrative, commercial, and public service facilities (Boomgaard, 1992)

In order to meet the increasing demand for timber, the VOC went through various stages in extracting Javanese teak. In the first stage, during the period of 1600 – 1677, the VOC facilitated various forms of agreement with local rulers so that they would receive a permit for their business with the local groups producing timbers such as the Chinese woodcutters in Karawang of Northern West Java and the Chinese timber merchants in Jepara of Central Java (Boomgaard 1992).

The second stage, during the period of 1677-1745, the VOC managed to acquire the rights to all the teak produced in key areas of Java which led the company to obtain further control over the teak areas. During this period of time, the VOC established forest ranges in

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<sup>7</sup> Indonesians learn from the "official" history books published by governments that the old name of Jakarta is Jayakarta

several areas in West Java and Central Java where Europeans served as overseers for native feudal corvée laborers. The corvée in Java at the time was a laborer who sometimes worked without pay for a superior (such as an aristocrat or noble). Considering that most of the European overseers were soldiers who had limited silvicultural knowledge, the timber cutting process was managed in such a way that “the required amount of teak timber was cut in the dimensions preferred by the company” (Boomgard 1992, 5 referring to accounts written by Brascamps 1922).

Another important way to extract the teak was through a set of legal agreements with the ruler of the Mataram Kingdom. These agreements, enacted throughout different periods of time, allowed the VOC to establish direct authority over two intertwined items: the forest areas utilized by the Kalang People and the timber-producing Kalang People themselves (Boomgard 1992). During this period of time, the timber cutting process applied in a series of timber extraction operations seemed to be based mostly on the knowledge and technology developed by the Kalang timber cutters themselves. Several years later, during the early period of the New Order Indonesia, this approach was closely reproduced in the Outer islands where foreign logging companies who obtained logging permits from the government of Indonesia relied on both the extensive knowledge and networks of local timber cutters. In the case of the VOC, controlling both the Kalang’s forests and the Kalang’s timber-producers themselves enabled them to become the territorial ruler of most of the teak-producing areas in Java. At the end of this stage, the VOC was able to completely control Java’s teak forests (Boomgard 1992).

The third stage was the period of 1745 - 1808 where the VOC exercised its territorial ruler rights by running forest exploitation to further support Dutch’s shipbuilding industries. During this period, the company continued to employ corvée labors as axmen and water buffalo

for skidding timber from the felling area to the loading place. In transporting the logs to various ports the workers conducted a series of experimentation for using timber raft techniques. However, this method worked only for short distances. After at least two decades of experiments, they gradually gained the knowledge and skills this technique required to transport timber for longer distances. At the time, the rafts were made of bamboo or other light species of wood. These rafts would be towed by native ships. A publication dated 1787 narrates the voyage of an annual timber raft from Rembang, the teak area in the northern coast of Central Java, to Batavia, located on the northern coast of western Java. Another official document, known as the Memorandum of Transfer by the governor of Java's north coast, dated 1791, states that the annual fleet of timber rafts contained seven rafts (Boomgaard 1992, 6-7). The timber rafting method is still being applied in contemporary Indonesia, particularly in the Outer islands. The rafts are made by the woods bound together into rafts, and they drift on the current or are pulled down a river. The rafts continue their journey over the sea route with the help of a ship that will tow them to their destination.

### ***Experimental Forms of Forest Management and Silviculture for Javanese Teak***

The era when the VOC controlled the extraction and the trading of Javanese teak is commonly known as “the era of teak timber mining” (Simon 2001, Suhendang 2002). However, relevant articles on forest management and exploitation in colonial Java during the golden era of the VOC,<sup>8</sup> help us understand that this era was actually a period where this trading company carried out a variety of experiments that were preliminary forms of forest management and the

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<sup>8</sup> In particular the article written by Peter Boomgard on forest management and exploitation in colonial Java during 1677-1897 which is based on extensive archival work.

initial actions of silviculture. As I discussed earlier in this chapter, the term silviculture refers to the art of producing and tending a forest. The development process of the initial actions of silviculture and the experimental forms of forest management performed by the VOC gradually contributed to the advancement of forest management of the teak forests in colonial Java.

The first type of forest management is known as a logging camp approach where the forest laborers established a logging camp in which their own headmen and the Dutch forest overseer supervise them under certain hierarchical orders. The forest labors fell all trees with certain dimensions that the labors estimated as sufficient to make logs of at least 18 to 20 Rhineland feet (one Rhineland foot equals to approximately 15 inches) by 9 to 10 inches. These were the fixed minimum dimensions of logs required by the VOC. The labors would leave the trees with dimensions less than or greater than the VOC's timber requirements. This system applied a fixed payment per log produced by the forest labors regardless of the log dimensions (Boomgaard 1992, 7-8). I argue that this limited selective felling system could be referred to as a preliminary form of silviculture. I call it a preliminary form of silviculture because there was no special effort to regenerate the logged over areas at the time. Nevertheless, this system seemed to allow the larger trees, which are usually older and have higher regeneration capability, to survive and to contribute to the natural regeneration process of the area.

The next model of forest management, adopted in 1777, was the extension of logging areas where the local rulers (the regents) and the European overseers assigned the forest labors and their buffalo to expand their working territories to all forests in the regency. This time, the VOC adopted a slightly different model of silviculture where the forest labors were instructed to cut merely the oldest and the largest trees. The financial incentive of this system was the size-based payment. The bigger the timber size, the higher payment the forest labors would receive.

Nevertheless, the forest labors did not benefit from this payment system. Each labor still had to use around one third of any payment they received to buy their daily subsistence of rice. At the same time, this silviculture model has negative environmental impacts on the natural regeneration of the logged over areas, since the oldest and the largest trees naturally serve as “the mother trees” that spread seeds with the help of wind, rain, and different insects and other animals. Moreover, felling and skidding of the oldest and the largest trees (which are usually taller too) affect the adjacent trees including the younger ones. Nevertheless, a combination of the controlled application of this volume-based selective felling system and the size of the forest area where this system applied was not considered too destructive when compared to the logging camp system. In the logging camp system, the fixed dimensions required by the VOC triggered the forest labors to cut more timbers from a limited size of forest area. The reason behind the adoption of the volume-based selective felling system is still not clear (Boomgaard 1992).

The negative impacts of the volume-based selective felling system made the VOC adopt another system. This time, the company experimented with the clearcutting approach. In 1797, the VOC developed a draft instructing an inspector of forests “to divide every forest into parcels and to clear one lot entirely per year, so that the first parcel to be clearcut would have mature timber when the last parcel had been cut” (Boomgaard 1992, 8). The substance of this draft instruction was similar to the quantification approach for forest planning introduced by Georg Grünberger in the scientific forestry handbook he published in 1788 (Hölzl 2010). The quantification approach of the German model of forest management intended to produce “the annual normal yield” (Schwappach 1904). It is not clear, but seems likely that the translation of this approach in colonial Java was a preliminary attempt to reproduce the German method in

combination with existing methods of forest harvesting developed by the Kalang People at the time.

A different method of forest silviculture was tried by the VOC, and it was officially recommended in 1801. It was known as the “burning” of teak seed. This method was adopted and became known in local traditions as “the annual burning of the teak forests.” Boomgaard notes that the VOC forest overseers, who were generally soldiers and sailors, observed that the Javanese (or, most likely the Kalang) practiced this tradition with the aim of protecting themselves from wild animals such as tigers, to control weeds, to save time and energy by getting rid of waste from felling timber and dry leaves, to naturally fertilize the forests, and to open more space to make the forests more accessible. In the case of the logged over areas covered with alang-alang (*Imperata cylindrica*), the annual burning would enable the growing of young shoots of alang-alang, which served as a nutritional source of food for their cattle. In addition, the VOC forest overseers learned that the burning helped the teak seed to sprout more easily (Boomgaard 1992, 8).

Nevertheless, the 1801 official recommendation of the burning of teak forest mentioned that the application of this method must not be hard on the young teak trees. This requirement was influenced by the opposition of some Dutch officials toward the extensive burning of the waste of post-felling. They considered that this practice had negative impacts on young teak trees. The opinion of this group of officials, reflected in the 1809 report, underlined the damaging impacts of the burning of teak forest. Despite this opposition, the forest burning method continued to be permitted. This can be seen from the Forest Regulations of 1829 that

“were still in favor of burning” (Boomgaard 1992, 8). After much debate among Dutch officials, the forest burning method was officially banned in 1857.<sup>9</sup>

As I have shown, experimental forms of forest management in colonial Java were developed in active dialogue with the existing traditions and experiences at local and regional levels. All of this provided critical contributions for the formation of scientific forestry in the late colonial period in Java. In particular this is the period where the Dutch republic took over VOC’s control over forest resources in colonial Java and certain parts of the outer Islands after the VOC collapsed financially. I will continue discussing how this interactive exchange of ideas, traditions, and practical experience influenced the formation process of scientific forestry in colonial Java in the following section.

### ***Development of Scientific Forestry in Colonial Java***

As I discussed in the previous section, it was the importance of Java’s teak forests to the metropolitan naval industries that led the VOC to carry out various attempts in developing teak forest management in Java during the late seventeenth to the late eighteenth centuries. This need created the preliminary forest management practices that have led to today’s forest management methods. Scientific forestry was officially adopted by Dutch colonial administration not long after the VOC formally ended its operation in Java in 1800. Governor-General Willem Herman Daendels, who served as governor-general of the Dutch East Indies during 1808-1811, enacted the first regulations on centralized forest management in colonial Java. Daendels also appointed

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<sup>9</sup> It is interesting to note that in the above set of experiences dealing with the forest burning method, the experiences might have close connections with the tensions over fire-protection programs carried out by colonial foresters in Burma. The application of combined approaches of fire protection and silviculture, particularly regeneration, was part of the scientific management of the ‘reserved forests’ in colonial Burma (Bryant 1996, 172-173).

an inspector-general of forests and set up a Board of Forests, consisting of five high government officials. The inspector-general and the board were helped by twelve forest overseers, each of them coordinated with the heads of the timber cutters (known as the *blandong*). Daendels enacted the regulations and took the above actions in 1803 in response to the main findings and recommendations of the forest survey that was conducted by the VOC in 1797. These forest surveys revealed and reported a significant degree of forest degradation due to over extraction of timbers. In order to address this problem, the report of the forest surveys recommended strengthening forest management methods by expanding and reorganizing forestry personnel (Boomgaard 1992, 9-10).

In 1849, the first professional foresters with German forestry education were appointed, with a mandate to develop improved cultivation practices for the teak forest estates (Boomgaard 1992). By this time, the principle of public responsibility for the management of the resource in the interests of the metropolitan government, as laid down by Governor Daendels, had become firmly established in forestry policy. The principle that forest management was best assured by state stewardship over forest lands led logically to the establishment of a professional government forestry service. Its responsibilities included controlling forest lands, replanting degraded forests, tree species development and following and improving forest management practices (Peluso 1991). The Colonial Forest Service (Boschwezen) enacted boundaries between agricultural and forest lands, and organized the establishment of state-controlled territories of forested areas. Scholars title these politicalized territories as ‘political forest’ areas (Vandergeest and Peluso 2001). The establishment of these “political forest” areas was conducted in two steps. The first step was the enactment of Colonial Forestry Law for Java and Madura in 1865. This law officially adopted the approach of state control over forest lands and resources. The

second step was the 1870 enactment of a regulation known as 'Domeinverklaring' which claimed that all forest lands were state lands except the lands under private entitlement (Vandergeest and Peluso 2001, Peluso 1991, Simon 2001). All of this process shows the close connection between the development of scientific forestry and the establishment of the state administration over territories and resources. Political and economic interests of the colonial state served as important factors in this process.

The formation of scientific forestry in colonial Java also seemed to be associated with a common issue that foresters considered the human problem: the distress, by the local population, over the scarcity of forest resources, particularly timber. It is interesting to note the similarities of debates about this problem regarding both resource scarcity as well as the appropriation of this issue as justification for the development of scientific forestry that occurred in German regions (see Hölzl 2010), British India (see Grove 1996, Sivaramakrishnan 1999) and British Burma (see Bryant 1997) during this period of time. However, in the case of German regions most contemporary environmental historians argue that the issue of the shortage of timber at both local and regional levels which emerged between 1750 and 1850 was mainly induced by market phenomena and territorial politics (Hölzl 2010). The fear of projected scarcity of forest resources was in some way a reflection of many conflicts between the state and forest dependent groups regarding state control over forests in German regions and other European Countries during the this period of time (Guha 2001). Similar conflicts occurred in British Burma, British India and Netherlands East Indies, and in particular on Java.

Another topic that contributed to the development of scientific forestry in colonial Indonesia was the hydrological significance of the forests. In the late nineteenth century, many Dutch foresters who worked in the Netherlands East Indies began to mention the problems of

deforestation and the need to develop reforestation (Galudra and Sirait 2009). Interestingly enough, deforestation problems the Dutch foresters mentioned at the time were the ones associated with the activities of local agriculture, specifically what they called “shifting cultivation.” This led Dutch forestry scientists to concentrate their research on the harmful effects of shifting cultivation on hydrological conditions (Galudra and Sirait, 2009). However, the negative ecological impacts of large scale agricultural plantations established by Dutch entrepreneurs were not part of the colonial research agenda during the beginning of the twentieth century.

Circulation of information about the development of scientific forestry that took place in German regions, Netherlands East Indies (particularly the Island of Java), British Burma and British India seemed to be facilitated through printed media. The opening of a mail route via the Isthmus on Suez in 1844 shortened the period of mailing circulation. Inhabitants of Batavia in Colonial Java could read newspaper articles or books published two months earlier in Europe (Goss 2011). Professional foresters such as Dietrich Brandis played an important role in this process. Brandis’ writings about his experience and observations in British Burma and British India were circulated not only within the circles of the British colonial regime but also in forestry schools in German regions (see Guha 2001 and Saldanha 1996). Brandis’ experience in managing teak forests in British Burma was adopted by Dutch foresters in colonial Java. This can be seen from the development of the so-called *Buurman’s* system where the teak planters, who served as laborers, could grow agricultural crops for one or two years between the rows of

the young teak trees. In formulating this system W. Buurman might have learned of the *taungya* system, which Dietrich Brandis established in British Burma (Peluso 1992).<sup>10</sup>

It wasn't until the end of the nineteenth century that the materialization process of scientific forestry in colonial Java received scientific support from the Netherlands. In fact, the experience in the development of scientific forestry in Java provided a critical contribution for the establishment of forestry education in the Netherlands in the early 1900's (Maat, 2001).<sup>11</sup> At the same time, the formation process of scientific forestry in colonial Java received limited support from the colonial scientific regime. This was partly because the colonial scientific institutions were in their own development process. The botanical gardens at Buitenzorg (now Bogor), founded in 1817 with the aim of supporting development of natural science, had not yet functioned optimally before the mid nineteenth century (Goss 2011).<sup>12</sup> Under the leadership of Melchior Treub during 1880 – 1910 the Bogor Botanic Gardens gradually emerged as the main research institution in the Netherlands East Indies (Phyenson 1989, Goss 2011) and positioned Bogor as the “biology Mecca” (Goss 2011).

The following section examines how the colonial scientific regime under Treub's leadership gradually provided support for the development process of forestry science and at the same time facilitated the beginning process of forestry education in colonial Java.

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<sup>10</sup> I further explore this process in chapter four where I trace the history of the so-called social forestry program of the New Order Indonesia.

<sup>11</sup> In his book “Science Cultivating Practice: A History of Agricultural Science in the Netherlands and its Colonies, 1863 – 1986,” Harro Maat (2011) mentions that forestry was one of five major education programs in the State Agricultural School in Wageningen between the 1890s and the 1950s, but forestry was considered too far off from the Dutch expertise in agriculture and horticulture at the time. Therefore, the Dutch experience in Dutch East Indies, particularly in Java, played critical role in the development of forestry education in the Netherlands (Maat 2011).

<sup>12</sup> In his book, “The Floracrats: State-Sponsored Science and the Failure of the Enlightenment in Indonesia” Andrew Goss (2011) also examines the historical roles of Bogor Botanic Garden as well as its contribution to the development of colonial state-sponsored science, particularly botanical research.

## ***The Bogor Botanic Gardens: Scientific Nursery for Colonial Forestry Science***

The Bogor Botanic Gardens, located approximately 60 kilometers from Jakarta, have a special educational role for Indonesian forestry students who study at the forestry school at the Bogor Agricultural University (IPB). In early December 2009, I observed a group of IPB undergraduate forestry students conducting a one day field trip to the Bogor Botanic Gardens. This field trip was part of their class on dendrology. Dendrology is the subcategory of botany that examines wooded plants (trees, shrubs, and lianas). Dendrology tends to focus on economically useful woody plants, their identification and horticultural or silvicultural properties (Helms, 1998). Dendrology is also closely connected to the study of forest ecology. Considering the presence of more than 15,000 species of trees and plants, including those of the Outer Islands, the Bogor Botanic Gardens serve as a perfect place for a field trip on dendrology.<sup>13 14</sup>

The Bogor Botanic Gardens were originally gardens of a mansion built by Gustaaf Willem van Imhoff, the governor general of the VOC in 1744. During the period of British rule Sir Stamford Raffles, who served as Lieutenant-Governor of Java during 1811 - 1816, re-landscaped the gardens. When the Dutch took back its power over the area in 1816, the status of the gardens in Bogor formally turned into botanical gardens. The German-born Dutch botanist, Carl Reinwardt, was in charge of this task, and the gardens officially opened in 1817 as the National Botanical Gardens (Dutch: *Lands Plantentuin*).

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<sup>13</sup> In addition to dendrology, since the mid of 1980s the gardens have also become a place for studying the so-called ex-situ conservation which refers to conservation of forest resources (particularly forest flora) outside the forest areas.

<sup>14</sup> Bogor forestry students will usually have other field trips to the Cibodas Botanic Garden as well as the Mt. Gede-Mt. Pangrango National Parks to study upland wood plants

While the town of Bogor witnessed the development process of Bogor Botanic Gardens, the city of Batavia emerged as “the uncontested center of commercial and intellectual life,” for certain groups of elites within government and business institutions (Phyenson, 1989). This was in line with the economic boom from the extraction of natural resources in Java, particularly during the application of the Cultivation System (Cultuurstelsel)<sup>15</sup> in 1830 – 1870. The circulation process of knowledge of nature in certain events and spaces was mostly managed and participated in by the elite of society (Phyenson 1989, Goss 2011). These groups of elites became collectors of antiques and specimens of flora and fauna. As a result, geographical botany and ethnology became the dominant scientific interests in nineteenth century Colonial Indonesia. In addition, the possibility of great rewards for domesticating and cultivating useful and highly potential profitable plants contributed to the enhancement of these two fields (Goss 2011)

Under this environment, the Bogor Botanic Gardens emerged as a very important institution that facilitated botanical expeditions and hosted the collection of plants derived from those expeditions. Melchior Treub, who served as the director of the Bogor Botanic Gardens from 1880 – 1910, realized that in order to further develop the gardens as a scientific institution of tropical botany he needed more support. This led Treub to facilitate the establishment of the Society for the Advancement of Scientific Research in the Netherlands East Indies in 1890 (Goss 2011). In pursuing the development of scientific regimes in the Netherlands East Indies, Treub

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<sup>15</sup> The Cultivation System allowed a peasant to achieve remission on his taxes by growing government-owned export crops on one-fifth of his land. This mechanism had the effect of introducing compulsory labor and of transforming Java into an enormous scale of state-controlled plantation. The Cultivation system cohered with the Dutch philosophy of dual control: local regents policed the lands, while Dutch residents extracted wealth (Ricklefs 2008). The system, argued by some scholars as “systems” considering a variety of application forms in different regions, succeeded beyond its original plan set up by Van den Bosch. Between 1830 and 1870, Java served as “the milch-cow that kept Holland solvent” (Phyenson 1989). The Cultivation systems were then replicated to the island of Sumatra with certain adjustments. The Cultivation systems gradually emerged as the foundation of the development of the plantation economy of colonial Indonesia, which later was reproduced in various forms by different political regimes of post-colonial Indonesia.

began giving attention to forestry. Treub began to initiate collaborations with the colonial forestry service in 1888 (Goss 2011). Because of Treub's friendship with a young Dutch forester named S.H. Koorders, the facilities at the Bogor Botanic Garden supported Koorders work in identifying the non-teak trees of Java. During the period of 1894 – 1910 Koorders and his research assistant Th. Valeton published a thirteen-volume description of the forest flora of Java (Goss 2011). Treub's efforts in supporting forestry research led to the establishment of the forestry research institute in 1913 (Lam 1929).

Treub continued his steps in developing botany-related scientific research by producing a plan to create a colonial department for scientific research. Inspired by the United States Department of Agriculture, Treub suggested that the colonial government establish the colonial department of agriculture (Maat 2001, Goss 2011). Treub advanced this idea into a more comprehensive suggestion, in which this department would contain most of the research institutions in the Indies at the time, including those of the mining and forestry services, as well as the Batavia medical school and the navy's magnetical and meteorological observatory. Treub's idea triggered a series of extraordinary debates. Despite these debates, this idea was accepted by the colonial government when they established the department of agriculture in 1904 and appointed Treub as its first director (Phyenson 1989, Maat 2001, Goss 2011).

Treub began to initiate collaborations with the colonial forestry service in 1888 (Goss 2011). Treub's efforts in supporting forestry research led to the establishment of the forestry research institute in 1913 (Lam 1929). Besides advancing forestry research, Treub also played an important role in the development of agricultural-related education that later covered forestry education. In 1903 Treub established the Buitenzorg Landbouw Hogeschool which later evolved

into the Bogor Agricultural Institute<sup>16</sup>. In the following section, I further examine the establishment of colonial forestry education, which was in line with the development of the Dutch colonial higher education system that was built with the specific objective of producing technical officers for certain fields such as medicine, agriculture, and forestry. All of this process was closely associated with the ethical ideas that emerged during the late nineteenth century in parts of Europe.

### ***Ethical Ideas and Colonial Forestry Education***

In 1859 Eduard Douwes Dekker, a disappointed civil servant in the Netherlands East Indies, published a book using the pseudonym "Multatuli". This book was entitled "Max Havelaar or the Coffee Auctions of the Dutch Trading Company". It was a criticism of the abuses of the Dutch colonial administration that took place in the Netherlands East Indies. In this influential book, Dekker narrates a number of native stories, including the love story of Saidjah and Adinda. This moving love story contains a bitter indictment of the exploitation and cruelties faced by the natives of Java Island, particularly of the Lebak region located in the northwest part of the island which served as the regional focus of the book. To Dekker, as head of state at the time, King William III was responsible for all the abuses and corruption of the administration occurring in the Netherlands East Indies (Multatuli, Lawrence, and Edwards, 1967). At the end of the book, Dekker addresses a special request to the Dutch King William III requesting that he correct the injustices. The book was initially rejected in the Netherlands. It

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<sup>16</sup> Treub's idea of putting together the branches of natural and exact sciences was in some way reproduced when the government of post-colonial Indonesia established Bogor Agricultural University in 1963.

gradually emerged as one of important references that triggered the debates, led by Dutch socialists, about ethical ideas (Anne-Marie 1997).

In the late 1890s, Dutch socialists in the Netherlands steered intensive debates towards social issues faced by the natives in the East Indies. They argued that these social problems resulted from the capitalistic processes of the utilization of natural resources initiated by various Dutch institutions that were operating in the East Indies at the time. Dutch socialists not only criticize these processes but also suggested alternative solutions they called “ethical responsibility.” During 1901 in response to the debates the Dutch Queen Wilhelmina officially announced that the Netherlands accepted an ethical responsibility for the welfare of their colonial subjects (Ricklefs 2008).

The Dutch Ethical Policy focused on the improvement of material living conditions in their colonies. In particular, it focused on the 'three policies' covering Irrigation, Transmigration and Education. In terms of education, it was marked by the opening of Dutch/Western education to natives, particularly elementary and middle schools. It also included the establishment of technical high schools. The Ethical Policy became the official policy of the colonial government of Indonesia during the four decades from 1901 until the arrival of the Japanese in 1942. However, the implementation of the policy faced serious problems. The major ones were serious underfunding and inflated expectations (Ricklefs 2008).

The ethical ideas and the ethical policy for providing the education of natives fostered the development of a higher education system in the Netherlands East Indies. A higher education system was not a new notion for colonial Indonesia. Islamic educational systems, particularly in the form of Islamic boarding schools (Indonesian: *pesantren*) that functioned as an informal and less structured form of education, had been prevalent and had served as the primary source of

higher education for Indonesian Muslims since the pre-colonial period (Buchori and Malik 2005).

An important step in the development of higher education for natives under the Dutch Ethical Policy was the establishment of a medical school for natives, which was called *School tot Opleiding Van Indische Artsen* (STOVIA) (Thomas 1973, Buchori and Malik 2003). The establishment of STOVIA started in 1849 with the initial vocational training for natives to become medical assistants. In 1853 this medical vocational training evolved as a technical medical school aimed at producing graduates whom the colonial administration called “Javanese Doctor”. It later became the Medical School for Natives (*School tot Opleiding van Inlandsche Artsen*) in 1889, but the abbreviation of this school remained STOVIA. A few years later, STOVIA emerged as *School tot Opleiding van Indische Artsen*, which opened for non-natives in 1913 (Thomas 1973, Buchori and Malik, 2003). Another higher education institution established by the colonial administration was the agricultural vocational training program called Land-Tuinbouw Cursus. This program was established in Bogor in 1903 by Treub, the director of Bogor Botanic Gardens. It later evolved into the agricultural school (Dutch: *Landbouwkundige Hooge School/LHS*), which became the Bogor Agricultural University in the post-colonial period. Other technical schools founded by the colonial administration were the engineering school (Dutch: *Technische Hooge School/THS*), established in Bandung in 1920 and later evolved into the Bandung Technology School (*Institut Teknologi Bandung/ITB*); the law school (*Rechts Hooge School/RHS*) established in Jakarta in 1924, which later become the University of Indonesia (*Universitas Indonesia/UI*) (Thomas 1973, Soepardi 1974).

Buchori and Malik (2005) state that the establishment process of higher education during the late colonial period was not intended to be research-oriented academic studies. They further

argue that the main purpose of the establishment of higher education for natives in the Netherlands East Indies during this time was to develop training that would provide professional manpower to support the colonial administration. This process, however, was not purely based on economic reasons. It was also influenced by the ethical ideas popular in the Netherlands. In the case of the agricultural school, in which colonial forestry education was later integrated, its establishment was initially a response to the requests of the European planters who built agricultural plantations in the Netherlands East Indies. They requested that the Dutch colonial government arrange agricultural training facilities for their sons and their Javanese foremen (Matt 2001). Melchior Treub, one of the key individuals for the establishment process of the first colonial agricultural school, who also played a critical role in the formation of the colonial department of agriculture, had a different plan. Treub had a combination of economic reasons and ethical ideas for his support of higher education. Treub strongly argued that the main focus of its establishment should be to educate native elites and to train native officials in a formal scientific curriculum. He insisted that the first colonial agricultural school established in the Netherlands Indies should only be open to natives. This was in line with his desire to produce “scientifically educated native administrators that would become a useful interface between the needs of the European rulers and the native population.” At the same time, Treub wanted to create a new class of native administrators that would bring science to the native public (Goss 2011, 88).

However progressive his ideas were, higher education in the Netherlands Indies was operated within the conventional colonial scientific framework which functioned under an imbalance in the power plays that occurred. Several years after its establishment, the agricultural school in colonial Java was focused on producing agriculturalists and foresters at a lower level

than the graduates of the Wageningen Agricultural School of the Netherlands (Matt 2001). In other words, the development of colonial forestry education at the time was not designed to produce native foresters with a bachelor's degree.

When a young Javanese aristocrat named Soesilo Hardjoprakoso, wanted to pursue higher education in forestry he had to take on a challenging process to be admitted to the forestry school at the Wageningen University in the Netherlands in the late of 1930s. Soesilo Hardjoprakoso became the first native forester (interview with the oldest son of the late Hardjoprakoso 2009). He was involved in the nationalist movement and he later played a critical role in the establishment of the first Indonesian Forestry Academy (*Akademi Kehutanan*) in 1952. Students of this school were graduates from the Forestry High School (Middelbare Bosbouw/MBS) who had ten years of working experience right after they graduated (Soediono, 2004). The main aim behind the establishment of this forestry academy was to produce native foresters who would have a combination of technical and managerial skills in forestry. These foresters were expected to support the government of the newly independent Indonesia in continuing the management of the country's forests (Soepardi 1974).

All of the dynamics within the formation process of the colonial forestry education contributes in one way or another to the development of the traditions of collaboration between state forestry agencies with forestry academic institutions in post-colonial Indonesia. At the same time, it also influences the ways Indonesian forestry scientists have viewed forest resources and developed scientific ideas during the post-colonial period. I will examine this process in chapter three.

## *Concluding Remarks*

I have narrated stories, observations, and examinations showing that the development process of scientific forestry in Indonesia represents an assemblage of actors, events, scientific frameworks, material practices, cultural considerations, as well as political, socio-cultural and economic structures that works at sub-national, national and transnational levels across different periods of time.

As I have shown in this chapter, the formation process of scientific forestry was in one way or another influenced by the connection with the development of knowledge and practices on forest utilization during the pre-colonial era. By narrating and analyzing a variety of stories on the ancient global trading networks and the pre-colonial ship making industries in which timber and other forest products played critical roles, I argue that preliminary and limited forms of timber-based forestry had occurred during the pre-colonial era. All of this connects with the application of knowledge on forest utilization during the pre-colonial period. This process then contributed to the development of specific models of scientific forestry during the colonial period.

I have also discussed how political interventions and cultural forces have shaped knowledge of forests and forest utilization during the pre-colonial and the colonial periods. In Indonesia, during the pre-colonial and the colonial periods, this set of knowledge was created by specific groups of people and institutions with particular situated and partial perspectives (Haraway, 1988, Latour, 1993). The formation of scientific forestry in colonial Indonesia was critically shaped by transnational and local dimensions of political, economic, social and cultural

forces as well as alliances and collaborations. The shape of modern Indonesian forestry can only be understood through the precedents that I have discussed in this chapter.

## **Chapter 3**

### **Scientific Forestry and the Indonesian Foresters**

#### ***Introduction***

On November 22, 2011 Dr. Boediono, the Vice President of the Republic of Indonesia, officially opened the Fifth Congress of Indonesian Forestry (*Kongress Kehutanan Indonesia/KKI*). The KKI, held every ten years, is a prestigious meeting involving the Indonesian forestry ministry, logging companies and technical consultants, academics, NGOs and community groups. The theme for the Fifth KKI was "*Restore Forests for Breath of Life and Economy of the Nation*." In his opening speech, Dr. Boediono acknowledged that the role of the forestry sector, in regards to the national economy, had greatly declined after years of exploitation without adequate replanting actions and many forest areas had become a land without trees. He noted that the forest decline had disrupted the ecological balance in many areas, causing ecological disasters at local levels and was contributing to global warming. He asserted that despite all the problems associated with the improper management of forests, the practices of unsustainable utilization of Indonesian forests still continue. He considered the Fifth KKI, where the main stakeholders of Indonesian forestry meet, the best forum to achieve understanding and consensus on "what should we do together to solve the problems we have, problems that will be burdening our children and grandchildren if we do not take any action." Mohamad 'Bob' Hasan, the Chairman of the organizing committee of the Second KKI, and a Chinese Indonesian timber tycoon, who was also a close ally of President Suharto, considered this conference a critical event aimed at strengthening the support of Indonesian foresters toward

national forestry policies that supported forestry development. In particular, national policies that supported the unchecked expansion of timber industries in Indonesia. This fact was evident in several ways; a) the main agenda for this three-day conference, b) by the choice of topics for discussion in several parallel workshops and the affiliations of the individuals directing them, as well as c) the main recommendations produced by the general assembly of conference participants (see Saputro et al. 1990).

Many environmental activists and other members of social movements in Indonesia shared their doubts whether the Fifth KKI would produce a fundamental shift from what they call “the politics of forestry” (Indonesian: *politik kehutanan*). They expressed their doubts through various electronic mailing lists, online newspapers, and several discussion groups they set up using social media. These online debates assisted me in understanding the dynamics of the Fifth KKI since I was not able to attend the conference. Ade Fadli, a young male environmental activist from the Indonesian Forum for Environment (WALHI), who is a forester by training, expressed his doubts regarding the contribution of the Fifth KKI by writing the following comments one month prior to its opening ceremony.

As with any other meetings set-up in such a short amount of time, with an even shorter amount of time for discussions, attended by hundreds of high ranking government officials and department heads, it would be difficult for the Fifth KKI participants to find a unity of mind and understanding to stop repeating the same series of actions and policies that have occurred within the previous history of Indonesian forestry. A variety of interests and beliefs of different options, make the Fifth KKI simply an arena of superficial compromise. After this congress is over, each group will return to their previous habits. Non-governmental groups will continue to voice their criticisms; entrepreneurs will continue to be busy removing the forests, the government will continue to shout that they need additional revenues, and the forestry academics will again become to busy with their consulting work so that they forget to add any new knowledge of forestry that will make it not only equitable to all stakeholders, but sustainable as well.

The Fifth KKI will be nothing more than a longing for reunion and reconciliation. Since it will take place in a nice building with air conditioned, it will not be easy to produce any fundamental change. Real reform in the natural resources governance will only happen when Indonesian citizens have massive awareness of what is occurring within their country. Forests and forestry will remain the extractive objects of those in power. The so-called sustainable forest management, ecolabelling<sup>17</sup> and other similar designations will never be achieved. All of this because timber, coal and minerals, and fertile land on peat soils remain to serve as the main source of income for public servants who have an affair with the owners of capital.

Should we wait for the essential change from a meeting room? It is better to re-start unpacking the contents of the heads of the young foresters of this nation, who have the thirst for new knowledge of forestry, who want a fundamental change to happen, for the good of others in this country (Fadli 2011).<sup>18</sup>

Fadli's comments are in line with critical responses from Indonesian civil society as well as the "progressive" part of the Indonesian forestry community toward the application of the scientific bureaucratic paradigm on forest management in Indonesia. These groups have been delivering their critical responses through various ways since the late years of the New Order Period in 1990s. Nevertheless, the New Order regime and different political regimes during the Post-New Order era have maintained the paradigm of timber-based industrial forestry and state control over forest lands.

How today's dominant scientific paradigm regarding Indonesia forest management evolved across the different political regimes is the central topic of this chapter. I will trace how scientific forestry, which was strongly influenced by the paradigm of timber-based forestry, developed and operates in Indonesia. The development of forestry science represents an assemblage of actors, events, scientific framework, material practices, as well as political and economic structures that function at sub-national, national and transnational levels across

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<sup>17</sup> Ecolabelling is a term for environmental labeling of forest products. It is also known as forest certification.

<sup>18</sup> Fadli wrote his comments in the Indonesian Language. I translated them into English.

different periods of time. In exploring the dynamic process of the formulation of forestry science in Indonesia for this chapter, I have adopted the analytical approach developed by Fairhead and Leach (2003) in which they deliver anthropological analysis to issues of scientific governance and the social relations of science and policy in West Africa and the Caribbean. Their work combines a Foucauldian discourse analytic with a Latourian perspective to examine particular scientific and policy practices. I also use these approaches to study forms and agencies which contributed to the rise and the continuation of forestry science discourses.

In this chapter I particularly explore how scientific forestry is created by certain groups of people and institutions with particular situated and partial perspectives (Haraway, 1988). I examine how state academic forestry institutions and their scientists have provided the main contributions to the development and the operations of a scientific forestry regime in Indonesia. I also explore how the connections between male-dominant forestry scientists and the related business community during the New Order era have shaped the development and the operation of scientific forestry regimes. In addition, I discuss how the networks foresters who carry a strong spirit of the “forester’s corps” (Indonesian: *korps rimbawan*), and a strong sense of “foresters’ solidarity” contribute to this process. I examine how gender roles contribute to the establishment of gendered networks of foresters. Furthermore, I explore the involvement of civil society and other groups that have enriched the complexity of the functions and practices of forestry science in Indonesia.

Scientific forestry in Post-Colonial Indonesia has been influenced by political interventions, cultural forces, social tensions as well as transnational and local interactions and collaborations. In order to examine how these processes work, I start this chapter with the

examination of the formation of forestry in newly independent Indonesia followed by the development of forestry education during the same period of time.

### ***Forestry in Newly Independent Indonesia***

The forestry sector in the newly independent Indonesia was led by a small group of Indonesian foresters who called themselves “foresters of the 1945 cohort” (*Rimbawan Angkatan 45*). This term came from participation of these foresters in the revolutionary wars prior to the declaration of Indonesia’s independence in 1945. During 1950s, this group was also known as “senior foresters.” As a group they strongly argued that forest resources should be controlled by the state for the purpose of national economic development and the welfare of all Indonesians (Soepardi 1974). One member of this group, Soesilo H. Prakoso, wrote in his article published in Indonesian forestry journal *Rimba Indonesia* in 1954 that “all efforts and tasks to develop the management of the forests for the purpose of national needs must be in the hands of central government (in this case the Forestry Service), which would take care of the forests through a national centralized way” (Prakoso 1954, 21). During the first national forestry conference (*Kongres Kehutanan Indonesia/KKI*), which took place in Bandung in 1956, this group continued to argue for the state having the dominant role in managing Indonesia’s forests. I discuss the debates of the First KKI in further detail in chapter four.

Due to a strong colonial legacy of state-controlled forest management processes, this conventional approach, promoted by the senior Indonesian foresters, was adopted by Sukarno’s administration. The adoption of this approach represents the contradictory position held by Sukarno, considering that he was known as a supporter of the populist approach. The decision to

continue the conventional approach of forest management seems to be associated with the fact that his regime had to concentrate on nationalizing former Dutch-controlled companies, including the state forestry company (Perhutani), during the first years after Indonesia gained international recognition of its independence. This action was part of several basic policies established by Sukarno's administration. Among these basic policies, three were related to the development of forestry education in this era: 1) Nationalization of Dutch companies, including the state forestry company; 2) Development of a formal political system; 3) Transition of the education system. Dutch-trained native foresters played critical roles in this transformation process. In general, they appropriated the industrial scientific forestry approach that had been previously established by the colonial administration in responding to local political and economic situations of the post-war period. Their efforts were also partly in response to the ecological conditions, including forest degradation problems that occurred during the Japanese military occupation from 1942 – 1945.

### ***Forestry Education in Newly Independent Indonesia***

After Indonesian nationalists declared Indonesia independent on August 17 1945, which was then officially recognized by the Dutch government in 1949, numerous Dutch foresters started leaving the country. This was a direct result of the decision made by the government of the newly independent Indonesia to nationalize Dutch companies and institutions. At the same time, due to political tensions, Dutch forestry academicians gradually left the country too.

The Sukarno administration rated higher education as a one of its top priorities. This included the reconstruction of the higher educational systems that had suffered during the

Japanese occupation. On December 1949 Universitas Negeri Gajahmada was established. It later became known as Universitas Gadjah Mada (UGM) ( Buchori and Malik 2003). As the Dutch reoccupied Jakarta they reopened the higher educational institutions they had established during the colonial period and grouped them into the Universitas van Indonesie. The Universitas van Indonesie was composed of schools and faculties located in the following five cities: Jakarta (medicine, law, literature, and philosophy), Bogor (veterinary medicine and agriculture), Bandung (the sciences and engineering), Surabaya (medicine), and Makassar (economics) (Buchori and Malik, 2004). Entering the year 1950, the schools outside Jakarta that used to be part of the Universitas van Indonesie became independent universities or institutes. One of them was Bogor Agricultural University (Institut Pertanian Bogor/IPB) in 1963 (Buchori and Malik, 2004).

The first Indonesian Forestry Academy (*Akademi Kehutanan*) began in 1952. The students of this school were graduates from Middelbare Bosbouw/MBS (Forestry High School) who had ten years of working experience right after they graduated. One of the founders of this academy was Soesilo H. Prakoso, one of Indonesia's first Indonesian foresters. He was educated in one of the oldest Dutch Forestry Schools in Wageningen, the Netherlands during the late of 1930s. Prakoso later participated in the nationalist movement and became a member of the foresters of 1945 cohort that I mentioned in previous section.

### ***Forestry Transnational Learning during the Cold War Era***

As part of Sukarno's non-alignment policy, Indonesia developed a collaboration with both of the two superpowers of the 1950s (the West and the Eastern/Communist Bloc). One of

the results of this collaboration included some funding to support young Indonesian scholars in pursuing graduate studies within Eastern bloc countries. The young academics who received this support went to the Eastern bloc countries, particularly the USSR and East Germany, to study. While Sukarno gradually developed close connections with the Republic of China and Russia the cold war tensions and domestic anti-communism in Indonesia began to intensify. The government of the United States and several American funding agencies offered financial support to Indonesian students. This was followed up by the development of affiliation programs between Indonesian universities and their American counterparts. Beginning in the late 1950s, the US government and American foundations, such as Ford and Rockefeller, provided funding for young Indonesian academics to study in the United States. With this funding support, some young Indonesian academics studied at Harvard, MIT, Berkeley, and Cornell for social sciences. Others went to the University of Kentucky to study natural science and technology (White 2006). During this period, at the domestic level, the US government began to declare an open “war” against communism that increased the fears of communist influence on American institutions, including those that provided higher education (see Gough 2002 [1968], Gledhill 2000). This situation seemed to affect the selection criteria for the young Indonesian scholars who applied for graduate studies in the US. Pak Joko, a senior scholar of agrarian studies, whom I interviewed in 2009 shared his stories on how he failed to get a scholarship to support his plan to pursue graduate study in the US. He believed that the main reason for his failure to get the scholarship was his active participation in a series of discussions organized by leftist organizations during 1950s.

As the cold war tensions and domestic anti-communism in Indonesia began to intensify and peaked in 1965, support from the Eastern bloc countries stopped. Meanwhile, support from

the United States was continued into the 1960s. This period was marked by the establishment of affiliation programs between American universities, with particular academic programs, and at the Indonesian universities that had similar programs. The University of California Berkeley set up an affiliation with the School of Economy University of Indonesia, while the University of Wisconsin developed collaborations with the School of Economy University of Gadjah Mada/UGM, the University of Kentucky established a cooperative program with the Bandung Institute of Technology (ITB) and Bogor Agricultural University/IPB (Smith 1960). Under this collaboration framework, academic forestry scholars from IPB and UGM pursued graduate studies in the United States.

During the period of time when the Indonesian academic forestry scholars were conducting their graduate studies in the United States, Indonesia had been experiencing intensive debates regarding the concept of multiple uses for forests. By the end of the 1950s, the American forest industries, which worried about the threats to timber resources due to mining activities considered as abuses under US mining laws, became more anxious about the loss of commercial forest land to recreational use. This led to the development of the concept of multiple uses for forests, followed up by the enactment of the Multiple Use-Sustained Yield Act which became law in June 1960. Richard McArdle, chief of the U.S. Forest Service at the time, described the law as “one of the most fundamental” considering that for the first time the five major uses of public forests – timber, wildlife, range, water, outdoor recreation – were addressed in one law (Steen, 1976, p. 278 – 307). ). Nevertheless, conservation groups such as the Sierra Club showed strong opposition toward the concept of multiple uses for forests.

Despite intensive debates between the US forest service, conservation groups and various institutions, the “multiple use of forest and associated lands” became the main theme of the Fifth

World Forestry Congress that took place in Seattle, WA in 1962. This World Forestry Congress concluded that the development of multipurpose functions for forests must be continued as a means of increasing the welfare of people. A popular story circulated among Indonesian foresters stating that the Seattle World Forestry Congress influenced academic forestry scholars to start thinking that Indonesia's forests should not be merely focused on the sole purpose of timber production. As a result of attending this conference they began thinking about the idea of the multiple purposes of forests; conservation, tourism, and education (Soepardi 1974, Simon 2001). However, the process of thinking about this idea should be closely linked with the fact that some Indonesian academic forestry scholars who attended graduate studies in the U.S. had also encountered, in some intensive way within academic settings, the concept of multiple uses for forests. It is interesting to note here that the articles written by Indonesian forestry scholars, who were influenced by the idea of multiple uses for forests, do not mention contentious discussions nor heavy opposition to the concept that was evolving in the U.S. during the 1960s.

### ***The Beginnings of International Interventions toward Indonesian Forestry: the Story of FAO***

While the government of the newly independent Indonesia was busy addressing the internal problems of a young nation, international communities continued their process to address international issues related to forest and forestry. One international organization who played a critical role during this time was the UN Food and Agricultural Organization (FAO). During the Post-World War II period, the FAO outlined the following ideas on the management of global forest resources.

It is the object of forest management to give to man full possession and control of the forest. Its first stage is logically the full and careful study of all such forests as are likely to produce wood and the precise limitation of their boundaries. In many countries of the world, this stage is very far from being attained. The second stage is the protection of the forest against its enemies. This means chiefly protection against fire, since protection against injurious outbreaks of forest insects and tree diseases must depend chiefly on silvicultural measures.

The third stage of management, which has not yet been fully attained even in some of those countries where intensive silviculture has been practiced for a long time, aims to put the products of the forest within economic reach of the user. This stage consists in the provision of means of communication and transportation required for the economic development of the whole forest area.

The fourth and last stage consists in finding adequate markets for the products of the forest and, so far as possible, for all of the products. This stage is, of course, closely related to the third, because the building of transportation systems, involving large capital expenditures, cannot be undertaken unless it can be shown that the value of the products to be obtained will justify the investment. In many cases, a forest cannot be rationally developed unless man creates new industries - sawmills, pulp mills, etc. - for the conversion of its products. .... This fourth stage of management may even include efforts to organize new local or world-wide markets which will be able to absorb all or part of the products of the newly developed forest. Therefore it calls for a wide knowledge of trade requirements for forest products, and from this point of view it may be expected that an international organization such as FAO will in the future be called upon to play a leading role.

The above concept put the FAO in the position of being one of the leading post-colonial institutions that facilitated the continuing application of the colonial style of state controlled timber-based forestry in the newly independent countries, including Indonesia. This continuation was possible because of the participation of many colonial foresters in the FAO during the 1950s and 1960s. A variety of support provided by the FAO, including technical assistance and educational-related grants, enabled this institution to dominate the post-colonial network during the 1950s and 1960s (Vandergeest and Peluso 2006b).

In the case of Indonesia, during the 1950s the FAO suggested the establishment of forest industries in this newly independent country. Experts from the FAO who were sent to Indonesia

during the 1950s provided technical assistance in designing and conducting the field inventory of productive forests, forest planning, and the development of saw mills and other wood-based industries (Vandergeest and Peluso 2006b). The FAO not only sent their experts to Indonesia, it also recruited a few high ranked Indonesian foresters to join them at the time.

FAO's contribution to the development of forestry science became stronger during the period of 1980s and 1990s. In particular, the FAO initiated the development of the Tropical Forest Action Plans (TFAP) in the mid 1980s and the establishment of the National Forest Action Programming of the early 1990s (FAO 1999).

### ***Indonesia Responses toward Capitalistic Approach: the Story of Sukarno's Foreign Policy and Its Contribution to Forestry Sector***

During the late 1950s and the early 1960s, although Indonesia began collaborating with FAO, Indonesia actually experienced the political period where President Sukarno established foreign policy of "non-alignment." With his non-alignment policy, Sukarno led Indonesia to develop collaborations with the two superpower blocks at the time, the West and the Communist Block. Sukarno gradually built more alliances with China and Eastern European countries. As Sukarno began strengthening alliances with the communist bloc in the early 1960s, he delivered anti-Western and anti-American campaigns to the Indonesian people. As a result, Lyndon Johnson's administration decided to halt US aid to Indonesia. Sukarno responded by stating his famous remark, "Go to hell with your aid" (Hughes, 2002).

During 1963, Sukarno opposed the British-supported establishment of the Federation of Malaysia, which would take the northern part of Borneo Island as part of this Federation.

Sukarno accused the British of developing a neo-colonial plot to besiege Indonesia. On January 7, 1965 when Malaysia took a seat on the UN Security Council, with backing from the US, Sukarno withdrew Indonesia from the United Nations membership. By this time, Sukarno's tactics and policies left him with few international allies, only the Soviet Union and China remained (Hughes, 2002).

At the domestic level, the Indonesian military and nationalists were suspicious of Sukarno's close alliance with the Communist Bloc. Tensions between the military and communists increased on April 1965, when the Indonesian Communist Party (PKI) chairman Aidit called for the formation of a "fifth armed force" consisting of armed peasants and laborers. Sukarno approved this idea and publicly called for the immediate formation of such a force on 17 May 1965 (Roosa 2006).

Meanwhile, during the early 1960s the dipterocarp forests in Indonesia's Outer Islands (particularly in the Indonesian Borneo, or Kalimantan) began to be seen by Japanese and South Korean timber industries, as well as other foreign companies, as alternative sources for the growing timber industries in Japan and Korea. However, the critical political position of Sukarno's regime toward foreign capital during the late 1950s and the early 1960s prevented their direct investment in logging operations. "Rejection of capitalism and the espousal of socialism as the preferred pattern of economic organization" functioned as an important element in Indonesian political ideology since independence (Castles 1965). In the early 1960s, responding to the business interests of Japanese and South Korean timber industries, Sukarno's administration instructed foreign companies to enter into "Production Sharing" agreements with the State Forestry Company (Perhutani). The Ministry of Agriculture, to whom Perhutani reported to, granted this state company concession areas in all the forested areas in South

Kalimantan, a substantial forest area in Central Kalimantan, and over 3 million hectares of forests in East Kalimantan. Through this arrangement, Perhutani had the sole right to exploit, maintain and develop forest resources in these regions.<sup>19</sup> All of this became the legal and administrative basis for Perhutani to develop the Production Sharing projects with Japanese companies. Perhutani's monopoly of forest exploitation outside Java, however, ended with the establishment of the foreign and domestic investment laws in 1967 and 1968 by the new political regime (Manning 1971, 36-37). Before I continue my discussion on how this new regime, known as the New Order, developed Indonesia's forestry sector, I will examine how this new regime established.

### ***Suharto Establishes the New Order Era***

In the early morning of October 1965, under shocking circumstances, six high-ranking generals and one adjutant of the Indonesian army were kidnapped and murdered. These horrific acts were supposedly led by a middle-ranking military officer who was known to be a communist sympathizer. A military propaganda campaign began to sweep the country, successfully convincing both Indonesian and international audiences that it was an attempted Communist coup, and that the murders were cowardly attacks against Indonesian heroes. What followed this accusation was even more horrific. Hundreds of thousands of people who were members of the Indonesian Communist Party (PKI) and other people who were part of other organizations considered PKI's allies, as well those who were accused of associating with any of

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<sup>19</sup> At the same period of time, Perhutani was also granted to manage the production, processing and marketing of teak wood in Java (Manning 1971).

these organizations, were slaughtered. General Suharto immediately took power from Sukarno in 1966 and officially became the second president of Indonesia in 1967.

In establishing the new political regime he called “New Order,” Suharto took political and social control over the lives of Indonesian citizens, particularly those who were considered to be associated with PKI and its allies. He put special marks on the identification cards of the children, the grandchildren and all other relatives of these people. This marginalized them in many aspects of their daily lives. They had problems getting enrolled at schools, opening bank accounts or applying for loans at any bank, as well as problems applying for jobs.

The establishment of the New Order regime was also marked with the adoption of the “development” paradigm that was widely spread in developing nations during the late 1960s and the early 1970s. This “development” paradigm was formulated based on an economic approach toward modernization of a society. The most dominant model is known as the Rostow’s “take-off” model, which I discuss in the following section.

### ***International “Development” Paradigm and Its Translation in the New Order’s Forestry***

The Rostow’s “take-off” model is an economic approach toward modernization of a society. Rostow’s main theme throughout this model was that economic modernization occurs in five basic stages of varying length—traditional society, preconditions for take-off, take-off, drive to maturity, and high mass consumption (Rostow 1960). This theory became the model for modernization worldwide during the late 1960s. This model was developed by Walt Whitman Rostow (also known as Walt Rostow or W.W. Rostow), a United States economist and political

theorist who served as a major adviser on national security affairs under the Kennedy and Johnson administrations. Rostow had a prominent role in the shaping of US foreign policy in Southeast Asia during the 1960s. He was known as a devoted anti-communist, and had a strong belief in the efficacy of capitalism and free enterprise and supported US involvement in the Vietnam War. In his later years he taught at the Lyndon B. Johnson School of Public Affairs at the University of Texas in Austin. Rostow wrote extensively to promote free enterprise economics, particularly in developing nations. One of the books Rostow wrote was titled “The Stages of Economic Growth: A non-communist manifesto” (1960) which was used in several fields of social sciences in the US during the 1960s. In this book, Rostow developed the “take-off” model of economic growth, which became one of the major historical models of economic growth adopted by developing countries. Rostow’s concept was widely circulated and applied in developing countries, in particular with the multilateral and bilateral supports from industrialized countries.

Not long after taking power in 1966-1967, the Suharto administration began adopting Rostow’s modernization theory. A group of Indonesian economic scholars trained in the U.S. at the University of California at Berkeley, commonly referred to as “the Berkeley Mafia,” was involved in establishing a set of national policies aimed at preparing Indonesia to achieve economic growth. Some of these policies included: a) Basic Forestry Law No. 5 that defined the operation of extractive forestry; b) Basic Mining Law No. 5 which outlined the extractive laws governing mining, and d) The 1967 Foreign Capital Investment Law which allowed multinational corporations to extract timber from the forests in Indonesia’s outer islands (the islands outside Java island), granting them five year tax income deferments, which some companies were able to extend up to fifteen years (Dauvergne, 1994). Similar deferments were

given to domestic logging companies through the 1967 Domestic Investment Law. All of these new laws favored the politically established, wealthy individuals and corporations at the expense of the local communities that relied on the forests for their existence and the individuals that had no political power.

The Basic Forestry Law No. 5 of 1967 enacted by the New Order Regime constituted a legal instrument facilitating commercial access to and development of income streams from the legal rights to forest resources. This law continued the legacy of the Dutch colonial administration by giving the state powerful control over all forested lands in Indonesia, except those that had private titles. Article 5 of the Basic Forestry Law states that all forest areas within the boundary of the Republic of Indonesia, including natural resources in the areas, are under the control of the government. This particular article was used as a mechanism to legitimize state claims of ownership over forest resources and to arbitrarily sanction the removal of local control from forest-dependent communities, including indigenous communities (Moniaga, 1993).

In order to develop the forestry sector, Suharto appointed Soedjarwo the first Indonesian Minister of Forestry. Soedjarwo is the son of a middle-level forestry officer of the Secondary Solo Palace (*Keraton Mangkunegaran*). He graduated from the colonial forestry high school in Madiun in 1943. Soedjarwo continued his education at the Forestry School of Bogor (*Akademi Kehutanan Bogor*) and graduated in the year of 1953. He served as the head of the forest management unit of Banyumas, Central Java under the State Forestry Company (Perhutani) from 1953-1958 where he was responsible for the management of the teak forest in that area. Soedjarwo's career as a civil forester ended when he was appointed the head of forestry in the district office of Yogyakarta Province in 1958. In addition, during the revolution (*perang kemerdekaan*) he served as the commander of a special battalion which consisted of technical

forestry officers (named Batalyon Wanara). This battalion also fought the PKI Revolt in Madiun in 1948.

In the post of Minister of Forestry, Soedjarwo developed some programs to counter grassroots efforts conducted by organizations associated with the PKI. One of the programs he introduced was known as the “Multipurpose Management of Forestry.” He claimed this would be “a successful program in increasing the prosperity of the local communities who live surrounding forest areas who were impoverished by the PKI” (Pusdokino Kehutanan, 2007). This effort seems to have stemmed more from his distaste for the PKI than his desire to help local communities.

### ***The Alliances of Bureaucrats, Timber Tycoons, and Military in the New Order’s Forestry***

Following up the enactment of the Basic Forestry Law of 1967, the Forest Land Use Policy (referred to as TGHK) was established under Government Regulation No. 33 in 1970 and formalized in a set of Minister of Agriculture Decrees in 1980 and 1981. Based on Forest Land Use Policy, the permanent forest is categorized into: 1) production forest, aimed to be extracted to support timber exports and later timber based industries (64.3 million hectares); 2) protection forests (30.7 million hectares); 3) natural conservation areas and nature preserve forests (18.8 million hectares); and 4) convertible forests (26.6 million hectares). The deadline for completing the Forest Land Use Policy (TGHK) was designated as 1985. With support from the World Bank-sponsored projects, the Ministry of Forestry aimed at demarcating forest lands according to the TGHK Policy.

The TGHK served as a legal reference for the extraction of forests in the Outer Islands. Using this policy, in particular the section on the allocation for production forests, the Indonesian Ministry of Forestry licensed forest lands to both private and state-owned logging companies as well as to industrial plantation companies. Through this process the New Order expanded its control of forest resource extractions, particularly regarding highly economically valued timbers, to other islands outside the islands of Java and Madura (also known as Indonesia's Outer Islands). This process is called "extractive forestry" (Fernow, 1908). By applying timber-based extractive forestry and by licensing forest lands to both private and state-owned logging companies during 1970s and the early of 1980s, the New Order regime facilitated a massive process of forest exploitation. Timbers harvested from this process were mainly exported as round logs at the time. Most of the companies that received logging concessions were closely associated with military institutions (such as military cooperatives) or high-ranking military officers. The strong connection with the military, along with the extremely high revenue from the timber, had driven the excessive logging (Dauvergne 1997, 71-72).

In the mid 1980s, the massive extraction process began causing an increasing shortage of highly economically valued timbers. At the same time, there were a group of promising foreign investments to support the establishment of timber-based industries such as plywood, pulp and paper companies. In 1980 the government changed its forest policy by introducing a ban on raw log exports, and promoting the development of the plywood industry. This approach later emerged as industrial timber-based forestry, which refers to the industrial scale of the application of timber-based forestry with the primary objective of massively producing timber as the raw material for wood-based industries such as plywood, pulp and paper, and etc. By the late 1980s

Indonesia was the world's largest plywood-producer and had achieved seventy five percent of the world market shares.

However, overestimation of forest resources, poorly managed large-scale operations, non-compliance of concessionaires to the principles of sustainable forestry, lack of law enforcement, an overcapacity in the plywood industry and meager reforestation resulted in the rapid exploitation of primary forests (Hurst 1990). After continuous short-term and profit-oriented timber exploitation, forest coverage in Indonesia had decreased to 119.3 million ha (62 %) in 1982 (RePPPProt 1990) and 92.4 million ha (48,6 %) in 1983. These figures include plantations and logged over secondary forests. The deforestation rate for the time period between 1982 and 1993 has reached an incredible 2.4 million ha/year (Bobsien and Hoffmann 1998).

In the 1990s the Indonesian deforestation problems triggered international environmental organizations, in collaboration with several Indonesian groups, to launch a various forms of international campaigns against bad forestry policies and destructive logging companies. These campaigns in some way influenced the emergence of international boycotts for Indonesia's timber products. The boycotts came mainly from Western European countries. But in 1993 other countries joined the timber boycotts, including Mexico. Rather than addressing the underlying causes of deforestation that became the main reason of the timber boycotts, the Ministry of Forestry of Indonesia and Indonesian timber tycoons responded these boycotts by launching a series of counter-campaigns. Their counter-campaigns tried to deliver messages that Indonesia's forest resources had been well-managed. One of Indonesian timber tycoons that was active in the international counter-campaign was Bob Hasan.

During the 1980s-1990s Bob Hasan and the associations of timber industries he chaired, including the Indonesian Wood Panel Producers Association (*Asosiasi Produsen Panel Kayu*

*Indonesia*, or Apkindo) had powerful control over the development of industrial forestry in Indonesia. Hasan had extensive authority to transform Apkindo into a powerful marketing collecting body (Barr 1998). According to one forestry official “the forestry department cooperates with Apkindo, but Apkindo really makes policy” (Schwarz 1989). This statement implicitly tells us that Hasan had powerful influence in the development of certain forestry policies. In the 1990s Bob Hasan was the most powerful figure among the timber tycoons of Indonesia. All of these timber tycoons are Chinese Indonesian men. They controlled about two-thirds of the logging conglomerates. Forests-related businesses managed by non-Chinese Indonesians were limited primarily to local companies that were not wealthy and did not have the political power needed to become wealthier. The Chinese Indonesian business men mostly relied on “politicians for concessions and licenses, on military officers for protection, and on bureaucrats for the ‘flexible’ interpretation of management rules” (Dauvergne 1997, 70). Hasan built his business empire and power through his close link with Suharto during the late 1950s (see Barr 1998). In the 1990s it was widely understood within the Indonesia forestry sector that Hasan was ‘the de factor Minister of Forestry’ for the New Order regime. One high official stated that “the formal Minister of Forestry or the State Minister for the Environment can challenge him only to a limited degree” (Duavergne 1997, 71).<sup>20</sup>

Hasan also had close connections with forestry academics. During the 1980s and 1990s, a group of senior academic forestry scholars served as Hasan’s advisors. In the mid 1990s Hasan tried to recruit almost all of the deans of the prominent forestry schools in Indonesia to be his

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<sup>20</sup> Suharto appointed Hasan Minister of Trade and Industry in early 1998. Not long after Hasan’s appointment, Apkindo was closed down as a result of International Monetary Fund (IMF) requirements during the Asian financial crisis that hit Indonesia at the time. After Suharto stepped down in May 1998, Hasan was convicted of corruption in 2001 in a widely-publicized trial and was imprisoned until 2004.

special advisors in an attempt to counter international boycotts against Indonesian wood products. Hasan strategically appropriated the “scientific” authorities of these scholars in order to gain more political support from the Indonesian foresters. In 1990s I personally observed how Hasan, through one of his own companies, the MPI, as well as the associations of logging companies and timber industries, provided financial support to Indonesian higher education institutions. In the mid 1990 Hasan also made gifts to the North Carolina State University in the U.S. as part of his international counter-campaigns in response to the international boycotts on Indonesian timber products. At the ribbon-cutting of Hasan’s new pulp and paper mill in East Kalimantan (the Kiani Kertas pulp mill) that took place in August 1997, the dean of the North Carolina State University's College of Forest Resources named Hasan an honorary professor. In explaining the reason for bestowing an honorary professorship on Hasan, Dean Lary Tombaugh said at the opening of the Kiani Kertas pulp mill, which was the largest in Southeast Asia at the time, "I would be the last to proclaim to be an expert about Indonesia, but it has appeared to me... the environmental future of that country is in the hands of a few major industrialists. And Mr. Hasan is one of them" (Weiss 1997). However, Hasan’s attempts to get both scientific and political support from Indonesian academic forestry scholars were not always successful. Some scholars carefully responded making their objections known through various actions they considered politically appropriate at the time.

Close collaborations between timber businesses, forestry academics and policy makers in Indonesia were, and are still, common practices. As a result, the industrial scale of timber-based forestry remains the main approach to the management of state-controlled forest lands in Indonesia today. The Indonesian foresters, a group of people who are graduates from forestry schools and work in various institutions, have been associated with numerous actions that

maintain this dominant paradigm of forest management. Nevertheless, certain individual foresters have formulated actions against this paradigm.

### ***Contributions of Forestry Academics to Forestry Policies***

During the period when the New Order regime exercised its power (1966-1998), the Ministry of Forestry established regulations regarding the silvicultural aspects of timber management for the “natural” forests of the Outer Islands. The Indonesian Selective Felling System (Tebang Pilih Indonesia/TPI) was established in 1972.<sup>21</sup> The Indonesian Selective Felling System was revised in 1980, in which clear felling was no longer allowed. In 1989, this system was revised again and it evolved into the Indonesian Selective Felling and Replanting System (Tebang Pilih dan Tanam Indonesia/TPTI). The manual of TPTI, published by the Director General of Forest Utilization, contains several technical instructions on the following subjects: forest engineering, forest planning, forest inventory before logging, felling, inventory of residual stands, enrichment planting, seedlings, production and nurseries, tending and protection (Soerianegara, 1994). State-owned and private companies who had a forest utilization license (Hak Pengusahaan Hutan/HPH) were not exempted from these regulations, including the ones related to silviculture.

These regulations were intended to guide companies in managing “natural” forests in such a way that they could ensure the continuity of timber supplies from these forests. The technical term for this goal is known as “sustained yield” (kelestarian hasil). The main rationale behind the regulations was to guarantee the “sustained yield” over time, even if the required

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<sup>21</sup> Through the Decree of the Director General of Forestry through the Manual on Indonesian Selective Felling, Clear Felling with Replanting, Clear Felling with Natural Regeneration, and Their Control.

yield changed. From the early 1970s to the early 1980s, the application of the sustained yield concept was mostly to support timber exports. Between 1980s – 1990s, operations of this concept were closely connected with the establishment of timber industries, particularly plywood. Meanwhile, from the early 1990s to the end of the New Order Era, the sustained yield concept was used in industrial timber plantations that were built to support pulp and paper industries. The concept of “sustained yield” is not unique to Indonesia. This is one of the main concepts in timber-based forestry that was developed in Germany and later utilized in other countries including the United States.

Forestry academics were involved in the process to develop regulations aimed at helping forestry companies managing state production forests so that they reached the “sustained yield” goal. One of the relevant regulations was the Selective Cutting System (*Tebang Pilih Indonesia/TPI*), which later evolved into the Selective Cutting and Planting System (*Tebang Pilih dan Tanam Indonesia*). Although the high officers of the Ministry of Forestry invited forestry academics to participate in the process, it did not mean that these scientists were able to fully express their scientific ideas. One forestry academic who was involved in this process, shared a story about how the process was full of hidden political agendas and concerns regarding the overriding economic interests the high government officials had in making certain that their personal interests were not adversely affected. Some of the forestry academics who felt that government ideas of silvicultural-related regulations were not ecologically appropriate were reluctant to articulate their scientifically based reservations. He continued to state that some forestry academics were reluctant to have opinions that differed with those of high forestry officials because they considered these officials were their seniors (of the same forestry schools), and therefore their bosses. Others were hesitant because they had tried articulating their opinions

on previous occasions and received strong criticism from these high officials. This second group was afraid that this criticism would adversely affect their academic career. There was another group of academics that was truly hesitant to express differing opinions because its members were afraid that by doing so they would no longer be hired as advisors for certain state-sponsored projects.

When the application of industrial forestry practices began to produce negative impacts in the environment, many forestry academics did not voice or write any type of criticism. This partly relates to various political projects of the New Order regime. The first one was the purge of all administrative and academic staff linked to the Indonesian Communist Party (PKI) or any organizations that were suspected of having affiliations with this party. The regime restrained all forms of mass organization, and repressed freedom of expression. The second political project was “de-politicizing” higher educational institutions through a doctrine of social order titled “Normalization of Campus Life” (*Normalisasi Kehidupan Kampus – NKK*). Through the NKK policy the New Order regime stressed that higher educational institutions were part of the government bureaucracy and that fact restricted the political roles of both students and faculty members (Nugroho 2005, Laksono 2005). The environment created by these political projects prevented concerned forestry academic scholars from presenting their scientific views on the destructive impacts of the massive, large-scale state-sponsored industrial based scientific forestry.

## *Collaboration between Academic Foresters and Forestry Business*

Collaboration between forestry businesses and academic foresters was established in three ways. The first form of collaboration was financial and technical support. The second one was business collaborations where forestry businesses sub-contracted its scientific and or technical assessment work to academic institutions. In this collaboration, the academic institution usually forms a team of forestry scientists who represent several specializations within forestry science that are needed for the project. The third form was an informal collaboration with individual scientist(s) where the forestry business hired an individual scientist or a team of scientists as independent consultant(s).

Many forestry academics saw the boom of industrial forestry in the 1990s as a window for gaining personal economic opportunity. They joined the 'big wave' of industrial forestry businesses by serving as consultants for timber industries, in which many times the companies paid them not because of their consulting work but merely to put their names on the management planning documents needed for getting logging or timber plantation development licenses from the government. The corrupt bureaucratic systems in Indonesia enabled many companies to have fake management planning documents, which led to massive forest exploitation. At the time, those faculty members who participated in this practice were aware of the problem. But the money which was offered by timber industries could not compete with scientific idealism. Most, if not all, faculty members in forestry schools are civil servants who received very low salaries. This phenomenon is not unique to forestry schools. In his article examining the political economy of higher education in Indonesia, Nugroho (2005) presents a similar picture in many other departments within public universities.

However, the participation of faculty members in this process was not merely based on economic interest. Friendships among members in one cohort of students, as well as the strong brotherhood among male members of the cohort, flourished and strengthened over the years. Interestingly, relationships among members of different cohorts would also grow, contributing to the interlinking relations among foresters who work in government agencies and forestry companies, particularly males. These relationships were very well maintained.

Strong connections among male foresters during the New Order era, which continues nowadays, related to the fact that until the early 1990s forestry was known as a “man’s world.” This situation related to the main purpose of forestry schools in colonial Indonesia, which was to produce the professional manpower who would work as field officers. Working as a forest ranger in Indonesia was and still is considered a man’s job. Indonesian women who had access to higher education during the late colonial era preferred to enter other disciplines, including legal studies. Post-colonial Indonesia forestry schools had a very limited number of female students until the mid 1970s. From a small number of female students who graduated from forestry school of Bogor Agricultural University (IPB) in the late 1970s, none of them became professional forester who worked in the private sector. Very few chose academic path but not all are successful. Beginning in the early 1980s the number of female students at IPB’s forestry school gradually increased. Some of these female foresters are currently occupying high-ranking positions within the Ministry of Forestry, while others are holding managerial positions in timber companies. A small number of these female foresters entered academic institutions. One of them was nominated for a high position in one academic forestry institution in the early 2000s. She was not selected because many of her fellow male academicians rejected her nomination by commonly referring to her gender roles (as a wife and a mother) as her weakness.

## ***The Indonesian Foresters' Solidarity***

A strong web of relationships among Indonesian foresters, who worked in a variety of forestry institutions contributes to the establishment of scientific forestry in New Order Indonesia. This web of relationships was built through a strong sense of “foresters’ solidarity.” This solidarity applies among Indonesian foresters at the individual and the group levels, including groups that are based on alma mater (the university where they earned their bachelor degree in forestry). In addition, the foresters’ solidarity also works at the Indonesian foresters group level regardless of the alma mater. The Indonesian foresters call this kind of solidarity the spirit of the “foresters’ corps” (*korps rimbawan*). This process continues during the contemporary era.

The foresters’ solidarity and the spirit of the “foresters’ corps” circulates among undergraduate students of all forestry schools. In the case of IPB’s forestry students, they began learning this spirit during two-days of a field orientation programs that take place at the Mount Walat Educational Forest located in upland Sukabumi, West Java. In this program new students are given general introductions to one of the forest ecosystems and learn general tasks of the foresters. They also learn jungle survival methods as well as leadership and teamwork skills. This field orientation program becomes the first occasion to initiate friendship among forestry students. These friendships grow as they continued to work as groups on other field trips and during field work.

Solidarity among male forestry students is relatively strong and contributes to a relatively solid network of male foresters. During the period of undergraduate study, many of these male foresters live in the same male dormitories or rent houses together. In the case of IPB, there

were two male dormitories that were specifically occupied by forestry students. IPB's policy stated that male students of other schools could apply to become tenants but none of them "dared" to apply. This was linked to the strong traditions each of these two dormitories exercised in welcoming new male students. The new students must pass certain welcoming rituals, which sometimes included abusive treatment, before they could be officially accepted as "official members" of these foresters' dormitories. One male forester explained to me that once he passed this set of welcoming rituals, he gradually built strong friendships with almost all the members of his dormitory. He continued by stating that his friendship with the alumni of his dormitory continues in his professional life as a field forester of one of the logging companies in East Kalimantan.

### ***Responses to the New Order's Destructive Forestry: Reactions from Forestry Students***

In mid 1980 a small group of forestry students at IPB who were members of IPB's nature lover group (known as LAWALATA-IPB) responded to forestry problems through various actions. These actions included participating in environmental education programs aimed at increasing the general awareness about forestry problems. These programs were managed by LAWALATA-IPB in collaboration with one environmental group called the Green Indonesian Foundation (*Yayasan Indonesia Hijau/YIH*). YIH, which was established in 1980, was considered one of the first environmental NGOs in Indonesia. With the support from the World Wildlife Fund (WWF) Indonesia Program, YIH developed environmental education programs and published a popular environmental magazines called the "Voice of Nature" (*Suara Alam*).

Many nature lovers from different universities in Java, including veteran nature lovers and their younger fellows, joined YIH in various capacities whether they were full-time staffs, part-time personnel, volunteers, or freelance contributors to its popular magazine. The programs and events organized by YIH during 1980s seemed to become fertile grounds for a small group of forestry students and other nature lovers to develop their capacities in terms of understanding environmental problems and identifying possible solutions.

During the mid 1980s, environmental education programs were considered “non-political” by IPB because the President and the civitas academica of IPB strongly restricted any activities that could raise questions from the military and the higher authorities during. The restriction was part of the application of the national policy known as “Normalization of Campus Life” (Normalisasi Kehidupan Kampus – NKK) enacted by the New Order regime in April 1978. The NKK Policy aimed to limit students’ rights of expression, assembly and association. As student councils (known as Dewan Mahasiswa/DEMA in the late 1970s) of many universities organized protests against this policy, the government enacted another policy of the Coordinating Body for Student Affairs (Badan Koordinasi Kampus - BKK) a few months later. The Minister of Education, Daoed Joesoef, issued a statement directing students to be involved only in activities related to student welfare (i.e. educational facilities and material and spiritual well-being), student interests (arts, sports, journalism, outdoor recreation and campus community pursuits) and student thought and reasoning (study clubs and seminars) (Aditjondro, 2003). In other words, the policy of NKK/BKK was effective in ending student involvement in political issues. In the case of IPB, the establishment of a specific academic approach known as “the academic package system” (Indonesian: “*sistem paket*”) seems to support the application of NKK/BKK. In this system, IPB fixed the list of classes and their schedules for each cohort of

students in each academic department. Students who failed in one course could not continue to the upper level. They must take the same course again and pass it before continuing to the upper level the following year. Students who failed for the second time could not continue their study at IPB. This system made IPB's students of the New Order period hesitant to participate in non-academic activities.

Despite all of these restrictions, a small group of forestry students managed to participate in the emerging forest-related environmental movement in the mid 1980s facilitated by the Joint Indonesian Network for Forest Conservation (SKEPHI) and the Indonesian Forum for Environment (WALHI).<sup>22</sup> When WALHI developed a forest investigation program in 1989, a small group of young forestry students participated in this program. Participation of several forestry students in WALHI's forest investigation program in the late 1980s was uncommon. This was because this was Indonesia's logging heyday and many forestry students were recruited by forestry consulting companies that handled projects from logging companies. Forestry students were given jobs as field enumerators with relatively high remuneration.

In the late 1980s, a bigger group of Indonesian forestry students gradually began participating in the dialogues on forestry problems through an organization called Sylva Indonesia, a national association of forestry students. This organization managed to organize a national conference in 1990 which took place in Bogor and was hosted by forestry students of IPB. In this conference, forestry students from several forestry schools in Java, Kalimantan, Sumatra, the Moluccas, and West Papua participated in a series of workshops where they had the opportunity to have discussions with environmental activists and dialogues with high-ranking officials including the Minister of Forestry. A few years later, some of forestry students who

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<sup>22</sup> See Mayer (1996) for detailed examination about the history of environmental movement

attended this conference became key members of environmental NGOs in their own regions. Their participation in these environmental groups enriched the forest-related environmental movement at the national level.

### ***Challenging Foresters' Culture of Pride***

During the late 1980s and the early 1990s, forestry students' activists who joined the emerging environmental movements in Indonesia began delivering critical voices through various ways, including attending national meetings on forestry. One of these meetings was the Second KKI, which took place in Jakarta October 22-25 1990. The Second KKI was considered a special event by many Indonesian foresters since there were few national forums after the First KKI in 1955 that allowed Indonesian foresters and relevant stakeholders in forestry to share ideas on how Indonesian forests should be managed. One thousand five hundred and six foresters participated in Indonesia's second national forestry conference. These foresters represented different groups, which included state forestry agencies of national, provincial, and district levels; state-owned and private forestry companies, forest products processing businesses (such as sawmills, plywood, pulp and paper companies), academic institutions and research agencies. A small number of participants were representatives of forestry student organizations and environmental NGOs.

Several forestry student activists and I attended the Second KKI as representatives of Sylva Indonesia, a national association of Indonesian forestry students. I was also an active member of the IPB's student nature-lover group and had been actively involved as a volunteer for the Indonesian Forum for Environment (WALHI). Influenced by my observations of the

results of destructive practices of forest management in Java and Sumatra during my academic field work and other field trips throughout the period of 1988 – 1990, I joined the national forestry conference with one firm aim: to challenge the “old foresters” on the industrial forestry concepts that had created both ecological and social problems. As a forestry student and activist who was participating in the environmental movement, I viewed this Congress as an opportunity to voice my criticism, and I enthusiastically made plans to attend. I shared this heroic mission with my fellow activists. Unfortunately, our mission failed.

We should not have been surprised that we failed, when we learned that most of our fellow senior and junior foresters were having ‘intimate’ relationships with either the logging companies or the timber industries. Many of these foresters worked for these companies in various capacities. These ‘intimate’ relationships resulted in their support for the national plan of expansion of the timber industries.

My unsuccessful attempts during the Second KKI to convince the other conference attendees that we needed a major direction change within the forestry sector encouraged me and other forestry student activists to think about alternative steps to facilitate the changes within Indonesian forestry community. We began discussing the idea of establishing an independent group that would focus its work on increasing awareness among forestry students. In September 1992 this led to the establishment of a small NGO we initially named the Indonesian Young Forester Foundation (Rimbawan Muda Indonesia/RMI). My participation in the establishment of RMI and later several other organizations was an attempt on my part to materialize the spirit of “activism.” Besides organizing environmental education programs aimed at increasing public awareness regarding deforestation and forest degradation problems, RMI was also heavily involved in the advocacy processes of forest-related policies in the mid

1990s. This was in line with the wider work of intensive campaigns against state-based industrial forestry, which were initially organized by WALHI and SKEPHI.

From 1993-1996, RMI's activists and other environmental activists of the Indonesian Tropical Institute (LATIN), who were foresters by training, and a consumers' rights activist from the Indonesian Consumers Foundation (*Yayasan Lembaga Konsumen Indonesia/YLKI*) participated in the formation process of the national standard of sustainable forest management in Indonesia. This process was initially facilitated by an independent working group known as the Indonesian Ecolabelling Working Group (*Kelompok Kerja Ekolabel/Pokja Ekolabel*), led by the former Minister of the Environment Dr. Emil Salim. Members of this working group were initially representatives from environmental NGOs and consumer's rights groups, including myself. This group gradually invited reform-minded forestry scientists, ecologists, and social scientists to participate. Three key members of a small group of forestry scientists were Dr. Hariadi Kartodihardjo, Dr. Butje Saleh, and Ir. Haryanto Putro who were considered "young academicians" at the time. The main task of this working group was to facilitate a series of discussions and public consultations on the national standard for sustainable forest management.

In facilitating the discussions with high-ranking forestry officials and senior forestry scientists, this working group received a series of strong criticisms from these senior foresters. They attacked Emil Salim and this group by stating that the responsibility of establishing the national standard on sustainable forest management should be in the hands of foresters, who knew forestry by heart. They disregarded the involvement of foresters in Emil Salim's group. I suspected it was because we were considered "junior foresters" and didn't matter to them. This group of senior foresters delivered their criticism inside the meeting rooms and used printed mass media to circulate their disapproval. I gradually learned that this group of high-ranking

officials and senior forestry scientists were involved in the academic team of sustainable forest management, supported by Bob Hasan. This team had a mission similar to the independent group led by Emil Salim. The fact that Bob Hasan provided financial support seemed to show the political agenda of this timber tycoon: establishing a national standard of sustainable forest management that would not negatively affect logging companies and timber industries.

The alliances between foresters and timber industries, especially the ones that narrowed the role of foresters merely to serve the interests of logging companies and timber industries, have actually been criticized within FAO. In the early 1960s Jack Westoby, a senior official at FAO, began critically discussing the role of foresters. He worked for the FAO for almost 25 years, first in the Forest Economics and Statistics Branch of the Division of Forestry and Forest Products. His next steps within FAO were to become its Deputy Director of the Division and then its Director for Programme Co-ordination and Operations in the Forestry Department (Leslie, 1989). Westoby began producing a critic of the forestry sector in his writings and lectures in 1962 when he was occupying his position in FAO.

I read Westoby's writings during the period when the independent group led by Emil Salim was receiving heavy criticism from senior foresters. Being a young environmental activist with a forestry education background, I found Westoby's books to be very powerful. Among his influential words, there are two short sentences that profoundly affected me: "Forestry is not about trees, it is about people. And it is about trees only insofar as trees can serve the needs of people" (Westoby 1987, ix).

Westoby's lecture about "foresters and politics," inspired me to shape my critical stance despite the attitude of many Indonesian foresters, whom I saw at that time as having not only a narrow mind but that were to heavily influenced by industrial timber-based forestry. I felt that

Westoby spoke directly to me and responded to my cynical opinions regarding the Indonesian foresters' corps, a community in which half of me, as a forester by training, felt that I should naturally belong to. I learned from the introduction of the two books (written by the Australian forester Alf Leslie who compiled Westoby's writings and lectures and edited them into two books) that Westoby himself was a member of the "international foresters' corps." Westoby's words immediately inspired me to enable the environmental activist part of me, who cared about "forests and people", to articulate my disagreement regarding the timber-based forestry ideas being practiced in Indonesia.

The next day after I finished reading Westoby's books, I quickly decided to write an article entitled 'Foresters' Arrogance: How Long will It Survive?' (*Arogansi Rimbawan: Sampai Kapan Bertahan?*). This article was a response to an article written by one senior forester who criticized the involvement of non-foresters in the development of a national standard of sustainable forest management. In the article that I wrote, borrowing Westoby's strong argument that "forestry is not about trees, it is about people," I challenged the traditional narrow idea of timber-based forestry that has been propagated among the Indonesian foresters. It only took two hours to finish that article and I immediately sent it by facsimile to one of the leading Indonesia's newspapers *Kompas*. Two days later, in October 1995, my article appeared on the main opinion page of *Kompas*. Responding to this, environmental activists gave their support. Nevertheless, there was a different reaction from the forestry school. One week after *Kompas* published my article, several younger forestry students I was associated with were threatened. One senior academician thought I was a radical. This academician stated that by writing that article I "betrayed" the Indonesian foresters' corps. Approximately one month after this warning, half of the forestry student volunteers at RMI resigned. At first I was surprised. I

thought I was successful in encouraging these forestry students to think and to act outside the box of timber-based forestry.

At the same time, I felt that my effort to recruit these students could not be compared with the pressures these students had received. Some of their fellow students might have ridiculed them as “angels who tried to save the forests”. This ridicule was in line with the situation where many forestry students had part time jobs as assistants to forestry consulting companies that received big contracting jobs from logging companies. Forestry students were mainly recruited as forest surveyors or forest cartographers. These jobs enabled them to not only earn some disposable income, but it gave them additional work experience. The students who participated as NGO volunteers were considered “outsiders” within the web of forestry students. I personally had faced this experienced.

I also understood that the conversation between the forestry student volunteers and the senior forestry academician, who accused me of betraying the Indonesian forestry corps, might also have influenced their decision to resign. This senior academician worked closely with the logging companies and timber industries. He served as a scientific advisor for the forestry business community. He was not alone in working outside the academic sphere. The involvement of forestry academicians in a variety of work with the forestry business community had provided training, internship, jobs, and funding opportunities for numerous forestry students for many years. Many students took advantage of these opportunities. They felt that the promising disposable income was too attractive to be turned down. Unfortunately, some appeared to allow this to affect their better judgment on important issues. This personal experience was only a small example of how the culture of pride among Indonesian foresters functioned during the New Order era.

The culture of pride among foresters continues and has transformed into a variety of forms that strengthen the narrow understanding of the role of foresters in the Post-New Order period. One middle-ranking forestry official in the Ministry of Forestry, a female official named Bu Rati,<sup>23</sup> whom I consider one of a limited number of progressive officials, explained to me in mid 2009 that most forestry officials (who are mostly foresters by training) do not want other parties to take over the control of forest lands, including the degraded ones. Bu Rati, herself a forester by training, bluntly stated that considering that most of the primary production forests in Indonesia have “gone with the wind” ( the benefits from forest extraction operations were only enjoyed by the timber tycoons and their cronies) and some of them have turned into bare lands, it is the time to radically change the forestry system in Indonesia by allowing local communities to manage forest lands. However, this idea is still rejected by many foresters. Bu Rati said that many of her colleagues still hold the strong belief that the responsibility of rehabilitating the degraded forests is in the hands of foresters, therefore the control over forest lands should remain in the hands of foresters. This notion has materialized into the various national programs focused on the rehabilitation of forest and lands. Many activists consider this program as a centralized and bureaucratic one that has not provided a way in which local communities can genuinely participate. Bu Rati then mentioned another case where she knew that some foresters received illegal payments from various companies who managed the official forest lands for non-forestry activities. Bu Rati closed our conversation by stating that “the genuine reform in the Indonesian forestry must come from the Indonesian foresters, who must not sell their conscience to capital holders.”

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<sup>23</sup> pseudonym

## ***Concluding Remarks***

I have examined in this chapter that the establishment and the expansion of timber-based forestry in contemporary Indonesia has been associated with the development process of forestry science and forestry education during the New Order era, with a strong legacy from both the colonial period and contributions from the early post-colonial time. The formation of scientific forestry in Indonesia has been closely connected with the history of politics, landscapes, land tenure, as well as higher education and other social aspects. Scientific forestry, forestry science and forestry education in Indonesia have also developed through the dynamics of world history as well as regional and national events that occurred over time.

I have explored how a strong spirit of the “forester’s corps” (*korps rimbawan*), a strong sense of “foresters’ solidarity” that was, and still is, linked to the culture of pride of Indonesian foresters that has contributed to the establishment of a web of networks among Indonesian foresters. This web of networks connects civil foresters, forestry academicians, and professional foresters who work in the private sector. I have described how these connections contributed to the establishment of scientific forestry in New Order Indonesia.

I have also investigated the initial responses of forestry student activists and environmental NGOs toward the operation of scientific forestry and industrial forestry in the late years of the New Order Indonesia. The participation of these activists and the environmental NGOs they established, along with other organizations they worked with, in the environmental movement have contributed to the development of alternative ideas to eliminate the state-controlled extractive forestry practices in Indonesia. I will further explore this process in chapter five.

## Chapter 4

# The Formation of “Social Forestry” in New Order Indonesia as a Site of Social Possibilities

### *Introduction*

From the late 1960s to the late 1980s Indonesia’s New Order administration intensified the application of timber-based forestry management. To some extent the New Order regime allowed the development of a slightly different approach to forestry called “social forestry.” State forestry agencies, including Perhutani (the state forestry company), played a significant role in the formulation of social forestry concepts and their application in pilot projects. These events and activities later contributed to the establishment of relevant state policies and programs. The New Order’s social forestry has been viewed by many as state-based entities working together to start addressing certain social issues while at the same time maintaining state control over forest resources (Peluso 1992, Barber 1993).

The development process of social forestry, however, was not limited to state-sponsored activities. Besides the state-based entities, there were other institutions that played an important role in formulating social forestry concepts and practices. These include the United Nations Food and Agricultural Organization (FAO), international funding agencies, international research institutions, Indonesian academic institutions, and Indonesian Non-Governmental Organizations (NGOs) that focused their work on development related issues.

Environmental NGOs were suspicious of the idea of social forestry when it was developed during the late 1980s and the early 1990s. This group was organizing an intensive series of campaigns and advocacy against state-controlled forestry in Indonesia. However, a limited number of Indonesian environmental activists participated in an external evaluation of social forestry in 1990. This external evaluation was commissioned by the Ford Foundation, which funded social forestry program at the time. The participation of this small group of environmental activists in social forestry during the late 1980s and early 1990s contributed to the development of revised forms of social forestry that could significantly address the underlying causes of social injustices regarding the management of forest resources within Indonesia. This process was in line with the emergence of the social-justice oriented environmental movement in the mid 1990s that I will discuss in chapter five.

There is no doubt that the New Order's social forestry programs failed to address underlying causes of injustices faced by forest dependent communities. Nevertheless, the formation of social forestry in Indonesia opened new opportunities that served as 'seeds of change' which supported the reform movement in later years. Key individuals of the community-based forest management movement in mid 1990s and the justice-oriented community forestry movement that began in 1997 participated in the formation process of the New Order social forestry. This chapter focuses on the examination of the development of social forestry in Indonesia, in particular the process that in some way started to unlock the political barriers faced by academic institutions and non-governmental organizations. In examining this process, I adopt the approach of exploring the formation of the ideas of 'social forestry' by tracing "the travels and transformations of thought across space and time" (Lowe, 2006). In applying this approach, I start this chapter by introducing the term social forestry, which closely relates to particular

notions on how forest management should be handled to address certain social aspects. Each institution that developed social forestry programs had its own idea on which particular social aspects to be addressed by its program. I explore how state institutions, state forestry companies and their officers conceptualized social forestry in different periods of time, in particular during the New Order era in 1966 - 1998. As the preliminary forms of state-sponsored social forestry already existed prior to the New Order period, I investigate how these initial ideas were utilized and adjusted within the political and economy frameworks of the two periods.

Considering the involvement of transnational entities in the New Order social forestry I also examine how collaboration with international institutions, particularly United Nations (UN) agencies and bilateral donors, in the late 1970s to the mid 1990s contributed to the formulation process of “social forestry.” Other international institutions that played significant roles in providing support for this process are funding agencies. The primary ones will be described in more detail. I explore the role of the Ford Foundation, which administered grants to Indonesian government agencies, Indonesian academic institutions and Indonesian NGOs to simultaneously develop work in social forestry.

Because of the existence of transnational support for social forestry, state forestry agencies of the New Order regime began to intensively develop social forestry programs. Nevertheless, because of land control these agencies did not consider state-sponsored social forestry as an alternative approach but as a subset of the mainstream framework of industrial timber-based forestry. I explore how bilateral donors and funding agencies negotiated their ideas within that particular situation, with special consideration because of the authoritarian mode of the New Order administration. I also examine the role of academic institutions in the conception process of the state-endorsed social forestry through their research and educational programs.

Going back to the role of state agencies in developing a set of concepts, policies and programs on state-endorsed social forestry, these agencies decided to implement pilot projects. Along this line, I explore the role of certain NGOs in the implementation of state-sponsored social forestry pilot projects. These NGOs were involved in either state-sponsored development projects, or they were involved in relevant projects through an independent process. This group was known as “development” NGOs. Most of these organizations were established in the late 1970s when the New Order administration began to receive financial support from international sources. Most of this came in the form of loans and grants, from multilateral institutions and bilateral projects aimed to help Indonesia in achieving development based on economic growth. During the early period of the New Order era, these “development” NGOs were considered politically safe forms of non-government organizations.

### ***Brief Overview of Social Forestry of the New Order Period (1966-1998)***

The term social forestry represents an intersection of different stories that attempt to address the social functions of forested lands. In the case of New Order Indonesia, this term is associated with state-sponsored efforts to position local communities under the management of state-controlled forest lands. The Indonesian term for social forestry, *perhutanan sosial*, officially appeared in 1984 as a title of a government program. This program was a collaboration between the Directorate General of Forest Utilization of the Ministry of Forestry and the State Forestry Company (Perhutani), with financial support in the form of a grant from the Ford Foundation.

In the official report of this particular collaborative program, published in 1987, the Ministry of Forestry defined *perhutanan sosial* by discussing the meaning of each word within the term. The word '*perhutanan*' (forestry) means "a system of activities for forest, land and water resource development, including the development of the village communities concerned, applying certain rules in technical, economical as well as social fields through relevant management functions; in planning, organizing and supervision" (Departemen Kehutanan, 1987). The word '*sosial*' (social) is interpreted as "the opposite of commercial and industrial, which indicates the low profit profile nature of the program, which in principle is not aimed at creating a profit, but directed more toward the development of community potentials through consciousness, insight and self-sufficiency in developing small and medium scale and autonomous village economies relying on forest resources" (Departement Kehutanan, 1987).

Academic forestry scholars have their own narratives regarding the term. Professor Hasanu Simon wrote in one of his books that considering that the term "*perhutanan sosial*" might be suggested by Dr. Sanusi Wiradinata, one of senior academic scholars from forestry school of Bogor Agricultural University (IPB), and that Dr. Wiradinata's suggestion on this term seems to have connection with the Malaysian term of *perhutanan* that refer to forestry. Simon further states that Dr. Wiradinata's experience in teaching at forestry schools in Malaysia during 1970s might influence his idea on the word *perhutanan* (Simon 2004). Dr. Junus Kartasubrata, one of the forestry academicians who worked in previously worked in Perhutani and was involved in a government-sponsored program regarding social forestry, has his own story. During a long discussion in his house in mid 2010, Dr. Kartasubrata explained to me that the term '*perhutanan sosial*' was chosen because the New Order government wanted to develop social forestry in Java's teak forest. This relates to the common understanding among

Indonesian foresters, who were high ranking officials, at the time that since Java teak forests were considered man-made forests, the term '*perhutanan*' was more suitable considering that these officials thought *perhutanan* referred to actions aimed at creating the forests. Kartasubrata further stated that the forestry officials did not choose the term '*kehutanan sosial*' because at the time many Indonesian foresters thought that the term '*kehutanan*' only referred to actions aimed at managing the forests located in the Outer Islands<sup>24</sup> of Indonesia, which these foresters viewed as 'natural forests.'

The New Order administration, particularly Ministry of Forestry and Perhutani, viewed social forestry program as a form of land use developed and controlled by state agencies on state forest lands. When Perhutani began to develop social forestry program in state teak forests in the mid 1980s, this program was supposed to recruit landless peasants to participate in limited forms and for a limited period of time. These landless peasants mostly served as temporary planters of young teak trees in certain locations within the boundaries of the state teak forests. These locations were mostly the post-harvested areas that needed regeneration. The peasants involved in this program were supposed to receive limited monetary compensation and had the opportunity to grow essential staple food crops such as rice, cassava, and corn in between the young teak trees during a three to five year period. Perhutani instructed the peasants to take care of the young teak trees they planted. Moreover, Perhutani served as a central supervisory institution for the program by providing agricultural extension and credit services. After two to three years, as their contracts ended, the peasants could no longer grow their food crops in the young teak plots they were had nurtured. This approach continues today with various

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<sup>24</sup> other islands outside of the Island of Java

adjustments responding to strong criticisms of various parties, particularly civil society organizations, during the Post-New Order era.

The term social forestry is also linked to other processes which began during the late 1960s to 1980s. First, it is associated with the transnational efforts of linking forestry to community development organized by the UN Food and Agricultural Organization (FAO) from mid 1970s to 1980s. Second, it represents the transnational learning process where representatives of state-related forestry agencies of the New Order regime adopted state-sponsored social forestry concepts and practices developed by several Asian countries during the 1980s. Third, it is associated with a specific program funded by the Ford Foundation during the 1980s whose grantees ranged from government agencies, state forestry companies, academic institutions, and NGOs.

The term social forestry was first used by Jack Westoby, a high ranking officer at FAO, in his speech during the Ninth Commonwealth Forestry Congress that took place in New Delhi, India in 1968. Government agencies in India developed the concept of social forestry and put it in the 1973 report of the National Commission of Agriculture in India. India's social forestry was a state-sponsored program aimed at encouraging those who depended on fuelwood and other forest products to produce their own supplies - in order to "lighten the burden on production forestry" (Government of India, 1976). India's social forestry concept gradually evolved into a specific set of policies and programs (see Tiwari 1983).

Through activities facilitated by funding agencies, government officials and representatives of the state forestry company of Indonesia had an opportunity to visit social forestry pilot projects in India during the mid 1980s. The lessons learned from India's social forestry programs were in some way transferred to Indonesia. One of the former high officers of

the Indonesian state forestry company, whom I interviewed, mentioned that he learned about India's social forestry programs from field trips to India during the mid 1980s. Another high officer, who later became a faculty member of the forestry school of Bogor Agricultural University (IPB), wrote that he had the opportunity to visit social forestry projects in the states of Gujarat and Bihar. There he learned about some problems in the implementation of the government-sponsored social forestry program in these two states (Kartasubrata, 2002).

Similar programs had actually been conducted in Indonesia on a relatively limited scale during the Old Order period (1945 – 1966) and the beginning of the New Order era (1966 – the late 1970s) prior to the establishment of the state-sponsored social forestry program in 1984. The development of these preliminary social forestry programs was influenced by the application of forest farming method of teak cultivation by the Dutch colonial forestry service. Development of this method by the Dutch colonial forestry service was an adoption of a similar system applied in Colonial Burma (Peluso 1992). This method combines the cultivation of the seedlings of teak trees and agricultural crops. The Dutch colonial forestry service called the method they developed *tumpang sari*, which represents a mixture with the Javanese agricultural method of multi-cropping. The hybrid version of *tumpang sari* continues to be used as one of the technical references for state-sponsored social forestry in contemporary Indonesia.

A popular story circulated among Indonesian foresters mentions that the *tumpang sari* method that has been applied in state forest lands since the colonial era is the adoption of the *taungya* system of colonial Burma. The story continues that the *taungya* system was adopted from the indigenous form of forest management of the Karen People who live in the hilly areas of Burma and North Thailand (see Kartasubrata 1993, Simon 2001). There has been limited acknowledgement or understanding that the adoption of the *taungya* system into scientific

forestry in colonial Burma was a contentious process between the Karen People and the Colonial Forest Service of Burma (see Bryant, 1994). The adoption of the Burmese *taungya* into a Javanese context during the colonial period created similar tensions. In the following section, I explore how *taungya* and *tumpang sari* contributed to the formation of preliminary approaches of social forestry in Indonesia.

### ***Taungya***

The *taungya* is basically a system of forest management in which land is used initially for food crops but after 3-4 years food production is replaced by timber when the canopy of timber trees grows and closes. This closure blocks the penetration of sun light to the soil preventing any further agricultural use. “The land is used solely for timber crops until the cycle is repeated following the harvest of timber” (Menzies 1988, 361). Menzies notes that this basic system of *taungya* has many variations, which depends on a variety of factors including tenurial arrangements, the time of planting, and the sequence of the agricultural crops planted. He further asserts that a variety of the *taungya* systems are dissimilar from the swidden agricultural systems. The main difference is that in the *taungya* systems certain selected sets of tree species are purposely cultivated together with agricultural crops, so that when the canopy of the trees begin preventing agricultural activity the remaining trees will form a tree plantation (Menzies 1988, 362).

During the early 1870s when the Dutch colonial forestry began developing reforestation of the teaks forests of Indonesia, a German-trained Dutch forester namely W. Buurman initiated the experimentation process of the *taungya* system. It was conducted through contracts with

peasants where they cultivated seedlings of teak in combination with food crops and other cash crops on state forest lands. The planters would receive benefits from the crops' harvest and an additional cash fee from the colonial forest service (Peluso 1991, 1992). The contract with these planters was made for a limited period of time, only one to two years, to allow the growth of the young teak trees. Buurman managed the trial of the taungya system in Pekalongan district in 1873, and continued the application of this system in Semarang in 1881. Buurman officially circulated and endorsed this method through a pamphlet entitled "The cultivation of teak" (*De Djaticultuur*) which he wrote in 1883 (Peluso 1991, 1992).

Thirteen years prior to the period when Buurman began experimenting with the taungya system in 1873, a published report written in English by a German botanist turned forester named Dietrich Brandis considered this system a suitable approach for the management of teak forests in Burma (Brandis, 1860). The circulation of this knowledge among European-trained colonial foresters, through printed media and later through educational networks, might have influenced Buurman in adopting the taungya system in colonial Java.

Despite the popular misconception that the taungya system was developed by the British in Burma during the nineteenth century, different forms of successional forest management with patterns similar to taungya had been developed by the inhabitants of the highlands of southern China at least three centuries earlier (Menzies 1988). This version of taungya seemed to be developed based on the knowledge and practices of planting the *Cunninghamia* tree, whose wood served as the main material for making coffins and the supporting pillars of buildings in Southern China (Menzies, 1988, 362-364). Written records about *Cunninghamia* plantations appeared in the diary of an official of the Song dynasty written in 1173 and in the official report written by He Qiaoxin in 1487 (Menzies 1988, 365).

Taungya first became part of the vocabularies of European-trained foresters during the period of time when the British Empire began controlling teak forests in Burma (Menziés, 1988). It was Dietrich Brandis, a German scientist with a doctoral degree in botany who worked for the British Empire in India and Burma during the period of 1856 – 1883, who initiated embracing the taungya system into colonial forest management regulations enacted in British Burma (Bryant 1994, Saldanha 1996). Brandis initially viewed German forestry as a model for the development of systematic forest management, therefore, he held a relatively strong belief in the scientific status of sustained-yield forestry (Guha 2001). Nevertheless, when he started his work for the British Forestry Empire as superintendent of the teak forests of the Pegu division in eastern Burma in 1856, he realized that German forestry had very limited knowledge regarding tropical forests (Saldanha 1996). During that time Brandis encountered the fact that Burma's teak forests were managed by the Karen tribes using the taungya system. The popular story infers that Brandis appropriated the taungya system of the Karen, and adopted it into a system in which the Karen villagers provided labour for clearing, planting and weeding teak plantations. In return, for the first few years, they were allowed to plant crops between the trees. As the teak trees grew villagers were moved to new land and the process was repeated (King 1968).

However, the development of the state-appropriated taungya approach used by the British colonial forestry administration was marred by heavy resistance from the Karen tribes. The application of this approach also resulted in many members of the Karen becoming dependent on the state forestry service and local resistance to the state takeover of forests became increasingly intense (Bryant 1994). In his study of the political ecology of forest management in colonial Burma, Raymond L. Bryant argues that the taungya forestry appropriated by British colonial forestry, which has been extolled by contemporary foresters as a model for a modern sustainable

forestry system, was not the product of “premeditated scientific design.” Instead, it was the outcome of an antagonistic relationship between “an acquisitive colonial power and a threatened indigenous people whose reactions varied from covert resistance to defensive compliance” (Bryant, 1994). When the Dutch colonial forestry officials began adopting taungya forestry in colonial Java, they seemed to reproduce a similar approach of appropriating a local form of forest land use in Java known as tumpang sari.

### ***Tumpang Sari***

Tumpang sari is a common name for a set of different methods of multi-cropping among Javanese farming communities. Javanese farmers apply tumpang sari methods in various land uses, including wet paddy fields (*sawah*), dry paddy fields (*ladang, padi gogo*), cash crop fields, home gardens (*pekarangan*), and mixed trees gardens. They cultivate the main plants of each field along with a variety of other plants that are utilized for different purposes including economic, socio-cultural and ecological ones. For example, farmers in some areas in Central Java plant a different variety of legume trees in their cash crop field, home garden and mixed trees garden along with the main plants of each field. These legume trees have been known to have multi functions, their fruits, seeds and flowers are edible while their roots help to fertilize the surrounding soil.

A variety of forms with similar patterns to tumpang sari has been part of agro-ecological resources management in Java for many centuries. Relevant information attesting to the accuracy of this comparison can be found in several stone inscriptions that were erected in upland Central Java during the ninth and the tenth centuries (Utomo 2005). Some stories in Serat

Centhini, the Javanese text written in 1814, contain descriptions of a long tradition of multi-cropping methods, including the one commonly applied in the upland area that scholars refer to as strip cropping (Sukenti 2002).

The products of Javanese multi-cropping systems can also be seen in the special decorations of plants and leaves, known as tuwuhan, which are set up for a Javanese wedding. This special decoration is usually placed at the front gate of the bride's house, which is traditionally a place for hosting the Javanese wedding. The composition of plants and leaves in the tuwuhan has both spiritual and philosophical meanings that symbolize the hope that the bride and the groom will have a respectful life, fulfilled needs, and be free from troubles. Serat Centhini also has narratives about the plants used for setting up the tuwuhan (Sukenti 2002, Santoso 2006).

In the case of my own 1995 wedding ceremony, which took place in my parents' house in a crowded urban kampong in Central Jakarta, the tuwuhan prepared by my father and the elders contained the following plants and leaves: a certain variety of plantain known as pisang raja, purple sugar cane (Javanese: tebu wulung), green coconut (Javanese: kelapa cengkir), young coconut leaves, paddy (rice plant), and leaves of many different trees including the banyan tree (*Ficus Benjamin L.*), as well as another variety of leaves with a medicinal value including andong leaves (*Cordyline fruticosa (L)A. Cheval*). I learned from the elders that the banyan tree symbolizes the hope that the couple will protect each other and become protectors of their community, while the medicinal leaves represent an effort to protect the couple from misfortunes such as sickness and bad spirits. My father, who was born and grew up in a rural village in East Java, mentioned that in the past all of those plants and leaves were usually taken from the home garden (Indonesian: *pekarangan*), mixed trees garden (Indonesian: *kebun*), the land managed by

planting a combination of mixed cash crops and mixed trees (*tegalan*) that belonged to the bride's family or their neighbors' or taken from the village's communal forest (Javanese: *wana*). Tuwuhan is only one of various examples of the living tradition that has a connection with the tumpang sari system. Local communities in Java continue applying and developing a variety of approaches that are in line with the tumpang sari system in managing their agro-ecological resources.

The experimental version of the taungya system in colonial Java strategically appropriated the Javanese tumpang sari. The Dutch colonial forestry service called the new method they developed *tumpang sari* in Javanese and Indonesian (Peluso 1992, 63). The Dutch colonial forestry service called this method "the Burman system," as an acknowledgement to the Dutch forester W. Burman who initiated the experimentation of this method. Observing the success of this system in certain areas, the colonial foresters praised the economic benefits and the efficiency of the Burman system. Despite the fact that this system worked best in the areas of the worst socioeconomic conditions and the existence of unsuccessful stories of its application on degraded land, its use was continued. It evolved into a labor-controlling approach where the landless or land-poor peasants and their families served as low wage planters and wood-cutters on the state controlled forest lands (Peluso 1991, 70). The pamphlet entitled "the cultivation of teak" (*De Djaticultuur*), which Burman wrote in 1883, mentioned that the tumpang sari system serves as the main method to successfully cultivate teak. This system continued to be refined. In 1935 this pamphlet was officially referred to by the Dutch Colonial Forestry Service as the technical guide for the cultivation of teak (Peluso 1991, 71).

In addition to the socioeconomic reasons behind the continuation of the "Burman system," the existence of a long tradition of preliminary forms of multiple use of forests in Java,

as well as Javanese agricultural traditions of mix-cropping, seems to have provided another reason. In other words, Buurman did not simply translate the taungya system into a Javanese context, but appropriated it with the existing traditions of forest and agricultural resources management in Java.

In the early 1970s, Perhutani (Indonesia's state controlled forest management company) began considering the improvement of the crop component of the tumpang sari system. Under the "prosperity approach" aimed at achieving a better balance between the needs of local community development and efficient timber production for commercial needs, Perhutani tried to intensify the tumpang sari system by introducing high-yielding crop varieties, fertilization and crop protection measures combined with improvement in land preparation. Perhutani felt that this intensification process succeeded in increasing both the production of the cash crops and the growth of the teak trees. This encouraged them to apply this intensified tumpang sari on 75 % of the reforestation of the teak forests in Java in 1990 (Simon et al. 1992). Perhutani also applied this method in establishing and maintaining timber plantations of pinus (*Pinus merkusii*), damar (*Agathis dammara*), rasamala (*Altingia excelsa*), and mahogany (*Swietenia macrophylla*) (Kartasubrata and Wiersum, 1995).

The formal policy of Perhutani gives priority in allocating tumpang sari plots to poorer villagers. Nevertheless, the allocation of temporary usage of tumpang sari lands is not adequate to meet the economic needs of the poorer villagers. Villagers who have stronger social and economic positions often receive the most fertile plots of tumpang sari land by "purchasing" the plot from the Perhutani. Another problem with this policy is the amount of time given for the use of the allocated land. The standard two-year contract period provides very limited time for the tumpang sari peasants (known as *pesanggem*) to develop long-term land management

practices that will help sustain the forests (Barber 1989). A variety of tumpang sari models developed by Perhutani prior to the mid 1980s later contributed to the conception of the social forestry. I examine this process in the following section.

### ***Preliminary Ideas of Social Forestry in the Old Order Indonesia (1945 – 1965)***

“Social Forestry” was a model of management of state forest lands, developed from a set of collaborations between Perhutani with the Ministry of Forestry, the Ford Foundation, Academic Institutions, and Development NGOs, established in 1985/1986. However, long before this era preliminary ideas regarding social forestry had actually been discussed.

In the mid 1940s, right after the independence of Indonesia, there was an intensive debate between senior and junior foresters on how the newly independent Indonesia should manage forest resources. Senior foresters argued that the purpose of forest management in Java should be focused on a long term management approach and an economic orientation. This idea, labeled by junior foresters as the “old school of thought” was in line with “conventional” scientific forestry developed by the colonial administration which aimed to utilize the economic function of the forests to meet the needs of the state and the nation. Meanwhile, junior foresters who held a strong nationalistic spirit argued that forest management in post-colonial Java should consider the immediate needs of the people who live in and around forest areas (Soepardi 1974).

In 1954, Soesilo H. Prakoso, one of the first Indonesian foresters who received higher education at the Wageningen University of the Netherlands in 1930s, wrote an article entitled “Forest and Society” (*Hutan dan Masyarakat*). This article was published in *Rimba Indonesia*, a forestry journal of the Forestry Service at the time. Prakoso was the Chief of the Forestry

Service when he wrote that article. His 1954 article reflects the position of the senior foresters.

He wrote:

“It is essential for the economic development of our country that raw materials be made readily available. It follows that they are to be produced and if possible the production should be in Indonesian hands. Our natural resources are to be managed and exploited so as to render the most benefit to society. One of these resources is: our forests .... It is a national and at the same time an international responsibility that the management of the forest rests in hands of the Forest Service for the benefit of the nations” (Prakoso 1954).

The debates about these two different concepts were continued until the mid 1950s, especially during the first national forestry conference (*Kongres Kehutanan I*) that took place in Bandung in 1956. This conference was colored by intensive debates between two camps of Indonesian foresters. The first camp consisted of Indonesian senior foresters who participated in the revolutionary wars prior to the declaration of Indonesia’s independence in 1945. These foresters called themselves the “foresters of the 1945 cohort” (Rimbawan Angkatan 45). They had intensive debates with junior foresters during the conference on the approach the newly independent Indonesia should take in managing her forest resources. This camp of senior foresters argued that forest resources should be controlled by the state for the purpose of the national economic development and the welfare of all Indonesians. This economic-based idea differed with the populist-approach proposed by the other camp of Indonesian junior foresters. These junior foresters strongly argued that the state should meet the needs of people who live in and around the forests by allowing them to utilize the forests. They called their concept “the new approach” (known in Indonesian at that time as “*Aliran Baru*”) and declared it an alternative idea to the conventional notion of state-controlled forest management (Soepardi 1974).

Although the junior foresters seem to have a populist conception, during the debates they did not link their ideas with the broader agrarian issues including land tenure. This might be

related to the limited interests regarding these subjects among the young nationalists at the time. Willem F. Wertheim (1959) asserts that during the late colonial period Indonesian progressive intellectuals were not interested in agrarian conditions or issues of rural poverty. Benjamin White, who tries to trace the development of scholarly work in Indonesian agrarian studies from the late colonial period in the late nineteenth century to the early 2000s, discovered that there were only two important exceptions to this general lack of interest in agrarian conditions or rural poverty. One was Iwa Kusuma Sumantri, an Indonesian legal scholar who graduated from Leiden University and wrote “a remarkable booklet” entitled *The Peasant’s Movement in Indonesia*. Sumantri wrote this booklet as part of the research he conducted for the Peasants’ and Peasants’ International Krestintern. He conducted this work to earn additional income while he was pursuing graduate study at Moscow’s Eastern University in 1925 (White 2005, 110-111). Prior to his graduate study in Moscow, Sumantri had been deeply involved in the nationalist movement when he was a student at the law school in Batavia during the early 1900s. Years later, soon after the declaration of Indonesia’s independence in 1945, President Sukarno appointed Sumantri the Minister of Social and Labor Affairs. Sumantri was also known as an engaged academic legal scholar, and he was appointed the first Rector of Bandung’s Padjadjaran University in 1957 (Sumantri 2002 [1966]). During the early 1960s, for a number of reasons he was accused of being a communist in the early 1960s, but Sukarno defended him as a “revolutionary nationalist” (Adam 2002). He and his family faced difficult times when General Suharto took power in 1966, which was followed by a massacre of communists and those who were suspected of being ones. Sumantri died in 1971, and had been “forgotten” during the New Order era (Adam 2002).

## ***Transnational Ideas of Social Forestry: FAO's Missions***

During the late 1960s to the mid 1970s, some high officials of FAO had begun to voice their concerns regarding the emergent problems caused by the application of industrial scale scientific forestry in developing countries. In some of his papers and official speeches during the 1970s Jack Westoby offered a strong argument regarding the need to develop the concept of social forestry, which refers to the consideration of social aspects when managing the forests (Westoby 1987, 1989). Westoby's definition of social forestry was considered progressive at the time, considering that many forested countries heavily focused on the development of forest-based industrial economy while marginalized social functions of the forests.

In an article he wrote in 1977, Westoby criticized the approach taken by the international development assistance to forestry. The international development assistance to forestry in developing countries during the 1960s and the early 1970s was based on the idea that development based on forests could serve as a device for overall economic development. Westoby argued that international aid, through the so-called "technical assistance projects," had assisted some irresponsible governments with mismanaging their forest resources. He also strongly stated that "development" had mostly benefited entrepreneurs, salaried officials and large landowners. He further stated that much development assistance had promoted "further distortion, enhanced dependence and widened inequalities." He wrote:

Nearly all the operations have been such as to have brought no profound or durable benefit to the economic and social life of the countries concerned. Of the revenue which has accrued, only a small part has remained in the countries to which the resource belonged. What has forestry done to improve the lot of the common man, of the peasant, for example. Precious little!

The fact has to be faced, if we are to be honest with ourselves, that two decades of international effort in the forestry sector of the underdeveloped world has made but little contribution to the overall development process, and its contribution to improving the quality of urban life and raising the welfare of the rural masses has been negligible (Westoby 1977 cited in Westoby, 1987, 291)

At the same time, published reports from several international agencies, including international NGOs, linked the energy crisis in the early 1970s and a series of other environmental crisis in Asia and Africa with the deforestation and forest degradation in these regions. One of these reports entitled “The Other Energy Crisis, Firewood” was published by the Worldwatch Institute in 1975. Another report entitled “Trees, Food and People: Land Management in the Tropics” written by J.G. Bene, H.W. Beall, and A. Cote, published by the International Development Research Centre of Canada in 1977. This report explores interdependence between forestry and agriculture in the low-income tropical countries and suggests a shift in emphasis from forestry to broader land use concepts. These two reports and a corresponding series of high level discussions encouraged the UN Food and Agricultural Organization (FAO) and the Sweden International Development Authority (SIDA) to jointly develop actions to address the problems.

One action was the establishment of a small Advisory Panel on Forestry and Local Community Development in the mid 1970s. This Panel was coordinated by FAO Forestry Department with financial support from SIDA. Members of this Panel were high-ranked forestry officials who represented Colombia, Ethiopia, India, Indonesia, Nigeria, and Peru. This group had the main task of “searching for certain forestry models that could facilitate local community development.” At its first meeting in October 1976, the Panel decided to start the assessment of issues on forestry and local community development by commissioning a series of relevant case studies (FAO 1978). Some of the case studies focused on the experiences of social forestry

initiatives in India, village woodlots in South Korea, forest villages in Thailand, and village afforestation in Tanzania (Arnold 1992). The results of these case studies were reviewed at an enlarged second meeting of the Panel in June 1977. The body of material from this meeting was further processed into a draft of the study entitled “Forestry for Local Community Development.” According to FAO document, the draft was then used as the starting point for a more extensive appraisal in the course of an Expert Consultation on Forestry for Local Community Development that took place in Indonesia in December 1977. During this meeting, the draft was further reviewed and “the lessons of the additional experience of the countries represented at the meeting were added” (FAO 1978).

The final document of the study entitled “Forestry for Local Community Development” was published in 1978, containing three main parts: 1)the nature and extent of forestry at the community level, and of the problem and possibilities that arise; 2)policies, programs and other requisites necessary for successfully developing forestry activities for the benefit of rural communities; 3)technical considerations to be taken into account in implementing community forestry activities (FAO, 1978). The document also contains seventeen case studies of the following fifteen countries: China (Integrated Village Forestry), Colombia (Forestry for Local Community Development), Ecuador (Legislation and Organization of the Social Afforestation System, Ethiopia (Forestry for Community Development in Tiro), India (Village Forestry), Indonesia (Upland Forest and Fodder System on Private Lands; Community Development Program in the State Forest of East and Central Java), Kenya (the Shamba System), Republic of Korea (Village Fuelwood Plantation System), Nepal (Fodder Tree System in an Integrated Rural Development Project), Nigeria (Farm Forestry), Philippines (Smallholder Tree Farming), The

Sahel (Forest/Cattle System), Sudan (Tree Fallow System), Tanzania Village Afforestation, Thailand (Forest Village System; An Approach to Integrated Watershed Management).

The final document of the study puts the term “community forestry,” which is defined as “any situation which intimately involves local people in a forestry activity.” According to this report, community forestry covers “a spectrum of situation ranging from woodlots in areas which are short of wood and other forest products for local needs, through the growing of trees at the farm level to provide cash crops and the processing of forest products at the household, artisan or small industry level to generate income, to the activities of forest dwelling communities.” (FAO 1978, 1).

The document, which was considered as the first attempt to bring together existing knowledge and ideas on how to incorporate forestry and development of rural economics, also puts the competition for land as one of problems. It discusses the topic of land tenure, customary rights and status of forest land. It put the following statement:

The relation of local people in the surrounding forests and to community forestry will certainly be influenced considerably by the prevailing form of land tenure. Their involvement and long-term interest may be greater if they have some direct influence on the management and utilization of the resource. A national policy aiming at fostering community forestry could thus lead to a reexamination of the existing forest tenure with the aim of introducing such tenurial arrangements that allow for a greater involvement of local people” (FAO 1978, 21).

However, the issue of land tenure and customary rights was not addressed in the next international event facilitated by the FAO: the 1978 World Forestry Congress. The term “community forestry” was also not discussed during the Congress. I explore this Congress in the following section.

## *The 1978 World Forestry Congress in Jakarta*

One day in mid November 2008 I took a bus from Bogor to Jakarta, I was going to attend a workshop at the building of the Ministry of Forestry, known as the Manggala Wana Bakti. This building is located next to the national parliament building<sup>25</sup> in South Jakarta. I got off from the bus at the bus stop located in front of the parliament building. I entered the Manggala Wana Bakti through a small gate next to the big wall that separates it with the parliament building. As I entered the gate, I was welcomed by a small arboretum. There are more than 125 different trees in this small arboretum. Although the Indonesian foresters consider these trees Indonesian native species, other Southeast Asian and Melanesian regions are also home to some of these species. The average height of the trees was around 3 meters while the average diameter was around 50-60 centimeters when I visited this arboretum in 2008. All of the trees in this small arboretum were planted by participants of the Eight World Forestry Congress that took place in Jakarta in 1978. Standing in front of each of trees was a small wooden sign that contains the local name of the tree, its Latin name, and the name of the individual or the delegation who planted the tree. Because of its history, this arboretum was named “*Taman Hutan Persahabatan*” (Forest Garden of Friendship) and brings to mind that gathering in October 1978.

The Eight World Forestry Congress of October 1978, was organized by the FAO and hosted by the Indonesian government. The main theme of the Congress was “Forests for People.” The theme of this congress was planned and run by a Secretariat staffed jointly by the government of Indonesia and by the FAO’s Forestry Department. Representing the government of Indonesia in the Congress’ Secretariat was the first Indonesian forester, Soesilo Hardjo

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<sup>25</sup> It is the building of the People Consultative Assembly (MPR) and the People’s Representative Council (DPR)

Prakoso. He previously served as Deputy Regional Representative of FAO for Asia and the Far East from 1963 – 1977 and was stationed in the Bangkok, Thailand office. Prakoso returned to Indonesia one year before the 1978 World Forestry Congress and the Government of Indonesia immediately designated him to head the preparation for the World Forestry Congress.<sup>26</sup> During the last few years in his post at FAO's Regional Office in Bangkok, Prakoso himself had gradually been interested in promoting the idea of addressing social aspects within forestry policies (Soediono et al. 2004).

In addition to having the task of representing the Government of Indonesia in the World Forestry Congress' Secretariat, Prakoso was also assigned to write the keynote speech for the opening ceremony of this Congress for the Vice President Adam Malik (Soediono et al., 2004). Vice President Adam Malik's speech urged "the Congress to show ways which can help the weakest and the poorest, not just by merely recruiting them as living tools for forest work and allowing them to collect some low-quality timber or minor forest products in very limited quantities .... All of this will need a rethinking of approaches, a reorientation of forestry education and a restructuring of human relations, particularly with the rural poor." The keynote speech also mentioned that "modern multiple use or multifunctional forest planning and management, which was directed purposefully toward supporting local rural community development, will be an effective approach to remove the traditional dichotomy between agriculture and forestry" (Soediono et al., 2004). This idea seemed to be parallel with the FAO's new ideas in combining forestry and rural needs during the late 1970s.

FAO's new ideas were not simply reflected in the main theme of the Congress. The entire program structure of the Congress, prepared by the Congress' Secretariat with intensive

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<sup>26</sup> interview with the oldest son of the late Soesilo Hardjo Prakoso, 2009.

support from the FAO's Forestry Department, was also set up to support the main theme. A different set of issues that had been identified as critical ones in addressing the links between forestry and rural needs were featured throughout the Congress' agenda and program. An article published at the Indonesian Forestry Journal (*Majalah Kehutanan Indonesia*) in one of 1988 editions mentions that there were thirty main papers discussed at the 1978 Congress. This article lists the following sub-topics that are relevant to social forestry: 4 sub-topics about forestry for rural communities, 6 sub-topics on forestry for food security, and 6 sub-topics about forestry for increasing the quality of life (Anonymous, 1988).

The main theme of the Congress that tried to link forestry and rural needs, however, received a variety of reactions. Delegations of some developed nations were not happy with the Congress' agenda and program stating that the Congress seemed to focus on "the matters of interest only to developing countries." These delegations even communicated with the Secretariat that they intended to leave the Congress early (Arnold and Personn 2009, 116). Unfortunately, there is no detail information on the name of these developed countries. It is also not clear how they were persuaded to confirm that the topics being discussed during the Congress represented "a paradigm shift in forestry more widely" and to remain until the Congress finished. By the end of the Congress there was a prevalent agreement about the new direction of forestry (Arnold and Personn 200, 116).

A position paper Jack Westoby wrote and presented during the Congress played an undoubtedly critical role in stirring the most debate. Westoby had retired from FAO five years prior to this Congress, but he maintained his strong interest in promoting ideas on how forestry should be developed so that it could provide a significant contribution to people's welfare and development. His 1962 paper on this topic was considered very influential. This led the

Secretariat of the 1978 World Forestry Congress to invite Westoby to be a guest speaker at the opening session of the Congress on a series of discussions regarding forest industries. In Westoby's paper entitled 'Forest Industries for Socio-Economic Development' (Arnold and Persson 2009), commented on the failure of the expected local multiple effects from forest industries, he strongly argued that: "forest industries have made little or no contribution to socio-economic development in the under-developed world." Westoby continued that "the much more important role which forestry could play in supporting agriculture and raising rural welfare has been either badly neglected or completely ignored." Responding to all of these problems, Westoby forcefully suggested that forestry needed to take a different direction that would result in social as well as economic gains for the rural poor. He strongly argued that this new direction would "require political will on the part of foresters if the rhetoric of 'social forestry' was to be translated into reality" (Westoby 1978). Westoby's paper definitely encouraged a variety of discussions among the delegations during the Congress.

Meanwhile, the Indonesian Delegation delivered the following official statement to the Congress:

... (It is essential for implementing forestry for local community development to establish close relations between the forest service and the local communities, so as to promote full understanding and cooperation from the local people and to fully involve them in planning as well as in the execution and implementation of the programs which have been jointly developed ... Only if the local people tangibly enjoy the benefits and services of the forests in their efforts to meet their basic needs will they fully cooperate in protection, as well as further development, of forest resources." (Statement of the Delegation of Indonesia on Agenda Item 4, October 17<sup>th</sup>, World Forestry Congress, Jakarta, October 16-28, 1978)

Delegations of other developing countries delivered similar statements. Studying these official statements of the delegations and the papers discussed during this Congress, which are

available the Manggala Wana Bakti's Library located in the building of the Ministry of Forestry of Indonesia, I could observe that all of them shared similar tone on the position of the local communities merely as one of objects of the concept of "Forest for People." The conference did not discuss topic that relates to land tenure issues nor the subject of providing autonomy to rural communities to develop their own programs. Unfortunately, most papers relevant to this Congress exploring the idea of managing forests for society are linked to the concept that gives a dominant forest management role to the state. In other words, the main object of the concept "Forest for People" discussed during this Congress was still the forest, while the main subject was the state who held control over forest lands and forest resources.

As a follow up to the 1978 World Forestry Congress, in 1979 the collaboration between the FAO and SIDA established a program entitled "Forestry for Local Community Development." The main objective of the program was to promote and support the development of approaches and activities related to forestry uses for local development. In order to achieve this objective, the program carried out a variety of activities such as research, development of pilot and demonstration projects, publications, information dissemination through seminars, meetings, field visits, group study tours, as well as production and dissemination of relevant guidelines and manuals (FAO/SIDA 1979).

### ***Agrarian Reform, Land Tenure, and Social Forestry***

In conjunction with the establishment of the FAO/SIDA Program on Forestry for Local Community Development in 1979, the FAO organized the World Conference on Agrarian Reform and Rural Development (WCARRD). This Conference, which was held in FAO's

headquarters in Rome in July 1979, adopted a Declaration of Principles and a Program of Action that considered political will from member countries a fundamental condition for successful agrarian reform. The Declaration stated that the “transformation of rural life should be sought through policies for attaining growth with equity, redistribution of economic and political power, and people’s participation.” (Cox et al. 2003). Although the Declaration of the WCARRD sounds powerful, the topic of agrarian reform and its policy recommendations were mostly addressed by the agricultural sector. Despite of the publication of a limited number of studies commissioned by FAO on the topics of land tenure, agrarian reform was not a significant part of the FAO’s programs on social forestry during the 1970s.

It took the FAO almost two decades to finally begin addressing the topics that relate to agrarian reform and forestry, including the topic of forest land tenure. In 1990, FAO/SIDA Forests, Tree and People Program published a report entitled “Community Forestry: Rapid Appraisal of Tree and Land Tenure.” This report was written by Dr. John Bruce, Director of the Land Tenure Center, University of Wisconsin, Madison, Wisconsin. In 1999, Dr. Bruce wrote another report entitled “Legal Bases for the Management of Forest Resources as Common Property,” published by FAO/SIDA Forests, Trees and People Program in collaboration with the Land Tenure Center. In 2006, the FAO released a publication entitled “Understanding forest tenure in South and Southeast Asia, Forestry Policy and Institutions Working Paper No. 14”. This was followed by the publication of the 2007 report entitled “Tenure security for better forestry: Understanding forest tenure in South and Southeast Asia” by FAO’s Asia Regional Office in Bangkok. In 2011, the FAO finally released a publication that addressed structural aspects and political dimensions entitled “Reforming forest tenure: Issues, principles and process.” All of these publications are the products of the long dialogues on the topic of agrarian

reform and forest tenure within FAO and other UN Agencies. International research agencies and civil society organizations, including NGOs and Indigenous Peoples Organizations (IPOs), have contributed to these dialogues.

Going back to the story of the 1979 World Conference on Agrarian Reform and Rural Development, Gunawan Wiradi, a prominent Indonesian agrarian studies scholar who observed closely the national preparation process for the Conference, explained to me during an interview in mid 2009 that this Conference was not successful in bringing the conceptions of agrarian reform into the forestry sector. He mentioned that during the late 1970s many international and Indonesian foresters held the common belief that agrarian reform was not the business of the forestry sector, only the agricultural sector. He further noted that this perception continues and has become one of many different factors making it difficult when addressing forest land tenure conflicts in contemporary Indonesia.

Gunawan Wiradi's opinion about the unsuccessful attempts to combine agrarian reform and community development into FAO led missions on social forestry helped me to understand FAO's narrow meaning of social forestry that support the continuation of state control over forest lands. FAO's key idea regarding social forestry was similar to the main notion of involvement of forest peasants that had been previously developed by the Dutch colonial forest service through the application of the "Buurman system." As I discussed earlier in this chapter, the "Buurman system" put the local peasants and their families primarily in the position of being the low wage planters of young teak trees in the state forest lands through the *tumpang sari* approach.

Interestingly enough, members of the Indonesian Delegation to the 1979 World Conference on Agrarian Reform convinced the New Order Regime to allow the topic of agrarian

reform to be discussed in Indonesia as part of the preparatory process prior to the Conference despite the official concern that it was associated with communism. This was an important achievement since the national law on agrarian reform was officially frozen by the New Order regime right after General Suharto took power in 1966. Gunawan Wiradi explained to me that, in mid 1978 responding to the FAO's invitation to send official representatives to this conference, the New Order government had declared in a statement that the National Law on Agrarian Reform (Undang-Undang Pokok Agraria/UUPA) of 1960 was not a product of communism. The New Order regime also decided to send agrarian reform scholars to attend the conference. In addition to attending the conference, these Indonesian agrarian reform scholars took the opportunity of this 'political opening' by requesting permission to conduct comparative studies on agrarian reform in several countries. This request was a follow up of the meeting of a group of Indonesian researchers and policy makers with their colleagues in the Netherlands in July 1979. This group made a trip to the Netherlands after they attended the World Conference on Agrarian Reform and Rural Development. The meeting in the Netherlands aimed to discuss future cooperation in research and other activities relating to agrarian structure and agrarian reform. The meeting produced an agreement to plan a series of cooperative activities aiming to promote a better understanding of land tenure, agrarian structure and agrarian reform in Indonesia and to do comparative studies in India (Report of the Policy Workshop on Agrarian Reform in Comparative Perspective, 1981)..

The request to conduct comparative studies on agrarian reform was approved by the New Order regime. These studies were hosted by a program jointly hosted by the Agro Economic Survey Foundation, a Bogor-based independent group consist of scholars of socio-economic agriculture and rural sociology, in collaboration with the Institute of Social Studies (ISS), the

Hague, the Netherlands. The Netherlands Ministry of Development Cooperation provided financial support for the workshop. Two key individuals behind the program were two scholars: Benjamin White of the ISS and Gunawan Wiradi of the Agro Economic Survey. This program had two main activities. The first one was a Research Training Workshop on Land Tenure and Agrarian Relations, held in Cipayung, West Java, from October-December 1979. This workshop provided practical training under the guidance of experienced researchers to 25 participants who were mostly younger staffs of various universities and research centers in Indonesia. The results of the field research completed during this workshop were presented at the Policy Workshop conducted in 1981. The second activity was a study tour of agrarian reform experiments in selected regions in India. This study tour took place between November 1980 – January 1981. Three groups of Indonesian researchers and policy-makers visited research institutes in India and joined field trips arranged by their hosts in order “to gain first-hand learning process and experience of various contrasting approaches to agrarian reform in the states of Punjab, West Bengal, Bihar and Kerala.” Reports of the study tour to these Indian regions were presented at the Policy Workshop by the Indonesian participants of the study tour and by the representatives of the Indian host institutes (Report of the Policy Workshop on Agrarian Reform in Comparative Perspective 1981).

The Policy Workshop on Agrarian Reform in Comparative Perspective, which took place in Selabintana, Sukabumi West Java from May 17 – 30 1981, was part of the collaborative program of the Agro Economic Survey of Indonesia and the ISS of the Netherlands. The workshop brought together policy makers and researchers with first-hand experience of agrarian reforms in Indonesia and other countries of Asia, Africa and Latin America, “to explore the

relevance of these experiences for Indonesian conditions” (Report of the Policy Workshop on Agrarian Reform in Comparative Perspective 1981, 2).

The Policy Workshop had three main components. The first component, which took place from May 17-20, was an Orientation and Fieldtrip for Foreign Participants. The second component, which took place from May 21-25, was called “Full Sessions,” devoted to plenary sessions with presentations and discussions of various themes. One of the themes was “customary and formal rights to land (with special attention to the interaction between local subsistence or smallholder producers and plantations, agri-business and forestry in relation to forest and grassland resources)” (Report of the Policy Workshop on Agrarian Reform in Comparative Perspective 1981, 3). Although this theme was closely connected with social forestry issues, there was no participant who represented Indonesian forestry sector at the workshop. The third component of the workshop, from May 27-30, was called “Working Group Sessions” where participants were divided into three working groups to explore specific topics and formulate conclusions. These three working groups worked on the following themes: 1)Agrarian Reform and National Development Strategies; 2)Agrarian Reform, the Peasants and the State; 3)Operational and Technical Aspects of Agrarian Reform.

Gunawan Wiradi explained to me that the workshop was treated by the New Order government as a closed meeting and it was not opened to the general public. The New Order government did not allow any journalists to cover this conference. Gunawan Wiradi enriched his story by telling me that “I clearly recall that there were fourteen government intelligence personnel attending the conference. The New Order Regime did not think that we, agrarian reform scholars, could find out easily that those fourteen men were not part of our small academic community nor members of government officials or relevant state agencies.”

## ***New Order's Social Forestry: Experiences of Perhutani***

Prior to the establishment of state-endorsed social forestry, preliminary programs with similar approaches had been developed by the Perhutani in the island during the early 1970s. Perhutani conducted this process without significance advice or assistance from foreign institutions. They developed a program called social forestry (*perhutanan sosial*) which contained efforts to involve rural villagers as labors in forest management. As I discussed earlier in this chapter, Dr. Kartasubrata stated that the decision was made to choose the Indonesian term '*perhutanan sosial*' for the program because it was going to be developed in the man-made forests of Java. The motivation behind the development of this program was, according to Peluso (1992), to respond to the emergent social problems in many production sites of state-controlled forested areas.

Perhutani's initial program on social forestry served as an umbrella for a variety of technical programs. The first one is known as the "Prosperity Approach" Program. This program aimed at improvement of the livelihood of local people and successful forest establishment through intensification of foodcrops plantation, sylvopasture (combined management of forests and pasture lands), beekeeping, and other activities related to rural development. The "Prosperity Approach" Program was introduced and put in operation in Perhutani area in Java in the middle of 1972 by Ir. Soekiman Atmosoedarjo, the first President Director of Perhutani (1972-1981). Perhutani claims that this program is a correction to the old

policy inherited from the Dutch administration which put the emphasis on policing action in maintaining forest security (security approach) (Perum Perhutani, 1996 p. 10).<sup>27</sup>

The “Prosperity Approach” program consisted of the following activities:

1)intensification of *tumpang sari* at established forest plantations, which was aimed at increasing the income of peasants who work as the planters (Perhutani calls them “forest peasants”); 2)provision of better settlement facilities for this group; 3)planting of elephant grass (*Pennisetum purpureum*) in state forest land to support animal husbandry in the villages while reducing “uncontrolled grazing” in forest lands; 4)planting of fuelwood species to meet the energy needs at the village level; and 5)introduction of modern beekeeping to forest villagers (Kartasubrata, 2002). In implementing these activities, Perhutani played a dominant role. The “Prosperity Approach” Program became one of case studies of the FAO report on “Forestry for Local Community Development” published in 1978.

The second program developed by Perhutani is known as “Ma-Lu”, which stands for *Mantri* and *Lurah*. This program facilitates the collaboration between the forest ranger (*Mantri*) and the village chief (*Lurah*) in the implementation of the “prosperity approach,” particularly in reforestation activities (Perum Perhutani, 1996). In this program, Perhutani tried to give specific roles for *Mantri* and *Lurah* in certain villages Perhutani called “forest villages” to coordinate a set of activities of the “prosperity approach” I explained in an earlier paragraph.

The third program is known as the “forest village community development” (*Pembangunan Masyarakat Desa Hutan/PMDH*). This program was considered by Perhutani to be an extension of the prosperity approach by promoting employment, increasing the equitable

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<sup>27</sup> The term “Prosperity” for this program might relate to a program established during the Japanese occupation period (1942-1945) where forest products, particularly timber, were mostly used for the benefit of the Japanese government under the pretext of “Prosperity for Greater East Asia.”

distribution of income among villagers, encouraging sustainable forest management and forest use and enhancing the capabilities of villagers in general (Perum Perhutani 1982). The development of PMDH started with a workshop held by Perhutani in March 1982, attended by high officers of Perhutani, representatives of Kali Konto Project and Heads of Training Centers of Perhutani. This workshop produced plans and program of PMDH for the year 1982, the plan for an intermediate term (five years period) and a long term plan for PMDH (twenty years period) (Perum Perhutani 1996).

All of the above programs were developed based on Perhutani's experience in applying *tumpang sari* in the management of state teak forests on the island of Java (Perhutani, 2004). This experience is part of the history of state management of teak forests in Java, particularly in conjunction with the development of the *tumpang sari* method since 1883 when the colonial forester W. Buurman started the implementation of the method in Pekalongan, Central Java (Peluso 1992).

Perhutani began advancing the social forestry program in 1985 in collaboration with the Ford Foundation and the Indonesian Ministry of Forestry. This program was aimed at enabling local people to participate in "the management of forest with the special emphasis on the establishment of forest plantations." Moreover, Perhutani state that the objectives of the social forestry program were to successfully reforest the land to attain optimum function of the forest, and at the same time to increase social welfare (Perhutani 1984, 88).

In developing social forestry programs, Perhutani established demonstration plots in 1985/1986. These demonstration plots were located in Unit I of Perhutani in Central Java (four locations), Unit II in East Java (four locations), and Unit III in West Java (five locations). Altogether, these demonstration plots cover 232 hectares (Perum Perhutani 1994). All of the

social forestry demonstration plots were placed on non-productive lands within the state-controlled forests on Java. At the time, what Perhutani meant by “non-productive lands” were degraded forests and bare lands. Perhutani’s decision to use the degraded lands was closely linked with one main objective of the social forestry programs, which was successful reforestation.

Perhutani’s social forestry program was carried out through collaboration with the following institutions: 1) the Ford Foundation, which provided funding support; 2) the Bina Swadaya, which played a role in developing training for Perhutani’s personnel, facilitating the formation and training of the farmer groups, and conducting evaluations; 3) the Bogor Agricultural University (IPB) and the Gadjah Mada University, whose role was in conducting diagnostic studies, observations and evaluations (Perum Perhutani 1994).

### ***The Role of the Ford Foundation***

The Ford Foundation has been a major promoter of community-based forestry through its regional offices around the world (Tsing et al. 2005). In the case of Indonesia, the Ford Foundation has had an important role in the development of Perhutani’s social forestry programs. Ford provided the funds and research methods for data collection, issue definition and problem framing. Ford has also played a critical role in utilizing its own considerable network of contacts to facilitate the establishment of Perhutani’s elite support.

The Ford Foundation has provided significant contributions to support social movements across the globe. Its active role in supporting social movements began in 1966 under McGeorge Bundy’s strong reformist leadership, where the foundation invested heavily in poverty

alleviation, promotion of community development, and the assertion of the rights of minorities (Dezalay and Garth 2002, p. 69). Officers who worked in the Ford Foundation during the 1960s had different backgrounds when compared to the generation of the 1950s. The “new” generation consisted of people with Peace Corps experience, and their educational backgrounds were mostly in law and in the non-economic social sciences. All of this had enabled these people to be “much quicker to move into social justice” (Dezalay and Garth 2002, 259).

The Ford Foundation began to provide financial support and technical assistance for the development of community-based forestry in Asia in the mid 1980s. Ford’s involvement in this field began with the Foundation’s interest in forest communities and forest land management, which grew out of its earlier work in agriculture and rural development (Ford Foundation 1989). In particular, the “discovery” of small-scale, community-based irrigation in the Philippines and Indonesia by the Foundation’s field staff served as the “seed” of emerging ideas on community-based forestry (Coward 2005). At the same time, Ford’s experience in supporting the empowerment of the poorest strata of rural communities within the agricultural and rural development in these two countries contributed to the process. In particular, their experience regarding the green revolution enabled them to extend its benefits to poor peasants who were existing at marginal levels. All of this historical background led the Ford Foundation personnel to develop its own ideas regarding social forestry.

One former officer of this foundation, whom I interviewed in mid 2010, stated that the Ford Foundation strategically used the term of social forestry for two different reasons. First, it was a common term circulated among international forestry related institutions during the late 1970s and the 1980s. Second, social forestry was considered “a safe term” for the process of involving local communities during the period of time where the militaristic government was

very suspicious about any populist approaches. It is possible that another reason behind Ford's decision to use the term social forestry relates to a strategic effort to receive cooperation from government agencies since these agencies had been using this term for their own projects (Barber, 1993). In other words, at the time social forestry was considered a non-controversial term.

The Ford Foundation's first supported program in the field of social forestry in Indonesia was the Java Social Forestry Program, started in 1986. This program was followed by the Outer Islands Social Forestry Program in 1989 (Peluso 1992, Ford Foundation 1989).

### ***Diagnostic Research on Social Forestry: Multi-Disciplinary Learning Process***

During 1984-1985, in supporting the development of social forestry programs, the Ford Foundation provided opportunities for academic forestry scholars from the Bogor Agricultural University (IPB) and the University of Gadjah Mada (UGM) to do diagnostic research on social forestry in certain areas funded by the Ford Foundation. This diagnostic research was part of a learning process, suggested by the Ford Foundation to the Perhutani.

Prior to the implementation of this diagnostic research program, a group of Indonesian ecologists, social scientists, forestry planners, policy makers and foreign consultants had a meeting in mid 1984 to explore the problems of forest management, examine a variety of efforts conducted in the past to address these problems, and formulate alternative ideas. Participants of this meeting decided to form a working group which would continue the task of studying forest resource conflicts. Field data collection would be conducted by a multi-disciplinary team of graduate students of Bogor Agricultural University (IPB) and Gadjah Mada University. Some of

these graduate students were junior staff members in their respective universities. Others had experience as independent consultants for government agencies, in particular in the field of forestry and natural resources. These young scholars would work closely with senior scientists. Although most participants in the research had forestry backgrounds, others came from a variety of disciplines such as ecology and rural sociology (Peluso and Poffenberger 1989, 336-337).

One participant of this diagnostic research program, who was considered a junior member at the time, mentioned during an interview I conducted in 2009 that his participation enabled him to pursue his academic career and allowed him to specialize in certain areas within social forestry. Besides junior academic scholars, there were a few junior independent consultants who were also environmental activists. Their participation in the diagnostic research program on social forestry seems to be helping them in broadening their knowledge base and strengthening their analytical skills. All of these efforts and programs contributed to the process of searching for successful local models of community-based forest management systems that were initiated by a number of social justice oriented environmental NGOs around ten years later. I will discuss this process in chapter five.

### ***Participation of Academic Forestry Scholars***

The diagnostic research on social forestry funded by the Ford Foundation opened a new possibility for academics from two of Indonesia's oldest forestry schools, that are situated on the island of Java, one is the Bogor Agricultural University (IPB) and another is the Gadjah Mada University in Yogyakarta, to further develop research on social forestry. One of the first academic forestry scholars who participated in a Ford-sponsored diagnostic research on social

forestry and later developed the research focus on this topic was Dr. Junus Kartasubrata of the Bogor Agricultural University (IPB). Prior to his involvement in the academic community, he was a senior officer at Perhutani. He explained to me that he was a member of “foresters of the 1945 cohort” (*Rimbawan Angkatan 45*), referring to a group of Indonesian students of vocational forestry schools who joined Indonesian revolutionary wars.

In 1980 Kartasubrata decided to enter the academic world, beginning with pursuing graduate study in rural sociology from IPB. During his time in graduate school, he received an opportunity to take courses on social forestry at the Wageningen University in the Netherlands. He also had a chance to visit social forestry projects in Gujarat and Bihar, India in 1982. He mentioned to me during an interview in 2010 that this trip enabled him to learn from various participants who were involved in India’s social forestry projects. During the third year of his graduate study at IPB, he was transferred to the Forest Management Graduate Program and completed his dissertation which was entitled “People’s Participation on Forest Management in Java: A Study of Social Forestry in Production Forests, Protected Forests and Conservation Forests.” When the Ford Foundation and IPB established a collaborative research program on social forestry in 1987, Dr. Kartasubrata was one of its main researchers (Kartasubrata 2003). His involvement in this research program enabled him to produce scholarly work on social forestry during the New Order period.

Kartasubrata defines social forestry as efforts to involve local communities in state forestry programs. In particular, he asserts that the term social forestry as it relates to the state-sponsored forest management program takes place within the jurisdiction of state forest lands. He also refers to the term community forest (*hutan rakyat*) in regards to the state-sponsored program outside the state controlled forest lands (see Kartasubrata 2003a, 2003b for two

collections of his work). So the meaning of “social” in this concept refers to the demand of man power for state-sponsored projects. Kartasubrata implicitly asserts that control over forest land and forest resources should still be in the hands of the state, and that the main goal of the social forestry program is to ensure the sustainability of the forests. This conception is clearly influenced by the discourse of state-control over land and forest resources produced during the New Order era. In one of numerous visits to his house during 2009 – 2010, I asked several questions of Dr. Kartabubrata about his concept of state-sponsored social forestry. He mentioned that during the period of 1970s – 1990s he held a strong belief that state forestry institutions in Indonesia and that Indonesian professional foresters (who worked in state agencies or private companies) should be in charge of managing Indonesia’s forests. He further added that in his opinion, which he held during 1970s – 1990s, these two groups should also be in charge of the development of social forestry initiatives.

Preliminary ideas on socio-economic aspects at IPB actually began with the production of two important dissertations in the late 1950s. The first one was about the ownership and cultivation of land in rural Java (Rifai 1958) and the second one was about the "spontaneous transmigration" from Java to Lampung (Kampto Utomo 1957). Kampto Utomo, who is known as Professor Sajogjo, was the head of the IPB Rural Sociology Research Institute which was established in 1972. Ben White (2006) mentioned that Sajogjo is one of the scientists who carried out a critical study of rural poverty during the New Order, and in 1976 Sajogjo raised the issue of agrarian reform during a period when this topic could not be openly discussed because of the political situation. Together with Prof. Loekman Soetrisno and Prof. Mubyarto of UGM, Prof. Sajogjo wrote extensively on issues of structural poverty in rural areas based on the 1970’s era study that was conducted. The result is reflected in the selection of the theme of "structural

poverty" used in the 1978 National Conference of the Association of Social Sciences in Malang (Alfian 1980 in White et al 2006). It is also reflected in an international workshop on Agrarian Reform in Comparative Perspective, organized by the Agro Economic Survey in Sukabumi in 1980. Although Prof. Sajogjo did not conduct a special study of social forestry, some of his students at IPB, including Kartasubrata, became pioneers in developing this concept.

Another IPB forestry scientist who participated in the diagnostic research on social forestry, supported by the Ford Foundation in the 1980s, was Prof. Dudung Darusman. Through his studies, Prof. Darusman reminds the group of Indonesian foresters (Indonesian: *korps rimbawan*) and other stakeholders about the objectives of the multifunctional role of forests and the importance of the roles of local communities in forest management (Darusman 2001). Together with a young forest scientist from IPB named Dr. Didik Suharjito, Prof. Darusman conducted a series of studies on community-managed forests in Java. Dr. Suharjito later published several books on community forestry in the late 1990s. Among several publications of Dr. Suhardjito during this time frame were four books entitled "Community Forestry: A Variety of Community Participation Forms in the Management of Forests" (published in 1998 by IPB's Forestry School in collaboration with the Ford Foundation); "Forestry in Java: Its Role in the Economy Village;" and "Characteristics of Community-Based Forest Management;" and "On Tenure Rights of Forest in Indonesia."

At the same time Kartasubrata began to develop his concept regarding social forestry at IPB, another forestry scholar from the Gadjah Mada University (University Gadjah Mada/UGM) named Prof. Hasanu Simon started to work on a similar idea. The late Prof. Simon entered the UGM Forestry School in 1965, the year when the military supported coup happened and the killing of communists and their suspected supporters began to take place. He was hired as a

faculty member not long after his graduation. He completed his master degree in 1980 with a thesis on the interrelationship between forest development and village development. He began his doctoral study in 1988, which he completed in 1991 with a dissertation entitled “Analysis and Design of Teak Forest Management to Anticipate the Increasing Needs of the People.” Using ideas and an approach similar to Kartasubrata in his early work, Simon focused on the involvement of rural villagers as labors in state-sponsored forestry programs (Simon 1994).

Professor Simon gradually developed a concept of collaborative forest management that closely partners state forestry institutions (such as a state forestry company) with forest villagers (Simon 1999). Later, he initiated a number of research projects, not only supported by the Ford Foundation but also by the Ministry of Forestry and the State Forestry Company (Perhutani) that explored community-managed forests in Java. These communities were located both within and outside the jurisdiction of state forest land. Using the data from this research, Professor Simon began to actively write about community-based forest management systems. Although Simon does not problematize forest land tenure in his earlier work from the 1980s to the mid 1990s, he differs from Kartasubrata, in that he emphasizes that the main goal of social forestry should be the welfare of forest villagers. Since he served as the dean of UGM’s forestry school in 1994-1997 he was able to mainstream his ideas on social forestry and to train younger scholars who later developed much more progressive ideas. He himself gradually developed his concept on social forestry towards one that was more critical of government and questions the state control over forest land and resources, as well as forest management systems (Simon 2001).

Prof. Hasanu Simon had strong ideas about the community approach in the development of forests in Java, including forest areas controlled and managed by Perhutani. One of the concepts on the community-based approach of forest management offered by Prof. Simon is the

model he calls the Management Regime (MR). This model is also known by the forest peasants as the “*plong-plongan*” pattern, which divides the forest land into agricultural and forestry tracks/sections. The modification process and testing of alternative forms of management regime is the responsibility of the Regional Planning Section of the Perhutani (Simon 1999, 2001). This approach was first applied in 1991 in the Perhutani’s Forest Management Unit of Madiun Region in East Java through a pilot project called "Optimal Management of Teak Forests." This pilot project was a collaboration between the Forestry School of UGM and Perhutani (Awang 2006).

Hasanu Simon started exploring the issue of forest land tenure in the late 1990s when he was intensively involved in the establishment process of the Communication Forum on Community Forestry (FKKM), where he began having close collaborations with activists and scholars who worked on the intersection between forest land tenure and agrarian reform. I will explore their collaboration in chapter six.

### ***The Role of “Development NGOs”***

The Ford Foundation’s supported program on social forestry was implemented at the field level with technical assistance from one development NGO, Bina Swadaya. This NGO had a special task: enhancing participation of forest villagers through the “self-help approach.” Before I further examine how Bina Swadaya carried out this special task, I will explore a brief history of the establishment of Bina Swadaya which had close connections with the political situation in Indonesia.

Bina Swadaya was founded by the Association of Pancasila Peasants (*Ikatan Petani Pancasila*) on May 24, 1967. It was initially named the Peasant Socio-Economic Development Foundation (Yayasan Sosial Tani Membangun). The establishment of Bina Swadaya was thereby related to the existence of the Pancasila Movement which was made up of laborers, peasants, fishermen, paramedics, and entrepreneurs in the late 1960s. The goal of the Pancasila Movement was to empower the community in accordance with the Pancasila ideals of independence for the Republic of Indonesia. Bina Swadaya decided to focus its work on independence and community empowerment vehicles.

During the period of the New Order Regime (1966-1998), Bina Swadaya primarily appeared to be, and functioned as, a socio-economic development institution (Suharko, 2007). Since 1985, Bina Swadaya has become a foundation that provides various public services. The foundation has focused on facilitating capacity building, strengthening local institutions, providing micro-finance services, and selling and distributing various information and products. Bina Swadaya provides services through two main activities. The first is to provide services that are in line with the empowerment process of local communities. In order to support all its activities and to build a self-financing organization, Bina Swadaya has developed a variety of fundraising strategies. Some of them are various business oriented activities including managing training facilities, publishing books and a set of popular agricultural magazines, establishing a tour and travel agency, developing a rural bank, selling agricultural products, and providing professional consultancy (Suharko 2007).<sup>28</sup>

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<sup>28</sup> As a result, the foundation has been able to reduce its dependence on foreign grants. At the beginning, almost 90% of the financial resource came from foreign funds. In 1980, it was able to reduce its dependence on foreign funding to 50%. By 1990s, the foundation could undertake self-financing up to 75%, and in 2000, it reached almost 90%. This achievement has made Bina Swadaya a self-reliant organization and enabled it to cut off its dependence upon foreign grants (Saidi et al., 2003)..

As a development NGO, Bina Swadaya believed that the main objective of the national development is to establish “a just and prosperous community with a fair distribution of material and spiritual wealth, based on the Pancasila principles and the Constitution of 1945” (Ismawan et al, 2004). Bina Swadaya further believes that the participation of local communities are the most important step in reaching that goal. Referring to a combination of theoretical and popular understandings, a former Bina Swadaya’s senior staff member explained to me that “participation in the development means a voluntary and animated involvement of the community in their development, compelled by a sense of belonging and ownership and without the pressures of coercion from above (the government).”

Bina Swadaya decided to implement their mission by facilitating the community participation process after it learned that initial programs on social forestry managed by Perhutani had given insufficient opportunities for local communities to participate in the program. As a result, the programs sponsored by Perhutania had become predominantly “top down” (Ismawan et al, 1994) and few benefits were given to citizens in local communities where they were most needed. This development NGO (Bina Swadaya) describes the “self-help” approach as “a condition of someone who possesses the aptitude to assess his/her own strengths in a certain situation, the competence to choose between several available alternatives” (Ismawan 1990).

In mid 2009 I interviewed two key staff members of Bina Swadaya, both of whom were intensively involved in the social forestry initiatives from the mid 1980s until the mid 1990s. They both mentioned that in implementing the self-help approach, Bina Swadaya applied the following two main components: 1) open mindedness, which allows groups that are both open to new ideas and welcoming to the idea of cooperation with other parties; 2) participative in

management activities, where self-help groups should be managed according to democratic principles and with a high degree of member participation. In addition to these two components there was another component that Bina Swadaya adopted, which was called the ‘augment income’ program, where self-help groups were encouraged to develop their own methods that would enable them to increase their savings so that they would improve their own financial capital.

In the Social Forestry program that Bina Swadaya helped to facilitate during the 1990s, the self-help groups (*kelompok swadaya*) were called “Forest Farmer Groups” (*Kelompok Tani Hutan*). Many NGOs who work on forest-related issues in contemporary Indonesia adopted this approach with a variety of adjustments. This partly relates to the continuous involvement of two of Bina Swadaya’s key officers in the Ford Foundation supported program in social forestry being involved in a variety of relevant activities organized by other NGOs. One of them, named Sih Yuniati, was also intensively involved in the establishment of the Communication Forum on Community Forestry in 1997. Today, she still works on community forestry and other relevant topics. In one of several long conversations we had in mid 2009 she mentioned that her experience and expertise during the era of the development of social forestry program from the mid 1980s to the mid 1990s enabled her to share lessons learned from this program. She added that these lessons learned included failures and bad experiences.

### ***The Formation of the New Order’s Social Forestry Policies***

A variety of programs and activities related to the development of social forestry since the beginning of the New Order era, particularly during the 1970s, led to the enactment of social

forestry policies. Lindayati (2003) suggests that there are three main periods of the formation of social forestry policies in Indonesia. The first period is from late 1960 to mid 1980, which is identified by the enactment of policy instruments that reflected government's "rejection" of local community forest access and formal disapproval toward resource management practices performed by forest dwellers. The second period is between mid 1980 and 1997, which is characterized with the adoption of social forestry programs with the main policy ideology that put the state as "forest developer and steward" and continued viewing local forest management systems as backward and destructive. Nevertheless, this period was considered as the era when social forestry schemes were adopted and gradually institutionalized into state forest management system. The third period covers the post-New Order era from 1998 to 2003, marked by changes in social forestry policies (Lindayati 2003). This period continues today.

The formulation of social forestry policies during the New Order era started with Perhutani's experiences in developing preliminary programs on social forestry. As I mentioned earlier, in 1982 Perhutani began to carry out a program titled 'Forest Village Community Development' (*Pembangunan Masyarakat Desa Hutan/PMDH*) where it facilitated the participation of local communities in the management of state controlled forests through the establishment of forest peasants groups. Ford Foundation provided support to this program through the Java Social Forestry Program in 1986, followed by the Outer Islands Social Forestry Program in 1989 (Peluso 1992, Ford Foundation 1989). Over the years, Perhutani's social forestry program has gradually evolved into a program, which is called 'Managing Forest with Community' (*Pengelolaan Hutan bersama Masyarakat/PHBM*) that adopted the collaborative approach, which applies the concept of benefit sharing.

Since Perhutani was considered successful in developing the PMDH program in Java, the Indonesian Ministry of Forestry adopted the approach in the forest concessionaires system (*Hak Pengusahaan Hutan/HPH*) in the Outer Islands of Indonesia. In 1991, the Indonesian Ministry of Forestry enacted a ministerial decree regarding the ‘Village Development of Forest Concessionaires’ (*HPH Bina Desa*) which later evolved into a ministerial decree on Forest Village Community Development that obliged forest concessionaires to provide support for local communities in the development of forest villages (Lindayati 2003).

All of these policies were in line with the framework of state-sponsored social forestry that put local communities as a passive object, not an active subject. It can be seen that those policies did not recognize the tenurial rights of either customary communities or local communities. Community-based forest systems and a variety of local systems of forest management were still not recognized by the Indonesian government or its’ state controlled forest company. At the same time, existing forest land tenure conflicts were not addressed. In these conflicts customary communities and other local communities confronted the state and private companies order to reclaim their ancestor’s lands that had been declared by the state as official/state forest areas and managed by state or private companies. These issues were considered highly sensitive ones during the New Order era (1966-1998). Several high forestry officials of this era, who were already retired when I interviewed them during 2008 – 2010, explained to me that making policy changes were not easy during the New Order period. There was a fearful environment during this era. The most distress they had was regarding the safety of their families as well as themselves. In addition, they encountered opposition from their fellow officials who enjoyed many advantages from the framework of state control over forest lands and forest resources, and did not want to see that change.

I have observed that during the late period of the New Order period (1990s) there were a small number of mid-level officials of state forestry agencies who had relatively progressive ideas on social forestry. These officers were involved in various degrees with the formation process of the policies on social forestry for Indonesia during the 1990s. With support from the Ford Foundation and other international institutions, most of these officers had participated in different activities such as field trips, training and meetings on social forestry and other relevant topics.

Among the training and meetings supported by the Ford Foundation was a series of international writing workshops on community-based forest management hosted by the East-West Center at the University of Hawaii, U.S. from 1987 to the early 2000s. According to several environmental activists who participated in these events, this annual international writing workshop enabled several high Indonesian forestry officials (from the state forestry company and the Ministry of Forestry) to have intensive and substantial discussions with Indonesian activists as well as with other forestry officials, scholars and activists from other Asian countries. Each workshop, which had a duration of six weeks, took place at the University of Hawaii's campus in Honolulu. Participants of these workshops were selected by the organizing committee based on recommendations from the Ford Foundation and other institutions. Prior to attending this writing workshop, each selected participant should prepare a rough draft of paper. During six weeks of the workshop, all participants took part in a series of lectures about writing, an intensive process of searching and analyzing relevant academic literature at the University of Hawaii's libraries, and participated in an academic style of discussion with resource persons and among participants. In addition, participants had numerous opportunities to have informal conversations during the entire six weeks of the workshop. All of this process seems to have allowed the

Indonesian forestry officials to begin reviewing forestry and social forestry policies in Indonesia. This was in line with primary objectives of the workshop. According to the East-West Center:

The workshops are designed primarily for national government officials to learn more about participatory approaches to forest management and to provide them with an opportunity to reflect and write about general issues related to emerging trends in social forestry. The sessions have been organized around selected themes, drawing participants from national ministries as well as from non-governmental organizations (NGOs), universities, and research institutions. During the past few years, workshops have focused on legal recognition of community-based management, management and trade of non-timber forest products, participatory mapping of community boundaries and resource use practices, and conflict mediation between national land management agencies and local resource users<sup>29</sup>

One of follow-up activities of this writing workshop is a series of policy workshops. One of the influential policy workshops is the workshop on legal frameworks for forest management that the East-West Center hosted in Bali, Indonesia in November 1991. This workshop presented the results of the writing workshop held in Honolulu to national policy makers from Indonesia, Thailand, India, China and other Asian countries. Workshop participants facilitated a discussion of land tenure mechanisms for forestlands with top-level policy makers from around the region. Proceedings of this workshop have been compiled into a document entitled “Legal frameworks for forest management in Asia: Case studies of Community-State Relations” was published in 1993 by the East West Center Program on Environment. This document has served as an important reference.

Nevertheless, not all forestry officials who attended the East-West Center writing workshop were successful in applying knowledge from the workshop into policy actions . One of the Indonesian forestry officials who participated in the East-West Center writing workshop in

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<sup>29</sup> From an unpublished document entitled “Building Regional, National, and Local Capacities for Community-based Management of Natural Resources in Asia,” available at the East West Center website <http://www2.eastwestcenter.org/environment/fox/FORDnew4.htm>

1995 explained to me that during the workshop she learned about different approaches to analyzing forest-related issues and how social issues were addressed by state forestry institutions in other Asian countries. This process enabled her to formulate some ideas that she thought should be developed in Indonesia. When she returned to her office in Indonesia, she put some effort into discussing her ideas and did not receive an encouraging response. She said that this was partly due to her status, at that time, as a mid-level official who was stationed in a research institution within the Ministry of Forestry. She understood that it was hard to make changes, especially in terms of forestry policies. She then decided to channel her ideas during the process of internal discussions within her own division. She gradually participated in a number of research conducted jointly by the Ministry of Forestry and UN agencies such as FAO and UNDP.

At the same time, during 1993-1998 the Ministry of Forestry was led by a forester, namely Ir. Djamaludin Soeryohadikoesoemo, who has extensive field experience in the Outer Islands and willingness to listen. The World Forestry Center (ICRAF), Bogor-based Indonesian Tropical Institute (LATIN) and Lampung-based Nature and Environmental Clubs (WATALA), who worked together with forest farmers of *damar* agro-forest gardens in Krui, Lampung in searching legal protection for the farmers and their agro-forest gardens, took this opportunity by inviting him to a set of dialogues and field trips to Krui. In January 1998, the Minister of Forestry finally issued a decree designating 29,000 hectares of state forest zone in Pesisir Krui of Lampung as a “Zone with Special Purpose Area” (Kawasan dengan Tujuan Istimewa/KdTI) and recognizing the rights of farmers to manage Damar agroforests within the limited production forest. Although some groups of forest farmers of Krui have formally rejected this new decree because they feel it does not provide a full guarantee of tenure rights over their agroforests and

that these disagreements still remain unresolved (Suporahardjo and Wodicka 2003), many parties consider this decree as one of a groundbreaking policies considering that there was no such policy that recognized community-based forest management during the New Order era (see Fay et al.1999, Fay and Sirait 2003).

Ir. Djamaluddin explained to me<sup>30</sup> that he decided to sign the decree as he was convinced by a series of dialogues with relevant stakeholders, field trips to Krui, and his own extensive research about Krui that led him to conclude that community-based forest management of Krui needed to be protected (considering that it was threatened by logging company and later by oil palm company who requested the conversion of the state forest zone of Krui into oil palm plantation). He further described that the formulation of the decree was not an easy process. This partly related to the fact that the legal team of the Ministry of Forestry could not find legal base for the decree. Since Ir. Djamaluddin had experience working with Perhutani in his early career, he recalled that there is a certain regulation used to classify certain areas such as grave yards and other cultural sites located within state forest zone in Java managed by Perhutani. These areas are categorized as “Zone with Special Purpose” (Kawasan dengan Tujuan Istimewa). He then suggested utilizing this regulation for the Damar agroforests of Krui. The classification of “Zone with Special Purpose” for Krui agroforests was definitely a compromise. Chip Fay and Martua Sirait, two ICRAF scientists who were intensively involved in this process note that:

“While the status of the forest area as state forest did not change, the minister, for the first time, created a classification of forest management that was based on already existing community agroforestry systems. Equally important, he placed the management responsibility of the areas in the hands of customary institutions, in this case the clans” (Fay and Sirait 2003, 135).

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<sup>30</sup> Interview, December 10 2008

The formulation of the decree of the Minister of Forestry on the “Zone with Special Purpose” for Krui agroforests was in some way influenced by a series of activities on community-based forest management, including research and policy advocacy activities, conducted by NGOs in collaboration with research agencies and academic institutions. I explore this process in the next chapter (chapter four).

### ***Concluding Remarks***

I have examined how collaborations of state agencies and various social groups, including academic institutions and development NGOs, through numerous ways, contributed to the development of a variety of forms of social forestry in post-colonial Indonesia. In the case of the New Order’s social forestry, there were several different occasions of collaboration in which the government of Indonesia had a strong role. Nevertheless, some of these collaborations had their own directions, which were still under the boundaries set up by the New Order government but they created certain forms of adjustment. In other words, these collaborators each had their separate trajectories and paths.

Despite the final outcome of these collaborations, some of the participants had contributed to the beginning process that enabled the discussions which lead to the conception of different ideas in later years, which I consider more progressive. The collaborations also opened up opportunities for academic institutions and NGOs to participate. At the same time, the collaborations created new interests among these two groups. The participation of academic institutions created new research and pedagogic interests among forestry academicians, which later led to the development of a number of relevant academic research programs and classes that

related to social forestry concepts during the New Order era and linked to more progressive concepts later in the Post-New Order period. The collaborations allowed development NGOs to be involved in the grassroots facilitation process of creating self-help groups for forest peasants. In addition, this later enabled the development NGOs to provide significant input in the formation process of more progressive ideas on the justice oriented ‘community forestry’ in the Post-New Order era that I will examine in chapter five.

## Chapter 5

### **The Community-Based Forest System (*Sistem Hutan Kerakyatan/SHK*): Claiming Local Knowledge for Political Dialogues**

#### ***Introduction***

One rainy day in December 2009, I attended a meeting organized by several national environmental NGOs who concentrated their work on forest related issues. This event took place in a big meeting room of an old colonial style building in Bogor, West Java. This building serves as the office of the Center for Forestry Education and Training (*Pusdiklat Kehutanan*) for the Ministry of Forestry. The meeting was aimed at enabling various groups to share their observations, lessons-learned and opinions regarding alternative models of forest resource management by local communities. Several high ranking forestry officials and representatives from Indonesian academic institutions, NGOs, and community groups attended the meeting.

Among these participants there was a small woman in her mid-30s named Teh Eti. Her village is located in the upland Bogor district. Since 2001 she had been very active in organizing her fellow villagers in an attempt to strengthen their position regarding the management of their forest lands. In addition, she had been working to get political recognition from the government for her villagers' efforts. Her village had been battling to regain control of these lands for years. This battle relates to the land conflicts with two different state forestry institutions, the state forestry company (Perhutani) and the Halimun National Park. Prior to the year of 2003, the state considered her homeland to be state production forest lands. Perhutani managed these forest

lands by establishing monoculture plantations of Sumatran Pine (*Pinus merkusii*)<sup>31</sup>. In 2003 the Ministry of Forestry decided to enlarge the nearby conservation area, known as the Halimun National Park, by converting production forest lands into a conservation area. This decision put Teh Eti's village and 300 other villages within the official boundaries of the Halimun National Park.

When Teh Eti was invited to attend the 2009 Workshop in the city of Bogor, she decided to immediately take the opportunity to try and help tell her villages' side of the story and to hopefully obtain support for their claims. The trip from her remote village to the city of Bogor was physically challenging because she was pregnant with her third child. It was obvious that she might be putting the life of her unborn child at risk, as well as her own, to be at this Workshop. However, she was determined to come since she wanted to deliver an important message from her community to the government and the other participants. When it was her turn to speak, Teh Eti shared that the communities affected by these boundary changes had developed several approaches to managing forests and agricultural lands and that these integrated approaches did not adversely affect the land. In effect, she told the group that these forested lands were her village lands and they had taken good care of them for generations and felt that it was their right to take care of it for generations to come. With a clear and confident voice, Teh Eti stated that she, her family, relatives, neighbors and many people in her village requested legal recognition from the government and assurances that they would be allowed to continue managing their forest resources in a variety of ways, as they had been doing all their lives. She asserted to the audience that these activities "keep the balance between the economic needs of the villagers and the ecological needs of nature."

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<sup>31</sup> A pine native to the Malesia region of southeast Asia, mainly in Indonesia in the mountains of northern Sumatra

No matter how moved the group may have been at what she said, the representatives from the Halimun National Park and other government agencies still viewed local forest use as destructive to the national park. Moreover, Teh Eti and her fellow villagers are legally considered “forest encroachers” in the National park despite the fact that their villages along with rice fields, dry fields (*huma*) mixed trees gardens (*kebun talun*), woodlands (*kebun kayu*) and village forests had existed long before the state officially declared these state lands.

The articulation I have just described, delivered by a representative of a local community in front of high ranking government officials in a building under the control of the Ministry of Forestry of Indonesia, would have been almost impossible to hear twenty years earlier. Freedom of expression, particularly thoughts and actions that were against the state, was strictly limited and heavily controlled by the authoritarian administration during the New Order era (1966-1998). Due to her ways in managing forests and agricultural lands, the New Order regime would have immediately charged Teh Eti with a criminal act. She would have been charged as a “forest destroyer” since her rice field, dry field, and mixed tree garden were located in state forest lands. She could immediately be jailed without going through a trial. Many other community groups were forcibly moved from their homelands and faced violent repressive actions that involved the government using their armed forces. Meanwhile, Indonesian logging companies and timber plantation industries, that visually performed more destructive activities on a much larger scale and led to massive deforestation and social conflicts from 1970s to 1990s, were “safe” since they received a variety of protections from the New Order regime.

Beginning in the mid 1980s, despite facing heavy political controls over popular social movements, Indonesian non-governmental organizations (NGOs) addressed the problems of deforestation by organizing intensive campaigns against the environmentally and socially

destructive practices of logging companies. These organizations also advocated for the change of forestry policies that supported those destructive operations. Although their efforts were organized in collaboration with transnational campaigns organized by international environmental NGOs, the Indonesian environmental NGOs had their own domestic agenda: political reform.

Gradually, the Indonesian NGOs began criticizing the centralized, state-controlled scientific forestry concepts. Along the way, they started promoting a variety of local models of community-based forest management as an alternative approach to the centralized, state-controlled scientific forestry in New Order Indonesia. In 1997 some activists of these organizations coined the term *sistem hutan kerakyatan*/SHK (“community-based forest system”), which referred to the diversity of local forms of community-based forest management. These activists emphasized that these forms have existed for many generations and they have been developed based on “local knowledge.” The activists’ ideas were expressed in active dialogues with the transnational concept known in English as community-based forest resource management (CBFM), colored with disagreements and various forms of collaborations. During the New Order period, the process to search for CBFM models in Indonesia created an arena that included emancipatory political struggles not only for rural communities but also for other social groups who opposed authoritarian rule and the destructive power of capital. This chapter examines the formation process of *sistem hutan kerakyatan*/SHK (“community-based forest system”). I start this chapter by introducing the term SHK itself. The development of the term SHK cannot be isolated from events that closely relate to the history of social movements in Indonesia, particularly the history of environmental movements during the New Order period (1966-1998).

The formation of SHK cannot be separated from the central technologies of community-based forest resource management (CBFM), primarily mapping and legal advocacy. Therefore, the SHK movement has close links with other movements: participatory mapping movement, advocacy for the recognition of the rights of indigenous people over customary territories, lands and forest resources, and agrarian reform. In this chapter I trace the historical events within these movements combined with my personal observations and first-hand accounts, in order to show how political, social, cultural, and gender aspects shaped the SHK and its affiliated social movements.

The search for SHK forms alternative models of forest management in the late period of New Order, which was continued during the first couple years of the Post-New Order era, formed an arena for opening a political dialogue at different levels. In this chapter I explore how this process also gave opportunities to different groups who participated in it, including the communities themselves, to articulate their needs and agenda.

### ***SHK as an Alternative Term***

The term “Community Based Forest System” (*Sistem Hutan Kerakyatan*/SHK) was coined in the mid 1990s by Indonesian environmental NGOs who worked together in a collaborative project aimed at searching for community-based forest management models that could be promoted as alternatives to the scientific theory of forestry. According to this group of NGOs, SHK refers to a set of community-based forest management practices that have been developed and applied by communities all over the Indonesian Archipelago, perhaps for generations. Key activists of these NGOs argued that these practices are mostly based on

traditional knowledge and local wisdom as well as based on local ecological, socio-cultural, and economic aspects. Because of all of these aspects, the activists further stated that community-based forest management models vary from one place to another and that each of the models is unique (KpSHK 1997).

The group of activists who developed the term *Sistem Hutan Kerakyatan*/SHK argued that the key concepts of SHK are reflected in its main words. “*Sistem Hutan*” (“Forest System”) describes an argument that “forests” should not only be seen as standing woods but should also be viewed holistically as an integrated eco “system”. This eco “system” consists of plants, animals, microorganisms, soil, water, air, underground minerals and many other living and non-living things, which all together serve not only economic needs but social, cultural and spiritual ones. Furthermore, the activists agreed that SHK covers a variety of land uses that link together as a system. They referred to certain forms of swidden agriculture in West and East Kalimantan as well as agro-forests in Sumatra where the communities combined agricultural activities with forest resources management. Meanwhile, the populist nuance of “*Kerakyatan*” (“Community-Based”) defines local people as a part of this system and the main actor in the management of the forest resources (KpSHK 1997). The activists decided to use the term “*kerakyatan*” as it represents political position of their group against the Suharto Regime. This term has the word “*rakyat*” (“people”), a term taken from the populist Sukarno period that was not used by the Suharto regime.<sup>32</sup>

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<sup>32</sup> The Suharto regime associated the term “*rakyat*” (“people”) with the communism, therefore this term was considered as politically sensitive one during the New Order era. This regime used the term “*masyarakat*” (“community”) . See Mayer (1996 ) for detailed discussion on the application of this term by the Suharto regime in controlling non-governmental organization.

Development of the term SHK was followed by the establishment of a coalition of NGOs and individual activists who supported the search and promotion of SHK, known as *Konsorsium Pendukung Sistem Hutan Kerakyatan/KpSHK (Supporting Consortium of Community-Based Forest System)*. These actions were part of a series of events that closely relates to the history of the social movements in Indonesia, particularly the history of the Indonesian environmental movement during the New Order period (1966-1998). Through a combination of grassroots work, field explorations, literature studies and interactions with a small group of Indonesian social scientists, activists “rediscovered” a variety of community-based forest management systems in many different areas within Indonesia. This “rediscovery,” combined with the spirit of searching for “alternative” systems to the hegemonic scientific forestry, encouraged NGOs across Indonesia to identify local SHK forms within their regions.

Another reason the activists coined the term SHK was to distinguish their forms of social forestry from the state-endorsed programs that had been labeled “social forestry.” As I explained in chapter four, this term has been associated with state-sponsored efforts to position local communities under the management of state-controlled forest lands. The environmental justice NGOs who promoted SHK were not in favor of the New Order’s social forestry programs. In their opinion these programs did not address the underlying causes of the conflicts between the state and forest dependent populations. Activists further argued that these programs merely placed local communities, particularly landless farmers, in the position of being nothing more than cheap labors for the planting and rehabilitating of state forest lands.<sup>33</sup>

During the period when the activists began to develop SHK in the mid 1990s, there were two separate transnational processes that happened to correspond with their activities. The first

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<sup>33</sup> Interviews of two key activists, 2009

process was the transnational development of a community-based forest management (CBFM) approach, which was part of the broader concept known as community-based natural resources management (CBNRM). Both CBFM and CBNRM refer to the critical roles local populations can play in managing natural resources, including forest resources, in more effective ways than the state or corporations. CBFM and CBNRM both involve local forms of resource access and local knowledge based models of resource management. The second process was a growing transnational movement of indigenous peoples articulating for recognition and the protection of the rights of indigenous peoples, including rights over land and its natural resources.

### ***Transnational Concepts of CBNRM and CBFM***

The international articulation of community-based natural resources management (CBNRM) began to gain attention during the 1980s and the 1990s. Among a variety of interrelated factors behind the attention was the emergence of the participatory approach to economic and rural development. Triggered by the failures of the designs and the operations of large-scale, capital-intensive and centrally planned conservation and development projects that excluded local populations from the projects (Horowitz and Painter 1986), activists and development professionals devised participatory projects (Leach et al. 1996) which included the local population. The beginning of the application of the participatory approach in the 1980s coincided with the adult education movement started in Latin America in the mid 1970s. The work on critical pedagogy of Brazilian intellectual-activist Paulo Freire and his book *Pedagogy of the Oppressed* (Freire 1968) and the experiences of the activists in Latin America inspired a generation of 1980s activists in Asia and Africa to develop their local participatory models.

Paulo Freire's approach was based upon his views that poor and exploited people have abilities and should be enabled to conduct their own analysis of their own problems and potentials (Chamber 1994). Development professionals soon picked up this participatory approach and adjusted it to fit with the agendas of international development agencies and the multilateral institutions. Successful stories of participatory development projects influenced the application of this approach to natural resource management projects in the 1990s throughout the developing world (Leach et al., 1996). This participatory approach evolved into the development of community-based natural resource management programs.

In the 1990s, some international conservation organizations began to develop CBNRM. Their efforts were in some way compatible with endeavors to revise the conventional approach of natural resource conservation that primarily focused on the conservation of species and ecosystems, while humans were left out of the equation. These international conservation organizations experimented with alternative models of conservation to include nature conservation, sustainable environmental management, social and economic equity and democratic governance (Tsing et al. 2003).

This process happened during the period when United Nations (UN) agencies, international development institutions and multilateral institutions (such as the World Bank) were challenged by social justice oriented non-governmental organizations (NGOs) to change the state-controlled, top-down management of natural resources. UN agencies, international and multilateral institutions followed the lead of the NGO's and adopted the concept of CBNRM into programs and projects they supported that were taking place in developing countries during the 1990s. This resulted in the formation of various models of community-based natural resource management. A brief list of these models supported by the United Nations agencies includes the

Integrated Conservation and Development Projects (ICDP) (Brown and Wyckoff-Baird 1992) and other similar approaches such as adaptive management, co-management, and collaborative management developed by other international institutions (Wondollet and Yaffee 2000). Nevertheless, these approaches did not address problems on land and resource tenure.

International organizations that worked in Indonesia during the 1990s, particularly international conservation organizations such as the World Wildlife Fund (WWF), adopted the concepts of community-based natural resource management and community-based forest resource management in conservation projects. Indonesian environmental justice NGOs, however, had some doubts about the impact of this community-based approach in addressing land tenure conflicts. Activists of these NGOs criticized the international conservation organizations by stating that these organizations were not interested in social justice for forest dependent people, they only appeared to be interested in saving endangered species of flora and fauna. A common opinion among these activists was that those international conservation organizations would immediately react if the species they were trying to save was endangered, but they would stay silent when the communities who lived in the conservation areas were they worked faced severe socio-economic problems and were confronted by violent actions from the guards of the National Park. In short, since humans were not on the endangered species list these conservation organizations did not appear to care what happened to them. In the mid 1990s the Indonesian environmental activists shared a common joke for this issue, stating that the international organizations were “flora and fauna worshippers.” Gradually this joke turned into a more serious analysis in which the activists categorized the international conservation organizations as “dark green” organizations. The term “dark green” represented the focus of the international conservation organizations, which was to save the forests for the sake of the

preservation of certain flora and fauna they categorized as endangered species. This created additional difficulties for the Indonesian activists. These conservation organizations not only had extensive financial backing to fund their campaigns, but their attitude reinforced the position of the state that the people in these areas didn't matter as much as the natural resources.

The Indonesian environmental justice activists further believed that both the CBNRM and CBFM approaches the international conservation organizations applied in Indonesia during 1990s was mostly to support their "dark green" agenda. These activists decided that the "dark green" agenda was not in line with the Indonesian environmental movement. Key members of the Indonesian environmental movement positioned CBNRM and CBFM as alternatives to the political paradigm of the state control over Indonesia's natural resources, including forest resources.

At the same time, for a variety of reasons, several members of this group of Indonesian activists took the opportunity to be external evaluators of various CBNRM projects of the international conservation organizations. One of them worked with Michael Dove, Professor of Anthropology at Yale University who had intensively studied local forms of forest resource management in Kalimantan and Java with the theoretical framework of human ecology, on the external evaluation of conservation projects sponsored by the World Wildlife Fund (WWF) Indonesia Program in Kayan Mentarang, East Kalimantan in the early 1990s. Experiences, lessons learned and knowledge gained from those activists seems to contribute to active discussions among the Indonesian environmental NGO community at the time.

This experience contributed to the adjustment of the work of a transnational collaborative project operated from 1989-2001 known as the Biodiversity Support Program (BSP). BSP is a consortium of World Wildlife Fund (WWF), The Nature Conservancy (TNC), and World

Resources Institute (WRI) and was funded by the United States Agency for International Development (USAID). BSP's mission was “to promote conservation of the world's biological diversity believing that a healthy and secure living resource base is essential to meet the needs and aspirations of future generations” (Read and Cortesi 2001). The BSP began to be developed in Indonesia in the mid 1990s with a different approach. The adjustment of BSP’s work in Indonesia was in line with two aspects. The first one was to respond to the activists’ criticism regarding the ineffectiveness of the transnational conservation projects in addressing real problems that linked to social and political problems. The second one was to respond to the unsuccessful experience of the USAID-sponsored project on natural resources management (known as the USAID-NRM I) that was operated from 1991-1996. This project spent \$ 50 million over a five year period and only worked two sites. In addition, its primary product was reports from consultants. The dismal result of this project influenced USAID to try a different approach. A series of dialogues with key activists and organizations in the Indonesian environmental justice movement facilitated by a team of progressive consultants resulted in a proposal to USAID to develop BSP in Indonesia with the focus on building a network of well informed, technically competent, creative and politically active individuals and non-government organizations concerned with community-based natural resource management across Indonesia.<sup>34</sup> The name chosen for this approach is “Kemala,” representing an innovative approach for building coalitions that expand the use of natural resource management and conservation "best practices" by rural communities (Read and Cortesi 2001). BSP-Kemala began its operation in Indonesia in 1996 and recruited several environmental justice activists to become

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<sup>34</sup> Interview with Nonette Royo, one of key individuals of BSP-Kemala, in July 31 2010

senior program officers of this program. During 1996-2001, BSP-Kemala provided significant support to the SHK movement.

All of the disagreements and collaborations undertaken by Indonesian NGOs toward the transnational initiatives on CBNRM and CBFM enriched the active process of forest-related environmental movement in Indonesia that I will discuss in the following sections.

### ***Forest-Related Environmental Movement in 1980s and 1990s***

The 1980s witnessed the peak of logging activities in the outer islands of Indonesia. As I explained in chapter three, in the 1970s the New Order regime facilitated a massive process of primary forest exploitation in Indonesia's outer islands by licensing state forest lands to domestic and international logging companies. Responding to global markets in the early 1990s, the New Order government established policies to support timber-based industries including sawmills and the plywood industry as well as the pulp and paper industry. These policies included giving licenses for international and national companies to turn the degraded forest lands into industrial timber plantations (*hutan tanaman industri/HTI*). The result was devastating deforestation and further forest degradation that triggered ecological disasters such as forest fires, floods and landslides.

Although these ecological problems were obviously a result of extractive forestry in 1980s, the New Order government and the Indonesian timber business community used FAO rhetoric to switch the blame into local communities. In 1980s, the FAO's program for tropical forests, known as the Tropical Forest Action Program (TFAP), stated that deforestation and forest degradation problems were in fact caused by the irresponsible actions of local forest-

dependent communities. They called these actions “slash and burn agriculture.” This line of reasoning coincided with the international scientific forestry paradigm used during the 1980s. This paradigm was adopted by many international forestry scientists, who confidently declared that using the scientific forestry method would guarantee the successful management of forest lands, as long as there was no intervention from disturbing activities such as “slash and burn agriculture” performed by the people whom they called “forest encroachers.” The Indonesian foresters who worked for the Ministry of Forestry echoed this sentiment and translated it into policies that classified local communities both inside and surrounding state controlled forest zones as “forest encroachers” (Indonesian: *perambah hutan*). The implications of these policies for forest-dependent people and other local communities were devastating.

Responding to these problems and despite facing heavy political opposition and government controls over social movements, Indonesian non-governmental organizations (NGOs) in the mid 1980s began to promote intensive campaigns against destructive forest policies and the practices of logging companies. The Indonesian Environmental Forum (*Wahana Lingkungan Hidup Indonesia/WALHI*), an umbrella organization of more than 400 NGOs including environmental NGOs and university students’ nature lover groups across Indonesia, led these campaigns and organized a series of relevant activities that involved NGOs and volunteers in different regions of Indonesia. These campaigns and organizations gradually evolved and emerged as the Indonesian environmental movement (Mayer 1996, Afiff 2004).

In the early 1990s, both Jakarta-based and regional activists started to realize that in order to receive popular support, their fight against destructive forestry practices needed to be modified. They realized that they should not only focus their campaigns on the problems created by the application of industrial scientific forestry, but that they must also work for the rights of

forest-dependent communities. This adjustment was partly based on the experience of the regional NGOs that worked in the four Indonesian provinces of Kalimantan (on the island of Borneo) in the early of 1990s. These regional NGOs focused their work on protecting the island's forests and the rights of the Dayak<sup>35</sup> communities to continue their ways in managing forest resources.

The Institute of Dayakologi, an NGO based in Pontianak (the capital of West Kalimantan Province) and established by Dayak activists, advocated that the forest lands the central government licensed to logging companies and industrial timber plantations were customary lands of different Dayak communities. Massive logging operations and land clearing for the establishment of industrial timber plantations in West Kalimantan destroyed the local forms of forest resource management. The impacts were not only linked to social and economic aspects but also were associated with the disappearance of forest related knowledge.

The advocacy process in the province of East Kalimantan was led by the Foundation for Environmental and Human Resources Development (PLASMA), which was based in Samarinda (the capital of East Kalimantan Province). This NGO was established by environmental activists of East Kalimantan. Most of them graduated from the forestry school and the agricultural school of the University of Mulawarman in Samarinda. The participation of activists of these two organizations along with other activists from NGOs of four provinces in Kalimantan strengthened the environmental justice movement in countering the statements made by the

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<sup>35</sup> Dayak represents the term that refers to different tribes and sub-tribes in Kalimantan. This term was coined during the Dutch colonial administration to distinguish those ethnic groups with Moslem ethnic groups who mostly lived in coastal areas of Kalimantan. According to one of Dayak activists John Bamba, noted in an online bulletin *Perspektif Baru*, Edition 601 in September 2007, the Dayak people initially did not identify themselves with this term as they called themselves by the names of their own tribes and sub-tribes. . Hundreds of Dayak tribes and sub tribes each have their own names such as the Iban, Kayan, Kenyah, Jalai, Kanayan, and so on. See Selato (2002) for detailed examination about Dayak.

government and private companies blaming forest dependent people and other local communities as being the main culprits of deforestation. The government and private logging companies particular accusation was that these groups used destructive agricultural activities they called “slashed and burned” and “shifting cultivation.” Kalimantan-based activists wrote articles and reports arguing that the state “grabbed” (Indonesia: *merampas*) customary lands and created a series of severe problems for forest dependent people and other local communities.

The above process led the coalition of national and regional NGOs to begin promoting the forest management practices developed by local people as an alternative solution (Hafild 2005). They called these practices community-based forest resource management (CBFM). Their efforts were also linked to the transnational social-environmental justice movement and to the indigenous peoples’ movement in the 1990s (Afiff 2004, Tsing 2005). Indonesian key activists in this process were also involved in the establishment process of a network to defend the rights of the “customary communities” or *masyarakat adat*, namely JAPHAMA (*Jaringan Pembela Hak-Hak Masyarakat Adat*) in 1993. In 1996, this group and other environmental NGOs that had applied a participatory mapping approach as an alternative tool for *masyarakat adat* and other local communities to get political recognition decided to establish a network to develop a participatory counter-mapping process known as JKPP (*Jaringan Kerja Pemetaan Partisipatif*). In addition, activists of these networks began to interact with the agrarian reform activists. Key environmental justice activists participated in the establishment of the Consortium for Agrarian Reform (KPA) in 1995.<sup>36</sup> At the same time, key agrarian activists were actively involved in a series of discussions on the linkage between community-based forest management

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<sup>36</sup> For detailed discussion on the convergences, tensions and mutual influences of agrarian and environmental movements see the article “Claiming the Grounds for Reform: Agrarian and Environmental Movements in Indonesia (Peluso et al., 2008)

and strategic actions toward political recognition for *masyarakat adat* and local communities. All of this contributed in strengthening ideas on how to position community-based forest management within the waves of reform movement during the early 1990s that continued until the end of the New Order regime in May 1998.

While promoting the concept of CBFM, mainstream environmental NGOs were suspicious of the idea of social forestry developed by Perhutani in the late 1980s and during the 1990s. Environmental activists argued that none of the social forestry policies, programs and projects clearly addressed the issues of local community rights over land, trees and other forest resources. Social environmental justice NGOs did not want to endorse these state-sponsored social forestry initiatives because they believed that the superiority of the state to manage these lands as they as they chose, despite the hardships created for local communities, was largely maintained (Moniaga 1999). These NGOs tried to introduce their own discourse on community-based forest management (CBFM) emphasizing the issues of land tenure and resource rights, and the recognition of community-based forest management systems based on local knowledge. It is interesting to note that even though in general most members of the environmental movement were not in favor of the social forestry programs, several were actually involved in the evaluation of social forestry programs. Their involvement as external evaluators seemed to enrich their analytical skills, which later contributed to the process of searching for more progressive, justice-oriented forms of forest management.

## *The Beginnings of the SHK Movement*

The SHK Movement I refer to in this section is a series of activities, mostly organized by environmental justice NGOs, aimed at identifying successful SHK models, and promoting them as an alternative to state-controlled management of forest resources. One of activities within the SHK Movement included gathering information and redefining knowledge of local forms of forest management. Moreover, the SHK Movement enabled the justice-oriented NGOs to work with local communities in advocating for democratic and sustainable natural resource management on local, regional and national levels (Munggoro 1998).

The SHK Movement began with a series of informal discussions. In 1993, key activists from WALHI, the Indonesian Tropical Institute (LATIN), and several other environmental NGOs participated in various meetings related to forest issues. LATIN was established in 1989 by environmental activists who have educational backgrounds in forestry. LATIN's activists had developed studies and field programs relating to community involvement in the management of forest resources. LATIN had been working with the World Agroforestry Center (ICRAF) in the Krui area of Lampung, Sumatra. ICRAF is a research center that is part of the Consultative Group on International Agricultural Research (CGIAR). ICRAF's headquarters are in Nairobi, Kenya, with five regional offices located in India, Indonesia, Kenya, Malawi and Mali. ICRAF's office for the Southeast Asia Region is located in Bogor, Indonesia. ICRAF scientists had extensively documented a successful community-based forest management system developed by local communities in the Krui area of Lampung, Sumatra

During 1993 meetings, activists of WALHI, LATIN and other NGOs reviewed the on-going approaches they applied in their advocacy work against destructive extractive forestry and

discussed alternative strategies to advance community-based forest management. In a series of informal discussions, the activists from WALHI<sup>37</sup> and LATIN<sup>38</sup> agreed to develop a collaborative project aimed at searching for local forms of community-based forest management and to intensively promote these forms as an alternative to the state-controlled scientific forestry. One intensive discussion occurred during a two-day informal gathering that took place in Sukabumi, West Java in December 1993. A representative from the Ford Foundation of Indonesia Office and a Filipina environmental justice activist,<sup>39</sup> who had participated in environmental justice movement in the Philippines, participated in this event and provided significant suggestions to enhance the initial idea of the collaborative project on community-based forest management in Indonesia.

Other groups that provided significant contributions to the development of ideas of exploring community-based forest management models in Indonesia during the mid 1990s were academic institutions. One of them was the Center of Research and Development of Agro-Ecology at the University of Indonesia (*Pusat Penelitian dan Pengembangan Agro Ekologi - Universitas Indoensia/P3AE-UI*). The Ford Foundation provided support to P3AE-UI at the time. The head of this research center, who was (and still is) a professor in anthropology Dr. Iwan Tjitradjaja, invited activists to attend a series of presentations highlighting the research results conducted on the University of Indonesia's campus. Their research was mostly regarding

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<sup>37</sup> One of key activists of WALHI who led the process was Sandra Moniaga, an Indonesian female activist from Jakarta who graduated from law school of Bandung-based Parahyangan University

<sup>38</sup> Led by Tri Nugroho, an Indonesian male activist from Jakarta who studied forestry at Bogor Agricultural University (IPB)

<sup>39</sup> Chip Fay who served as the Ford Foundation program officer at the time and his wife Nonette Royo, a Filipina lawyer and environmental activist who later became one of key individuals in the USAID-supported Biodiversity Support Project, have continued their active involvement in environmental justice movement in Indonesia through different institutions.

agro-ecology systems developed by different communities in certain geographical areas. In conducting their research, P3EI-UI researchers commonly applied the so-called human ecology approach.<sup>40</sup> In addition to inviting the activists to come to their events, Dr. Tjitradjaja and several other researchers of P3AE-UI were also actively involved in the discussions organized by environmental justice NGOs. This interaction contributed to the adoption of a human ecology approach as an analytical framework among environmental justice activists.

Another academic institution that indirectly contributed was the center for environmental studies of Bogor Agricultural University (*Pusat Penelitian Lingkungan Hidup – Institut Pertanian Bogor/PPLH-IPB*). One of key researchers of this institution, Dr. Suryo Adiwibowo, introduced the human ecology approach in environmental studies and agricultural-related research. Dr. Adiwibowo had extensive connections with Indonesian environmental justice activists, particularly those who were members of students' nature lovers group at IPB (known as LAWALATA-IPB) and other universities in Java. Suryo Adiwibowo<sup>41</sup>, who was deeply involved in the 1970s student movement, and his fellow student activists of IPB established LAWALATA-IPB in 1974 with a vision that this organization should not only focus on mountaineering but exploring environmental issues with critical analysis. Since the early 1980s human ecology approach has become the main framework for the six-month training for young university students of IPB who applied to become a member of the students' nature lover groups of IPB (known as LAWALATA-IPB) and have passed the preliminary selection process.

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<sup>40</sup> According to Celia Lowe, "Indonesian scholars attribute the broad influence of human ecology to Andrew Vayda, who was one of the seminal theorists of human ecology, and who taught in Indonesia in the 1980s" (Lowe 2006, 117).

<sup>41</sup> Dr. Suryo Adiwibowo is one of the key academicians who devoted his time to mainstream human ecology approach across different department/schools at IPB. In the early 2000s, IPB established a specific department known as *Fakultas Ekologi Manusia/FEMA* (School of human ecology).

Several key activists in the environmental justice movement in Indonesia, including those that participated in the initial discussion of the collaborative project on community-based forest management, were members of this organization. They had been intensively trained with regard to the human ecology paradigm.

The collaborative project on community-based forest management in Indonesia finally materialized in 1995. Four NGOs worked together in this effort: The Indonesian Forum for Environment (Wahana Lingkungan Hidup Indonesia: WALHI), Bogor-based Indonesian Tropical Institute (*Lembaga Alam Tropika*: LATIN), the Samarinda-based PLASMA, and the Pontianak-based Institute of Dayakologi. This collaborative project represented the involvement of both national and regional NGOs. WALHI and LATIN represented the national NGOs, while the PLASMA and Institute of Dayakologi represented the regional NGOs.

PLASMA was founded in 1989 by a group of young activists, some of whom had graduated from the forestry school of the University of Mulawarman in Samarinda, East Kalimantan. It focused its work on addressing both forest-related environmental issues and social issues in East Kalimantan. The Institute of Dayakologi was part of a regional NGO called Yayasan Karya Sosial Pancur Kasih (known as Yayasan Pancur Kasih) established in Pontianak, the capital of the province of West Kalimantan in 1981. Their main focus was on the empowerment of the Dayak People in West Kalimantan so that the Dayak People would have a better bargaining position in dealing with governments (of national, provincial and district levels), corporations, and other institutions.

## ***Searching and Promoting Local Forms of Community-Based Forest Management***

The collaborative project of WALHI, LATIN, Institute of Dayakologi, and PLASMA had two main objectives. The first one was to identify and document local forms of community-based forest management. The second objective was to promote their findings to the government and the general public. This project was supported by the Ford Foundation and the BSP-Kemala. The information gathered by WALHI, LATIN, PLASMA and the Institute of Dayakologi as well as the experiences these organizations gained during this 1994-1995 project were fully documented in reports. In this collaborative project on community-based forest management, each participating organization brought their unique experience and extensive networks into focus on the assignment.

The Institute of Dayakologi had learned that the Dayak communities of West Kalimantan had been managing their forest resources through another complex agro-forest system known as *tembawang*. *Tembawang* is the term for forest fruit gardens. *Tembawang* has been actively established by the indigenous Dayaks by planting fruit, illipe nut (*Shorea* spp.), latex-producing trees (mainly *Palaquium* spp.) and/ or ironwood (*Eusideroxylon zwagerii*) trees on previously used agricultural land, or by unintentionally spreading or actively planting seeds around the villages and other settlements (see Momberg and Werner 1992, de Jong 1993, 1994, Padoch and Peters 1993, Salafsky 1994, Peluso and Padoch 1996).

Meanwhile, PLASMA referred to another local system developed by the Dayak communities in East Kalimantan, known as *simpukng*. *Simpukng* is managed secondary forests containing selected species of fruits, rattan, bamboo, timber and other plants that are planted by the owners. Although most *simpukng*'s are owned by families and transferred from one

generation to the next, some are managed on a communal basis (Moulyotami et al. 2012). Both Lembo and Simpukng are two locally developed systems that represent an integration of forest resources management where swidden agriculture lands, complex agro-forest areas, rattan gardens, and customarily protected old growth forests had been successfully managed for centuries.

LATIN promoted another system, called repong damar, developed by the Krui People of Lampung, Sumatra. The repong damar system was extensively studied by scientists of the World Agroforestry Center (ICRAF).<sup>42</sup> They found that this system has existed since the last century. Repong damar literally translates as “damar garden.” Damar (*Shorea javanica*) is a member of the Dipterocarpaceae family that produces resin. Dipterocarpaceae itself is a family of 17 genera and approximately 500 species of mainly tropical lowland rainforest trees. In the repong damar system the Krui people cultivate the damar along with other species of trees that are used for wood or for producing fruit. After conducting their research for a number of years, the ICRAF scientists found that the existence of repong damar was threatened by the fact that the lands where the Krui people had their damar gardens were considered state forestry lands. The Ministry of Forestry had allocated the lands covered by old growth trees of damar and other wood species as “production forest,” and had issued a logging license to the state-own logging company. In order to facilitate the negotiation process among the Krui People and the Ministry of Forestry, ICRAF worked together with LATIN to help them in facilitating the community organizing process. By conducting field work in Krui, LATIN learned directly from the Krui people about their repong damar.

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<sup>42</sup> Previously Center for International Agroforestry Research

The key organizations of the collaborative project arranged a national workshop aimed at distributing their lessons learned and they invited other NGOs to help develop a plan to expand the search for local forms of community-based forest management. This workshop took place in Bandung in mid 1995. Part of the workshop was taking the participants to the Krui's repong damar in Lampung, Sumatra. The discussions in the meeting room and on the field trip helped many participants to realize that local forms of community-based forest management existed in the areas where they worked.

The 1995 national workshop on Community-Based-Forest Management ended with several of the participating NGO's volunteering to search for other local forms of CBFMs. Working closely with grassroots groups in various regions, these NGOs began searching for various local CBFM forms developed by local people across the Indonesian Archipelago. During the process of identifying the existence of local forest resources management systems, those NGOs organized a series of meetings with other NGOs who had not attended the CBFM workshop. Fortunately, that collaboration generated a report detailing a variety of CBFM type systems in many different areas. The Indonesian Institute for Forest and Environment (RMI), a Bogor-based NGO that was actively involved in this process reported that a local system existed in upland West Java known as *kebun talun*, which can also be described as a complex, mixed garden consisting of a variety of tree species that have different uses, both timber and non-timber ones. This system, however, was disappearing partly due to the existence of the State Forestry Corporation and the National Parks in Java. RMI's endeavor to promote the existence of local community-based forest management in Java was in line with its efforts to convince environmental justice activists that they needed to begin thinking about the critical situation that existed regarding the forests in Java. Many activists had previously shared the common belief

that Java's forests, especially teak forests, were sustainably managed. The reality of this commonly held belief proved to be the opposite.

The "rediscovery" of the local forms of CBFM, combined with the spirit of searching for "alternative" systems to the hegemonic industrial scientific forestry, encouraged other NGOs to identify local CBFM forms in their own regions. The NGOs felt that the need to continue this "rediscovery" process would enable them to shape their strategic actions in promoting CBFM as an alternative approach. They also believed this would help them in their advocacy of CBFM issues so that the authorities would be forced to not only legally recognize the existence of local CBFM systems, but they would also have to legally protect the rights of customary communities and other local communities who managed the land. At the same time the active discussion process coordinated by the collaborative project on CBFM, whose primary aim was to share the results of identifying local concepts of forest management, enabled the environmental NGOs to develop a concept that, in 1997, became known as SHK.

The existence of many different forms of SHK at the local level was not acknowledged by national forestry policies during the New Order era (1966-1998), including the time that the NGOs coined the term. This situation still continues today. Existing policies still tend to neglect the ecological and cultural characteristics of forest resource management at local levels. Environmental NGOs who helped create the concept that has been termed SHK realized that they must work together in promoting it as an alternative approach to timber-based forestry in Indonesia. In addition, they realized that more work needs to be done in strengthening SHK practices at the grassroots level.

## ***Forming the Supporting Coalition and Expanding the “Rediscovery” of SHK***

To achieve these goals and after working on this collaborative project for two years (1995-1997), these NGOs came to an agreement to establish a national coalition called the Supporting Consortium for Community-Based Forest System (*Konsorsium Pendukung Sistem Hutan Kerakyatan*, KpSHK). The meeting to establish this Consortium took place in Bogor, West Java in 1997. Participants of the meeting also agreed that this Consortium should become a membership-based organization, opened to environmental justice NGOs and concerned individuals who worked on SHK and relevant issues. At the meeting, activists debated who and what would be considered part of SHK.

The first decision that was made concerned who could be viewed as having a SHK. This decision was in line with the debates among KpSHK activists in several meetings that took place during 1997 – 1998 about which group of communities they could consider SHK managers. The key question during the debates was whether KpSHK should focus only on communities that are categorized as *masyarakat adat*, which literary means *adat* (customary) community. In defining *masyarakat adat*, KpSHK activists referred to the definition produced by a meeting that took place in Toraja, South Sulawesi in 1993. The Toraja meeting was attended by activists and leaders of several *adat* communities. Participants of the Toraja meeting defined *masyarakat adat* as “a group that possesses a genealogy in a specific geographical area, as well as a distinct system of values, ideology, politics, economic, culture and territory” (Sangaji, 2005 p. 321). In addition, participants of the Toraja meeting agreed that *adat* community is regulated customary

laws.<sup>43</sup> The definition of *adat* community by the Toraja meeting was influenced in some way by internationally accepted interpretations of the English term “indigenous peoples,” including the one adopted by the International Labor Organization (ILO) in the Convention concerning Indigenous and Tribal Peoples in Independent Countries (also known as the ILO Convention No. 169 of 1989).<sup>44</sup> Activists who attended the 1993 meeting in Toraja, however, did not simply adopt this international understanding. They felt that the term *masyarakat adat* would serve as a strategic response against government’s negative terms such as *suku terasing* (marginalized/estranged tribe) and *masyarakat terbelakang* (backward community) applied for certain communities who continued to practice their resources-based traditions.<sup>45</sup> The majority of KpSHK activists agreed to focus on *adat* communities. Nevertheless, a few activists reminded the group that SHK was also adopted and developed by non-*adat* communities, the groups of people that the activists categorized in the late 1990s as “local communities.” These groups have been maintaining their traditions in managing natural resources but they are no longer regulated by customary laws. After several discussions, the KpSHK activists agreed that the main focus was to search for SHK forms developed by both *adat* communities and local communities.

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<sup>43</sup> This definition was further developed by activists and representatives of *adat* communities who participated in the first congress of *masyarakat adat* that took place in Jakarta in 1999. This definition has been continuously discussed among its proponents.

<sup>44</sup> Convention No.169, enacted in 1989, is a legally binding international instrument open to ratification, which deals specifically with the rights of indigenous and tribal peoples. The official website of the Convention states that “this Convention does not define who are indigenous and tribal peoples. It takes a practical approach and only provides criteria for describing the peoples it aims to protect. Self-identification is considered as a fundamental criterion for the identification of indigenous and tribal peoples.” <http://www.ilo.org/indigenous/Conventions/no169/lang--en/index.htm>

<sup>45</sup> Interview of one of participants of the Toraja meeting in May 2009.

The second issue addressed by KpSHK members was “the main principles of SHK” in order to classify SHK practices. They argued that these principles would serve as guidance for NGOs (both members and non-members of KpSHK), in searching for local SHK forms in their working areas. The two days of discussions in December 1998 resulted in a list of nine principles. The first of these addresses the main actors of SHK. They agreed that “the main actors of forest resources management are people, which include customary communities and non-customary local communities, who work collectively” (KpSHK 1998). The term “work collectively” represented an agreement that resulted from the debates to define whether the actor(s) of SHK from non-customary local communities who no longer have a communal system of forest resources management, but have developed a different form of system that allowed community members to work together, could be included in their efforts. The second principle addresses the managerial aspect of the SHK. The agreed text was “a managerial institution has been formed, applied and controlled directly by the people.” What the activists meant with the managerial institution was not a formal institution with written documents, but instead the existence of rules and organizational arrangements within a group of people who manage the land in a collective practice or in some other collaborative form. The third principle deals with the issues of boundary and mechanism. The activists decided that a local forest management system could be categorized as SHK if the group of people who managed forest resources had a certain area or territory and had a regulatory system (this could be customary law or other legal system) that is accepted by the community members and applied in the area.

The fourth principle stated that “interaction between people and their environment is a direct one where the ecosystem is an important part of the local livelihood.” Principle number five addressed the topic of knowledge and technology. Before agreeing on principle number

five, KpSHK activists debated whether they still could consider a local form of forest management developed by non-customary local communities based on knowledge and technology they learned from external institutions (such as from development projects or government institutions) such as SHK. Addressing the debates on this issue, the activists agreed on the following text for the fifth principle: “indigenous knowledge and local technology occupy critical positions and have become the foundation of the local regulations in forest resource management, meanwhile knowledge and technology from external sources can be used to support efforts in the development of SHK after the adjustment process with local situations and conditions has been completed.”

The remaining principles (principle numbers six, seven, eight and nine) address the economic and social aspects of SHK. Principle number six states that “the production scale of forest resources can only be limited by sustainability principles.” While the agreed text for principle number seven was “the economic system is mainly aimed at achieving justice and welfare at the community level.” Principle number eight, which said that “biodiversity becomes the foundation in domestication and utilization of natural resources, as well as in the local economic system.” Principle number nine specifically addresses social equality (including gender equality) in forest resource management.

In discussing these principles, KpSHK members were primarily thinking about the usage of the principles to guide KpSHK members and other NGOs in searching for the SHK forms in their working areas. The principles, however, were not used to make a “final decision” whether the local forms of community-based forest management could be categorized as SHK or not. There was no such process within KpSHK. KpSHK members and other NGOs had the flexibility to interpret the principles. The search of SHK forms by different NGOs in different

regions during the mid 1990s turned into a series of actions that gradually served as a political process of forming opposition during the late period of New Order Indonesia. In addition, this process opened up space for new forms of political dialogues. The political dialogues were not only between the communities and the government agencies and other external institutions, but also among different social groups within the community. In the following section, I examine how this process works in the Halimun ecosystem area in upland western Java.

### ***SHK Forms in the Halimun Ecosystem Area***

The Halimun ecosystem area is located in the western upland of the Island of Java, Indonesia. Administratively, this area extends into three districts of two different provinces of Banten and West Java. Forests in the Halimun ecosystem area are known to contain the last remaining mountain forest ecosystems on the island of Java. The Halimun area consists of three main types of ecosystems, lowland rain forests, sub-montane forests, and montane forests. The combination of the very hilly terrains, the mystified layers of fog that blanket these terrains, the dense foliage, and the intense mixture of different gradations of green and other colors produced by the different strata of trees create an impressive vision for the first time visitor to the area. Few visitors to this area can forget its beauty. Unfortunately, this area is the center of contentious actions.

Since 2003, almost the whole Halimun area has been declared a conservation area managed under the Halimun National Park by the central Indonesian government (through the Ministry of Forestry). Prior to 2003, parts of the Halimun forest were categorized as production forests managed by the State Forestry Corporation. These production forests have been

converted into conservation areas that enlarged the Halimun National Park in 2003. In addition, certain parts of the Halimun ecosystem area have also been officially allocated as state mining areas and state agricultural lands since 1970s. With the licenses issued by the central government, state-owned and private companies manage mining and agricultural areas. The agricultural areas have been managed as industrial agricultural estates planted with commercial commodities such as tea and rubber.

The Halimun forest lands are the homelands for two different customary communities, the Kanekes community (also known as Baduy community) and the Kasepuhan community, and other local communities. Each community has inhabited this area for many centuries<sup>46</sup>. These two customary communities have managed the forests of the Halimun ecosystem area based on a set of practices along with the application of customary laws. However, since the 1970s they have faced restrictions in applying their customary land use systems since the establishment of the “state forest zone” in the area. In the case of the Kasepuhan community, which consists of nine different sub-groups, their customary territories cover almost the entire Halimun Ecosystem area. The establishment of the Halimun National Park in 1993 and the enlargement of this park in 2003 have created more restrictions for the Kasepuhan community.

Besides the two customary communities already mentioned, the Halimun ecosystem area is also home for many different groups of local communities. Some groups migrated to the area

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<sup>46</sup> Studying oral history and legends, Kusnaka Adimihardja (1992) states that the history of Kasepuhan communities has some connections with the fall of the last Sundanese Hindu Kingdom namely Padjadjaran Kingdom, in which its center was in Pakuan Padjadjaran of Bogor Region of West Java, around the year of 1579. Referring to oral history on the attack of the Islamic Kingdom of Banten in 1579 that caused the fall of the Padjadjaran Kingdom written by Tubagus Roesjan in 1954 (Adimihardja 1992, 21-22) states that eight hundred members of the Padjadjaran Kingdom (mostly members of various hierarchies within special forces of the Kingdom) managed to escape. They were hiding in several remote areas in upland Banten and since then separately formed several social groups of Kasepuhan. Few others joined the Kanekes community, a social group whose territory located in upland Banten. The Kanekes community has been known for their efforts to maintain traditional practices of natural resources for the purpose of “maintaining the purity of the earth” (Sastrawijaja and Adimihardja 1994).

during the colonial era to work at agricultural estates managed by the colonial state company. Others came more recently to work at the mining area. Over the years, these local communities have established complex agro-forests, mixed trees gardens, dry rice fields (Sundanese: *huma*; Indonesian: *ladang*), and wet rice fields. The lands they managed for these different purposes, however, were claimed by the state as official forest lands. Prior to 2003, these local communities have been in conflict with the State Forestry Corporation (Perhutani) who managed the forest lands as production forests. When the Ministry of Forestry expanded the boundaries of the Halimun National Park in 2003, these local communities began to face a new dynamic of land conflicts. In trying to negotiate for political recognition from the government, local communities in certain locations have strategically used their forms of forest management, which were recognized as SHK forms by RMI using SHK principles defined by KpSHK, as a negotiation tool. This is the experience that Teh Eti, the female leader of the peasants group we met at the beginning of this chapter, and her fellow villagers have gone through. I will explore their stories in the following sections.

### ***Community-based forest systems of Kasepuhan Banten Kidul Community***

High-ranking government officials and other participants of the 2009 workshop in Bogor also met Aki Adi, a soft-spoken man in his mid-60s who is one of the elders of the Kasepuhan Banten Kidul, a customary community in the Halimun ecosystem area. Aki Adi lives in one of the Kasepuhan villages in the remote upland of the district of Sukabumi, West Java Province. It took approximately 8 hours of travel by ground transportation from his village to the venue of the 2009 workshop in Bogor. He used several different modes of transportation, which included

motorcycle taxi (*ojek*) and different kinds of public transportation. He arrived in Bogor one day before the meeting and stayed in a guest room in the office of RMI, a local environmental NGO that I helped to establish in 1992. RMI has been working with Aki Adi and his community since late 1998.

I met Aki Adi for the first time in his village in the mid 1999. Aki Adi belongs to a sub-group of the Kasepuhan Banten Kidul, but he has a special position as one of the members of an advisory council whose primary task is to facilitate the coordination among the nine sub-groups. He has the additional task as a representative of his community for external relations, including with relevant government institutions. He said that this task partly relates to his negotiation skills, which he thought resulted from his living experience outside Kasepuhan territory during 1970s and 1980s. I would also say that his educational background contributed to his strong social skills. Aki Adi had two years of college education in Bandung, the capital of the West Java Province, during the late 1970s. Unfortunately, he could not continue with his education because of economic reasons. He decided to return to his village with the intent and spirit of helping the leaders and elders of the Kasepuhan Banten Kidul in developing the community. I returned to his village several times and in 2002 I joined RMI in documenting how the Kasepuhan Banten Kidul community managed their forest resources. I came back to his village in the mid 2008 to attend the wedding ceremony of his oldest son and made another visit during 2009.

In the 2009 workshop in Bogor, Aki Adi explained in his speech that the Kasepuhan Banten Kidul implements a customary system of community-based forest management that is combined with a customary system of forest tenure. Many areas within the customary territories established by Kasepuhan Community are communal lands. Aki Adi explained that the areas

that are considered communal are customary protected forests (Sundanese: *leuwung tutupan*), customary reserved forests (Sundanese: *leuwung titipan*), and managed forests (Sundanese: *leuwung garapan*). The first area, which is the protected forests (*leuwung tutupan*) is designated as a protected area in order to maintain the ecological, socio-cultural and spiritual functions of the forest. The second area (*leuwung titipan*) is reserved forest lands that can be used during certain times (through specific access mechanisms) to meet the basic needs which include food, medicines and housing materials. The third area is categorized as forests that can be utilized (*leuwung garapan*). This area covers certain plots of forest land that can be “opened” by Kasepuhan Community members and converted into dry agricultural land or mixed gardens. Aki Adi emphasized that similar to the experience of Teh Eti and her community, the Kasepuhan Community has been considered as “forest encroachers and forest destroyers” by the government, particularly the Halimun National Park officials, despite the fact that their customary territories and their customary system of community-based forest management has existed many centuries before the establishment of this national park.

Nevertheless, above account of customary system of community-based forest resource management of the Kasepuhan Community does not provide detailed information about who makes decisions regarding the allocation of different types of forest land use, which groups within the Kasepuhan Community receive the different plots of lands, who works in the allocated lands, and who develops a set of complex knowledge of selective land clearing, seedlings, plantings, harvesting, post-harvesting within the Kasepuhan’s customary concept of community-based forest resources management.

Not long after the 2009 workshop, I participated in a series of activities organized by RMI that aimed at documenting women’s stories related to SHK and land tenure. This allowed

me to stay in one of the Kasepuhan villages which was customarily managed under the authority of Aki Adi's sub-group. This village is administratively located under the authority of the Lebak District. In this village I met Ibu Warih, who has no familial affiliation with the elites of the Kasepuhan. Ibu Warih introduced herself as part of the "*jelema leutik*" ("insignificant people)," which referred to a lower socio-economic class within the Kasepuhan community within her village. A family who is part of *jelema leutik* manages less than half a hectare of land. Since the harvest from this size of land is not sufficient to meet the family's basic needs, adult and adolescence members (both male and female) of a family of *jelema leutik* usually work as laborers in the lands belong to their neighbors or relatives.

I learned from Ibu Warih that the SHK forms of Kasepuhan is operated within the customary land tenure use in which certain access and control arrangement is managed by customary leaders, who are mostly male. Customary traditions in the Kasepuhan Community allow Kasepuhan women to have inheritance rights over land and other properties such as houses and animals. However, their male counterparts usually have more access to land, because many families believe that men need more land to support their traditional role as the head of household. This practice seems to relate to certain ways in interpreting Islamic law. Almost all members of the Kasepuhan community in Ibu Warih's village are Moslem who still practice the Sundanese traditional beliefs known as *Sunda Wiwitan*. Meanwhile, the application of social hierarchies, which seems to be the legacy of their ancestors who were members of the special forces of the Hindu Kingdom of Padjadaran, further affects the arrangement of access rights to the land. Men of families with higher social status, such as families of customary leaders or those who have conjugal or close connections with these families, have better access to lands represented by more land plots and bigger areas.

Ibu Warih is a middle-aged woman who has been married three times. She has access to five small plots of land in *leuwung garapan* areas, some of them are through her marital relations. Two of these plots of land are considered “her lands.” She inherited one from her parents while another was the result of her own hard work after she ended her second marriage. She worked hard as a laborer in her relatives’ and neighbors’ lands and she was able to “purchase” this plot of land from her neighbor, by paying to get access to use it. In other words, she paid the previous access rights holder to transfer the access rights to this piece of land to her. By inheriting one plot of land from her parents and “purchasing” another plot she could call them “her lands.” However, this does not mean that she holds the “ownership” to these lands. Ibu Warih is fully aware that these lands are actually controlled by one of the male customary leaders in her village. This relates to the customary understanding that all lands located within the customary boundaries of Kasepuhan are customary lands. One male customary leader makes the final decision regarding the land use plan within the customary territory of Kasepuhan in each village. Following custom, this male leader allowed members of the Kasepuhan community in his village to use the lands for productive purposes. In other words, the access rights to one plot of land could be in the hands of the “tiller” while the control rights to this land would be in the hands of this customary leader. He also allowed the transfer of access rights among community members. In the case of the lands Ibu Warih manages, this customary leader allowed Ibu Warih’s parents and Ibu Warih’s neighbor to transfer the access to use his lands to Ibu Warih through an inheritance process and monetary transactions, as long as he always receives a certain portion (around one tenth) of the harvest from these lands. So, the practice of payment for access is continuous. This means that the payment for a plot of land from the previous “land holder” to the next one does not correlate with the transfer of ownership of the land. Instead, the

payment aims to secure the access rights of the land. At the same time, although this customary leader controls the lands he does not hold legal title to the lands as they are considered by the government as state lands. Regardless of these complexities, Ibu Warih manages “her lands” through dry agricultural methods. She mainly cultivates local varieties of dry paddy (Sundanese: *pare ageung*) and other crops to meet the subsistence needs of her family.

The third and fourth plots of land Ibu Warih manages are considered “her husband’s lands.” Her third husband inherited access to the use of these lands from his parents. The fifth plot she manages is conjugal (marital) land, as she and her third husband “purchased” the access to use this land. Similar to the first and second lands Ibu Warih manages, the access to use all of these three plots of land are controlled by the male customary leaders in their village, therefore she and her husband have to share with him certain portions of the harvest from these lands. Ibu Warih mentioned that this system is a customary mechanism to arrange utilization of *leuweung garapan* area so that there will be no overlapping claim over plots of land in the area.

This mechanism, however, has been disturbed because the government claims all the lands within the customary territory of the Kasepuhan community. Prior to 2003, the lands Ibu Warih managed were claimed as state production forest lands managed by Perhutani. Ibu Warih experienced hard times, especially during the 1980s, when she confronted state forest guards while working in her lands, her husband’s lands, and her conjugal land. These state forest guards threatened to put her in jail because she was considered an encroacher on state forest lands. Ibu Warih recalled one of her bad experiences with Perhutani that happened in the late 1980s, where she managed to escape from the threat by sharing certain portions of the harvest from these lands with one of the guards who lived in a nearby village. Since the lands Ibu Warih manages are barely enough to meet the basic needs of her family, sharing her harvest as a way to maintain

access to use her lands has created problems for Ibu Warih and her family. They have adopted various ways of survival, including marrying off their daughters at a relatively young age and sending other daughters to big cities to work as domestic workers.

The enlargement of the Halimun National Park area, through a decree signed by the Minister of Forestry in 2003, changed the status of all lands managed by the Kasepuhan People including those managed by Ibu Warih and her family. This further limits the usage of the lands for producing food. In addressing the situation where the boundaries of the Halimun National Park are overlapped with the customary territories of the Kasepuhan community, the National Park management developed several approaches including a conservation village model (*Model Desa Konservasi/MKK*). This model allows members of the Kasepuhan community to manage forest lands through certain arrangements and agreements with the National Park. Nevertheless, the Kasepuhan community views are that this model restricts the application of their SHK forms that are closely linked with their customary land use system.

Responding to the above situation, RMI organized a series of discussions among members of the Kasepuhan community aimed at collectively developing ideas about strategic actions that needed to be taken. Together with other organizations, including the Community and Ecological Based Society for Law Reform (HuMA), ICRAF, the Alliance of Indigenous People of the Archipelago (Aliansi Masyarakat Adat Nusantara/AMAN), and other NGOs, RMI has been facilitating the negotiations between the Kasepuhan community and the National Park and government agencies at national, provincial and district levels. The core issues of these negotiations are the recognition and protection of the rights of the Kasepuhan community through legal frameworks. In terms of working at the district level, this group decided to work with the district government of Lebak as well as the parliament of this district in order to lobby

these institutions to establish a district regulation to recognize and to protect the rights of the Kasepuhan community in managing their customary territory. Activists of this group thought that considering the Lebak district has enacted a regulation to recognize the existence of the Kanekes Community (also known as Baduy Community), the advocacy for the formulation of district regulations for the Kasepuhan community would receive a positive response from the government and the parliament of the Lebak district.

The progress of the negotiations, however, has been very slow. Advocacy for the Kasepuhan community received insufficient support. When I attended one of public workshops RMI organized with HuMA, which took place in the building of the District Parliament of Lebak in December 2007, I had a chance to observe the debates. In this workshop, one of RMI's activists asked why the Kasepuhan community could not receive similar legal support in the form of district regulations. Responding to this question, one male representative of the district government of Lebak stated that "the regulation for the Kanekes Community was considered very special and that the main reason behind its enactment was to *preserve* the traditional practices of the Kanekes community and to support the customary area of this community as a cultural preservation site (Indonesian: *cagar budaya*).” This government official added that “the Kanekes community is very special for the Lebak District because as a cultural preservation site their customary area has become one of popular tourist destinations that bring economic benefit for this district.” RMI's activist responded by stating that the Kasepuhan community should receive the same legal protection considering that the SHK forms of this community would bring economic benefit for the Lebak District through various ways including community-based ecotourism activities in the near future. The debates continued during this workshop and still continue in different venues that take place not only at the district level but also at the national

level. One of these venues was the 2009 workshop in Bogor, in which Aki Adi represented the Kasepuhan community.

Participation of representatives from non-elites (especially members of the so-called *jelema leutik*) and women of the Kasepuhan community in public meetings, however, is still limited. Since 2009 RMI has been gradually trying to facilitate the participation of Kasepuhan women, including Ibu Warih and other women who call themselves *jelema leutik* (“little people”), in public meetings outside their villages. This is not an easy task. Members of this social group are still hesitant to join the meetings. They shared a common statement which indicated that “the task to negotiate with the authority should be in the hands of the “customary officers” who are assigned by *Abah*, the top leader of the Kasepuhan community.

### ***Community-based forest systems of Malasari Village***

Malasari Village is located in the upland sub-district of Nanggung, Bogor District, West Java. From the city of Bogor, it takes approximately 4-5 hours to reach the center area of this village. This village has several hamlets that are located in more remote areas. It could take more than 2 hours to reach each of these remote hamlets. Productive lands in this village are mostly managed by women older than 20 years of age, since many adult men, young men, and younger women work outside the village. These women manage the productive lands in an integrated system that combine the management of agricultural and forest resources. This system consists of wet rice fields, dry agricultural lands, mixed fruit tree gardens, and mixed woods gardens. Scholars categorize the combination of the last three land uses into a system known as the *kebun-talun* or the *talun* system (Soemarwoto 1984, Christanty et al. 1986). They

consider this system a form of “traditional agroforestry” in West Java. Peasants of the Malasari Village, including Teh Eti, have applied this system and have actively developed it in response to various challenges and opportunities.

Teh Eti was born, grew up and still lives in one of the remote hamlets in the Malasari Village. She only finished elementary school and married at a relatively young age. She divorced her abusive husband and remarried a few years later. Her second husband is a free laborer who sometimes works in their neighbors’ lands. He also works as a driver of a motorcycle taxi (Indonesian: *ojek*). He occasionally joins a group of gold miners working in mining plots which this group purchased from some middle men. These plots are located on state mining lands managed by one of the state mining corporations, therefore they are considered illegal plots. Teh Eti is not happy with her husband’s involvement in these mining activities because he tends to use the money for leisure activities while the risks he faces as an “illegal miner” are very high. Some of their male neighbors had even died in the extremely dangerous mines.

Teh Eti manages three plots of land, each for a different purpose. The first plot is a 0.1 hectare (around 0.25 acre) of wet land, which she inherited from her parents, that is planted with rice (Indonesian: *sawah*). Following her parents example, Teh Eti cultivates varieties of rice that were introduced by the New Order administration in the 1970s. She never had the opportunity to cultivate the local varieties of rice (Sundanese: *pare ageung*) and only heard stories about the many different varieties of rice that had previously been available from her grandmother and other female elders of her village. She told me that only a few of her neighbors still cultivate these different varieties of *pare ageung* along with the new varieties. On the edges of this wet rice field she planted a variety of crops whose leaves she and her family eat fresh. Rice is the

staple food for Teh Eti's family. Unfortunately, this tiny plot of rice field cannot provide enough rice to support her families' needs. To meet these needs, she sharecrops the lands of her relatives where she receives 50 % of the harvest. In addition, she sometimes works in her neighbors' rice fields. She will usually earn two bundles of rice for each ten she cultivates. If she is in need of additional cash, she performs agricultural labor, such as weeding, where she earns approximately USD 1.00 per day.

The second plot of land Teh Eti manages is a very tiny plot less than half of 0.1 hectare of land she calls a dry agricultural land (*huma*). She inherited this tiny plot of land from her parents. She cultivates banana, cassava, and different cash crops. She uses most of the harvest from this dry agricultural land to cover the subsistence needs of her family. She sells one third of the banana and cassava harvested from this land to a middleman who lives in the same hamlet. Teh Eti explained to me that this tiny dry agricultural land, along with the surrounded plots managed by her relatives, was part of the Pine forest established by Perhutani (State Forestry Corporation). She added that prior to the arrival of Perhutani, the land was an old woodlot (*kebun kayu tua*) belonging to her great grandparents.

The third plot Teh Eti manages is 0.1 hectare of land she calls a mixed fruit trees garden. This land belongs to her husband, who inherited it from his parents. On this plot she cultivates several fruit trees in combination with a variety of cash crops, herbs, and medicinal plants. Among the fruit trees she has planted are Durian (*Durio zebethinus*), Jackfruit (*Artocarpus integra*), and Avocado (*Persea gratissima*). When I visited this mixed garden in mid 2009, the canopy of these three fruit trees had covered her whole plot of land. Standing next to the mature trees were several young trees of different ages. The floor of this garden was covered with different herbs.

The fourth plot of land she manages is 0.2 hectare (around 0.5 acre) of mixed wood garden (*kebun kayu*). She and her husband purchased this small plot of land from their neighbor with the money her husband earned from gold mining several years ago. On this plot of land, Teh Eti planted several wood species. These two species are locally known as Jengjeng (Indonesian: Jeungjing; Latin: *Paraserianthes falcataria*) and Kayu Afrika (also known as Manii; Latin: *Maenopsis eminii*). She decided to plant Jeungjing and Kayu Afrika because she learned from many of her neighbors about the economic value of these two woods. Jeungjing and Kayu Afrika have been very popular in the Malasari Village since the late 1980s. She explained to me that she would have no problem in selling the wood since the middle men would come and bring their trucks to transport it. Several small scale sawmills are situated in nearby lowland villages. Both woods are used as the raw materials for the local furniture industry as well as other local timber industries. Teh Eti explained to me that Jeungjing has been more popular because of its light yellow color, which looks almost white. She added that she uses the branches of both the Jeungjing and the Kayu Afrika as fuelwood. She sometimes earns money from the leaves of these two species of trees by selling them to fodder gatherers who usually sell it to the goat owners in her area.

As I mentioned earlier, the wet rice field and the mixed garden Teh Eti manages are inherited lands, while the wooded lot was recently purchased land. Despite the fact that she has lived on this land all her life and it has been passed down in her family for numerous generations, Teh Eti and her husband have neither legal title nor documentation for any of these lands. All of the plots of land Teh Eti manages are considered state forest lands. Prior to 2003, these lands were categorized as “state production forests” and managed under the authority of the

State Forestry Corporation (SFC). In facing this problem of not having legal title to her land, Teh Eti is not alone. Many of her fellow villagers face the same issue.

Perhutani only began its operations in her area in mid 1980. Historically speaking 1980 is relatively recent since Perhutani had been operating in the teak forests of Central Java and East Java since the colonial era. In the case of West Java Perhutani started its operations there in 1978. The administrative unit of Perhutani that controls the lands of the Malasari Village is the forest management unit (Kesatuan Pemangkuan Hutan/KPH) of the Bogor District, or as it is known; KPH Bogor. This management unit preferred to plant Sumatran Pines (*Pinus Mercusii*) in the Malasari area (Hanafi et al. 2004). In establishing the monoculture plots of Sumatran Pine, Perhutani used violent force to take over the productive lands that the Malasari peasants had managed long before the arrival of this company. Teh Eti recalled how she witnessed Perhutani officers clearing and burning both wet and dry rice fields as well as the mixed gardens of her parents in the late 1980s. Since she believed that the lands belonged to her parents, twenty years later she reclaimed those lands by turning them into various subsistence agricultural uses which she needs to support her family.

Ibu Ati, a middle aged woman who sometimes works with Teh Eti as an agricultural labor for their neighbors, explained to me that the field foresters (*mantri kehutanan*) of KPH Bogor allowed Malasari peasants to plant cash crops in certain plots. However, they requested that the peasants pay an informal tax by submitting a certain percentage (around 10 % - 25%) of their harvests to Perhutani and by planting Sumatran Pine and other wood species preferred by Perhutani in those plots. They also charged a similar informal tax to other plots of land the peasants had managed long before the arrival of Perhutani. The tension between the field officers of Perhutani and the villagers grew. It was not unusual to hear stories that included the

harassment faced by the female peasants from Perhutani field officers. Teh Eti and Ibu Ati shared similar stories with me that showed that the land conflict problems affected the food security of many families, triggered many male members to participate in dangerous and illegal gold mining activities, influenced many families to marry off their young daughters, and at the same time encouraged young girls who wanted to escape from this troubling situation to leave the village to become low wage domestic workers in the cities.

### ***Searching and Claiming Local Knowledge for Political Dialogues***

When RMI's activists searching for SHK forms visited the Malasari Village for the first time in 1996, which was followed by another visit in 1997 and many more intensive visits later, these activists found the application of local knowledge within contentious settings. In the first hamlet that RMI activists regularly visited during 1997, the long period of tension between Perhutani field officers and local villagers had reached its peak. In addition to these tensions, the peasants of this hamlet had another long series of conflicts with the company who managed state agricultural lands. The older male peasants of this hamlet indicated that the conflicts started in the early 1970s when this company, with the help of the local military force, grabbed their lands. The peasants fought back by organizing themselves and together with the village officials intensively negotiated with high government officials at the provincial level. Their struggle continued and began to take on a new form of strategies in the late 1990s that included collaborative actions they developed with RMI.

When RMI's activists started their work in this hamlet in 1997, which was initially aimed at documenting their SHK and "local knowledge", they gradually learned about the complex land

tenure conflicts faced by this hamlet and other hamlets within the boundaries of the Malasari Village. RMI's activists suggested that the Malasari peasants strengthen their practices in managing their talun system and strategically use the existence of this system to show the State Forestry Company, the agricultural estate company and other government institutions that they had the ability to manage the lands in sustainable ways. The Malasari peasants, especially those who had been involved in the land reclaiming process, formed an organization called the Mandalasari Group. This group agreed with RMI's suggestions, with one request: RMI would help them (together with another NGO specializing in providing legal support) in addressing land tenure conflicts in their area. Despite the fact that RMI had very limited experience in this arena and few resources, in 1998 its activist responded to the request from the Malasari peasants to help them in their land reclamation actions by facilitating the community organizing process. In performing those challenging tasks, RMI's activists (two female and one male) gradually learned to serve as Community Organizers (CO) and began recruiting several young people from the area as local COs. Teh Eti was one of these COs.

In facilitating the combined approach of strengthening the SHK forms and the land reclamation process, RMI's activists and the team of local COs suggested the application of participatory mapping. RMI's activists explained that participatory mapping would help the Malasari people to identify the existence of their land use in more detail. The community map produced from this process would also help them in developing a better management plan. The Mandalasari Group (as the leading peasants' group) and other groups, including an informal group of female peasants, agreed to try this approach. In creating this map, RMI worked closely with the National Network for Participatory Mapping (JKPP). RMI was one of the many environmental justice NGOs who participated in the establishment of JKPP, but the participatory

mapping activities in Malasari marked the very first experience for RMI in facilitating such an activity in the field. In addition to strengthening their knowledge and skills in community organizing for the purpose of the land reclaim, RMI began participating in a variety of trainings, meetings and discussions organized by the National Consortium for Agrarian Reform (*Konsorsium Pembaruan Agraria/KPA*).<sup>47</sup>

The intensive work on community organizing that RMI facilitated from 1998 to 2004 resulted in nine other nearby villages, in addition to the Malasari village, establishing community-based organizations by various groups. Female peasants from different villages formed their own organizations. In addition to working with the local communities in these ten villages, during the same time frame RMI also worked with the Kasepuhan Banten Kidul, a customary community which consists of nine different sub-communities. In facilitating community organizing activities in both areas of the customary communities and the local communities, RMI's activist organizers shared their experiences and knowledge about SHK among these community groups.

When the Ministry of Forestry decided to enlarge the Halimun National Park by converting the state production forests previously managed by the State Forestry Corporation into a conservation area in 2003, the community groups in the Halimun Ecosystem Area responded with a variety of actions. A female peasants' group, led by Teh Eti, quickly facilitated a series of discussions with different social groups at the village level to formulate strategic actions. The communities of Teh Eti's hamlet decided to develop a comprehensive community-based management plan they called the "Hamlet with Conservation Purpose" (*Kampung Dengan*

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<sup>47</sup> RMI and KPA worked closely together in 1999-2001 in a program called Women Resources Access Program (WRAP), which was part of a transnational program facilitated by the Land Coalition (previously the Popular Coalition to Eradicate Hunger and Poverty).

*Tujuan Konservasi/KDTK*). Teh Eti explained to me that the development of KDTK was primarily aimed at supporting the negotiations with relevant government institutions with the goal of getting these institutions recognition and protection for the village's customary and local forms of community-based forest management. In establishing this plan, Teh Eti and her fellow villagers used the map which had resulted from the participatory mapping activities they had previously done and strategically borrowed the SHK forms of the Kasepuhan communities. The detailed land use plan of the KDTK combined their knowledge on the kebun-talun system with the customary zonation system of the Kasepuhan communities as well as with the formal zonation system commonly adopted by the Indonesian National Park. The land use plan of KDTK has three zones. The first category is the nucleus/core zone (*zona inti*), which covered the hamlet's forests that was usually viewed as sacred area in the past. This zone is mostly aimed to protect the springs. The second one is the supporting zone (*zona penyangga*). This zone covers the areas where the *kebun-talun* system is applied. This zone mostly covers the areas where the mixed fruit trees garden and the wood garden are located. The third category is the utilization zone (*zona pemanfaatan*), which covers the areas where the peasants have managed as wet rice fields and dry agricultural lands. This zone also includes the housing area and the homegarden (*pekarangan*).

At the local level, KDTK opened internal dialogues within community members regarding the best way to adapt in order to sustain the natural resources of their village. At the same time, KDTK also served as a media for developing political negotiations with external institutions, including government agencies, state-owned corporations, and the private sector. KDTK received informal support from the reform-minded officials at the district level during the mid 2000. Until today, KDTK has not gained formal recognition from the Halimun National

Park. The management office of this park is still trying to convince the people of Teh Eti's hamlet to join the government sponsored program known as the Conservation Village Model (*Model Desa Konservasi/MDK*). Since Teh Eti and her fellow villagers prefer to have their KDTK recognized and legally protected, their dialogues and negotiations with the National Park and other relevant government agencies continue.

### ***Concluding Remarks***

A vibrant series of explorations of various models of SHK was initiated and developed by environmental non-governmental organizations (NGOs). Other organizations such as international funding agencies and international research organizations as well as a limited number of scholars of national academic institutions also actively participated in the process. Through a combination of field explorations and desk studies supported by certain funding agencies, activists "rediscovered" a variety of successful local models of community-based forest management in many different areas within Indonesia. Activists' observation from their work at the grassroots level, along with relevant scientific and popular articles written by social scientists, served as important references for this process. This process, combined with the spirit of searching for "alternative" systems to the hegemonic scientific forestry, encouraged NGOs across Indonesia to identify local forms of community-based forest management within their regions.

As I have shown in this chapter, the process to search for these alternative models of forest management in New Order Indonesia formed an arena for opening a political dialogue and at the same time formed opposition to the authoritarian regime. This process also gave

opportunities to different groups, who participated in it, to continue developing collaborative work in the Post-New Order era. The work done by all of these groups has not adequately changed government policy or its attitudes, but it has created the atmosphere needed to continue until genuine change can be made. KpSHK activists later played an important role in building a series of collaborative work with academic forestry scholars and reform-minded government officials to further advance the formation of justice-oriented community forestry. This is the topic that I will examine in the next chapter (chapter six).

## Chapter 6

### Academic Forestry Scholars and Community Forestry (*Kehutanan Masyarakat*)

#### *Introduction*

When I entered the waiting room of the senior academic forestry scholar of Bogor Agricultural University (IPB) for an interview in mid 2009, I observed that the room had two posters containing important messages related to community-based forest management. Although the posters closely related to the work of the scholar I was going to interview, the messages on the posters represented what I felt was the changed environment at IPB's forestry school. In particular, I was comparing this situation with my own personal experience of many years before, when the concept of community-based forest management was still seen as both a subversive idea and a "non-scientific" one.

The first poster had a landscape of a dipterocarp forest and an axe. The message on the poster posed a satirical question: "Would it be possible that an axe could annually destroy 1.2 million hectares of forest? (Indonesian: "*Mungkinkah alat ini mampu merusak hutan seluas 1,2 juta ha pertahun?*"). The axe seems to represent the way local communities utilize forest resources. The choice of an axe, however, could be considered a hyperbole since many local communities already used chainsaw at its time. But this hyperbolic picture supports the satirical question posted in the poster.

The second poster contained a picture of a woman carrying a rattan basket on her back that is full of bamboo shoots. The woman belonged to one of the Dayak tribes on the Island of

Kalimantan (Indonesian Borneo). Behind the woman were trees. The poster had the following message: “Trees and lands are our mothers and fathers, from them we live, grow, and develop. We are not forest destroyer because forests and flowing rivers are our breath (Indonesian: *“Pohon dan tanah adalah ibu dan ayah kami, dari merekalah kami hidup, tumbuh dan berkembang. Kami bukan perusak hutan karena hutan dan sungai yang mengalir adalah nafas kami”*). Although this poster pictured a woman in it, the message does not reflect specific problems faced by female forest dwellers. Some environmental organizations, including KpSHK, choose a poster with a woman. However, the woman is not seen as an individual or as a representative of a collective group of women that have different problems, needs, opinions as well as voices related to community forestry.

I remembered that both posters were produced by KpSHK, the national consortium of NGOs who in the late 1990s, challenged the government position that “forest dwellers/forest villagers are forest destroyers”.<sup>48</sup> At the same time I realized that any poster with that strong of a “political” message, such as the ones in the two posters from KpSHK, would never be seen on any walls at IPB Forestry School during my undergraduate years in the late 1980s to the early 1990s. The message would have been considered too subversive. During that time frame, I also personally witnessed how community forestry management professors and their subjects were relegated a relatively “marginal” position within the academic setting.

During the New Order period (1966-1998), most academic forestry scholars developed forestry pedagogy and research projects that were generally in line with the development of industrial forestry. I examined this process in chapter three. However, the late period of the New Order era is marked with the emergence of discussions of the system of community

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<sup>48</sup> I explored in great detail the story of KpSHK and the “rediscovery” process of local models of community based forest management in chapter five

forestry. This discourse refers to the concept that local communities should have more input and control regarding the use of their forest and its resources. Moreover, it also denotes to the alternative idea against the paradigm of state-control over the forest lands and the management of forest resources. As I explored in chapter five, discussions on this topic were mostly initiated by non-governmental organizations (NGOs), who have been promoting community based forestry as an alternative approach to industrial based forestry (see also Afiff 2004, Hafild 2005). Gradually, a few members of the academic forestry community began to participate in the process. Because this small number of scholars departed from the dominant industrial based scientific forestry attitudes and produced alternative ideas that would strive for social justice, particularly for forest villagers, I call them “progressive” scholars.

Collaborations between progressive academic forestry scholars and activists during the late New Order period enabled the creation of alternative forestry ideas, which in turn challenged the hegemony of industrial based scientific forestry. Since most of progressive scholars had previously been involved in various research projects sponsored either by the ministry of forestry, state forestry companies, or timber industries, it is interesting to explore how they navigated their knowledge and political positions within these institutions while generating these alternative forestry ideas.

This chapter explores the formation of the concept of community forestry (*kehutanan masyarakat*) in Indonesia by focusing on how progressive academic forestry scholars have contributed to the process through collaborations with social movements. In observing how academic forestry scholars contributed to the development of community forestry ideas, this chapter applies the intersection of Foucauldian approaches to power/knowledge, the ethnographic approaches to scientific practice, actors and networks associated with Bruno Latour along with

other science studies scholars. I adopted an approach Latour entitles “science in the making” by entering the realm of academic forestry scholars, observing their conversations and relations with their colleagues, and exploring the questions they asked (Latour 1987). In particular, I investigate how networks and moments of social possibilities with the voicing of politically controversial ideas allowed the development of community forestry.

I start this chapter by exploring empirical and specific accounts of how community forestry, as an alternative approach within the mainstream framework of timber-based forestry science, has developed since the late authoritarian era and how forestry scholars have contributed to this process. The section that follows this links these accounts to the interpretive and theoretical discussions on the connection between the notions of progressiveness, freedom and knowledge accumulation and dispersing. I examine how the notion of the academic freedom exercised by the progressive forestry scholars, which was in opposition to academic “unfreedom”, were shaped by the ways the authoritarian state conducted the political restrictions of members of the academic community. At the same time, the notion of freedom they apply represents a complexity and a heterogeneity of ideas and practices of freedom that relate to their position in the web of relationships.

### ***Higher Education, the State and Private Sector***

Indonesian academic scholars as a social group came into being during post-independence era, in particular during the development periods of higher education. The Sukarno administration placed higher education as a one of its top priorities. This included the reconstruction of the higher educational systems that had suffered during the Japanese

occupation. An institution, named *Balai Perguruan Tinggi Repoeblik Indonesia* (Center for Higher Learning of the Republic of Indonesia), was developed. It offered courses in medicine, law, and literature. When Dutch colonial forces returned to Indonesia and reoccupied Jakarta during 1948-1949, the Center moved to Yogyakarta along with the new Indonesian government. Its name was changed to *Balai Perguruan Tinggi Gajahmada* (Gajahmada Center for Higher Learning). On December 1949 this Center officially became the Universitas Negeri Gajahmada (Thomas 1973, Buchori and Malik 2003), it later became known as the Universitas Gadjah Mada (UGM).

Meanwhile, as the Dutch reoccupied Jakarta they reopened the higher educational institutions they had established during the colonial period and grouped them into the Universitas van Indonesie. The Universitas van Indonesie was composed of schools and faculties located in the following five cities: Jakarta (medicine, law, literature, and philosophy), Bogor (veterinary medicine and agriculture), Bandung (the sciences and engineering), Surabaya (medicine), and Makassar (economics) (Buchori and Malik, 2004). The Dutch recognized the sovereignty of the Federal Republic of Indonesia on December 27 1949. Entering the year 1950, the nationalistic spirit was at a high point. This encouraged the emergence of a strong desire for education. There were numerous changes within the higher education system. The schools outside Jakarta that used to be part of the Universitas van Indonesie became independent universities or institutes. These included Airlangga University in Surabaya in 1954, Hasanudin University in Makassar in 1956, Bandung Institute of Technology (Institut Teknologi Bandung/ITB) in 1959, and Bogor Agricultural University (Institut Pertanian Bogor/IPB) in 1963 (Buchori and Malik, 2004).

The first Indonesian Forestry Academy (*Akademi Kehutanan*) began in 1952. The students of this school were graduates from Middelbare Bosbouw/MBS (Forestry High School) who had ten years of working experience right after they graduated. One of the founders of this academy was Soesilo H. Prakoso, one of Indonesia's first native foresters. He was educated in one of the oldest Dutch Forestry Schools in Wageningen, the Netherlands during the late 1930s. Prakoso later participated in the nationalist movement and became a member of the foresters of 1945 cohort.

As part of Sukarno's non-alignment policy, Indonesia developed collaboration with both of the two superpowers of the 1950s (the West and the Eastern/Communist Bloc). One of the results of this collaboration included some funding to support young Indonesian scholars in pursuing graduate studies within Eastern bloc countries. The young academics who received this support went to the Eastern bloc countries, particularly the USSR and East Germany, to study. While Sukarno gradually developed close connections with the Republic of China and Russia the cold war tensions and domestic anti-communism in Indonesia began to intensify. The government of the United States and several American funding agencies offered financial support to Indonesian students. This was followed up by the development of affiliation programs between Indonesian universities and their American counterparts. Beginning in the late 1950s, the US government and American foundations, such as Ford and Rockefeller, provided funding for young Indonesian academics to study in the United States. With this funding support, some young Indonesian academics studied at Harvard, MIT, Berkeley, and Cornell for social sciences. Others went to the University of Kentucky to study natural science and technology (White 2006). During this period, at the domestic level, the US government began to declare an open "war" against communism that increased the fears of communist influence on

American institutions, including those that provided higher education (see Gough 2002 [1968], Gledhill 2000). This situation seemed to affect the selection criteria for the young Indonesian scholars who applied for graduate studies in the US. Pak Joko, a senior scholar of agrarian studies whom I interviewed in 2009 shared his stories on how he failed to get a scholarship to support his plan to pursue graduate study in the US. He believed that the main reason for his failure to get the scholarship was his active participation in a series of discussions organized by leftist organizations during 1950s.

Academic scholars of the 1950s and early 1960s split themselves into two broad factions, the nationalists and the communists. Together with the religion-oriented group they formed the so-called *Nasakom* (nationalism, religion, and communism). When President Sukarno seized all powers of state by dissolving the conflict-ridden constitutional assembly and parliament in 1959, in order to develop political education and reconstruction in Indonesia, he decided to mobilize certain groups to give him political support. Academic scholars were expected to render full “support without reservation” to him. Some academics refused this order because they had been trained to do independent and critical thinking, and wanted to continue to do so without political pressure dictating to them how they should think. As a result, they faced severe pressures from Sukarno’s regime. When Sukarno decided to establish a national development plan in 1960, he did not recruit one academic scholar to become a member of the national development council.

As the cold war tensions and domestic anti-communism in Indonesia began to intensify and peaked in 1965, support from the Eastern bloc countries stopped. Meanwhile, support from the United States was continued into the 1960s. This period was marked by the establishment of affiliation programs between American universities, with particular academic programs, and at the Indonesian universities that had similar programs. The University of California Berkeley set

up an affiliation with the School of Economy University of Indonesia, while the University of Wisconsin developed collaborations with the School of Economy University of Gadjah Mada/UGM, the University of Kentucky established a cooperative program with the Bandung Institute of Technology (ITB) and Bogor Agricultural University/IPB (Smith 1960). Under this collaboration framework, academic forestry scholars from IPB and UGM pursued graduate studies in the United States.

Not long after taking power in 1965-1966, the New Order regime instructed heads of universities to suspend all academic and administrative staffs linked to the PKI and its affiliated organizations. Many academic scholars of public universities in Java were expelled at the time (White, 2005). Some of them could return to these universities after undergoing intensive interrogations and harsh treatments from the military regime. One of academic scholar at IPB who survived from this period explained to me that all of these experiences influenced the work of scholars at IPB in the following years. They decided to be extremely careful in choosing their research subjects and tried to stay out from any activities they considered politically sensitive.

At the same period of time, Suharto administration began adopting W.W. Rostow's modernization theory, which in some way was promoted by a group of Indonesian economists from the Faculty of Economics of the University of Indonesia (FEUI) who completed graduate studies at the University of California at Berkeley at the end of 1950s and early 1960s.<sup>49</sup> Members of this group are Widjojo Nitisastro, Ali Wardhana, Johannes B. Sumarlin, Emil Salim, and Mohammad Sadli. In completing their graduate studies at UC Berkeley, they received scholarship from the Ford Foundation. This group commonly referred to as "the Berkeley

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<sup>49</sup> By 1965, forty seven FEUI graduates had been sent to the US; many of them to UC Berkeley and some to University of Chicago (Dye 1965, Appendix III in White 2005, 42).

Mafia,” was involved in establishing a set of national policies aimed at preparing Indonesia to achieve economic growth. These policies included the Basic Laws on Domestic and Foreign Investments that accompanied laws on the operation of extractive forestry (the Basic Forestry Law No. 5) and other extractive industries including mining (the Basic Mining Law No. 5). The 1967 Foreign Capital Investment Law allowed multinational corporations to extract timber from the forests in Indonesia’s outer islands (the islands outside Java island), granting them five year income tax deferments, which some companies were able to extend up to fifteen years (Dauvergne 1997). Similar deferments were given to domestic logging companies through the 1967 Domestic Investment Law.

The New Order regime viewed academic scholars as a group that should help the regime in formulating, implementing and evaluating the national development plan. This regime established a national development planning agency (Bappenas) and recruited academic scholars to help Bappenas. President Suharto appointed 15 scholars, mostly professors who were still active at their universities, to become members of his first cabinet. The total number of this first cabinet was 22. These academics, who were later called “technocrats,” worked with selected scholars of various subjects of development in preparing the first and second five-year plan, 1969-1973 and 1974-1978. Universities and other research institutions were “widely utilized to do survey and research to supply reliable data and systematic analysis.” (Soedjatmoko et al. 1994, 123).

During the New Order era, the private economic sector also made extensive use of academics, including forestry scholars. Increasing demand for these scholars to work in private business was in line with the inflow of foreign capital investments following the foreign investment law of 1967. In the forestry sector, as I discussed in chapter three, collaboration

between forestry scholars with forestry business was usually done in one of two forms. The first form was business collaborations where forestry business sub-contracted its scientific and or technical assessment work to academic institutions. In this collaboration, the academic institution usually forms a team of forestry scientists who represent several specializations within forestry science that are needed for the project. The second form was an informal collaboration between a private company and an individual scholar or scholars where the forestry business hired an individual scientist or a team of scientists as an independent consultant.

### **Academic Scholars and Social Movements in the New Order Era (1966-1998)**

Right after it took power in 1966, the New Order regime crushed all opposition. It destroyed the Indonesian Communist Party (PKI) and its affiliated organizations. At the same time it restrained all forms of mass organizations. Initially, the middle-class groups and many student activists supported the new regime. However, this situation changed when the New Order regime began trying to control the lifestyle of the entire population and by preventing the establishment of any form of independent organizations.<sup>50</sup> From 1970 until January 1972 students activists delivered protests through various ways, including writing critical articles in newspapers. The New Order regime suppressed the protests by arresting student leaders as well as newspaper editors. Considering this condition, other activists<sup>51</sup> decided to apply “a more moderate and less confrontational approach” by establishing NGOs focusing on development,

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<sup>50</sup> See Uhlin (1997) for detailed examination on authoritarian structures and actors

<sup>51</sup> Uhlin (1997) calls this group as “middle-class activists”

labor, women, and environmental issues (Uhlen, 1997). This strategy helped them avoiding more severe forms of repression and allowed them to survive.

The New Order's repressive actions could not stop the students movement. In 1974 a new generation of student activists, who were more radical, organized a series of demonstrations protesting government policies on development and the domination of Japanese capital in Indonesia. Detailed reports published by the Indonesian press about student demonstrations in Thailand, which contributed to an end of the Thai's military regime in October 1973, seemed to inspire Indonesian student activists (Hill, 1990). The New Order regime immediately jailed student leaders who led the 1974 protests. This action may have slowed the students' movement, but it did not stop it, because in 1977 and 1978 they organized another series of protests against development policies and militarism. The 1978 students' protests led the New Order regime to begin "de-politicizing" higher education institutions through a doctrine of social order titled "Normalization of Campus Life" (*Normalisasi Kehidupan Kampus – NKK*). Through the NKK policy the New Order regime stressed that higher education institutions were part of the government bureaucracy and they restricted the political roles of students and faculty members (Nugroho 2005, Laksono 2005). Student activists responded to this political restriction by forming "study groups" where they explored radical ideas that included dependency theory, Marxism, feminism, radical Islam and liberation theology (Aspinall, 1993). Gradually, in the late 1980s these activists formed social justice oriented NGOs that tried to rebuild the connections with workers and peasants. Connections with these two groups were restrained by the New Order regime because the regime associated them with the PKI (the Indonesian Communist Party).

Women's activists also tried to rebuild women movement, which was also destroyed by the regime. The New Order regime associated the largest women's organization in 1960s namely GERWANI (from Gerakan Wanita Indonesia, Indonesian Women's Movement) with the PKI. The Indonesian Army alleged that GERWANI members had helped to kill the generals, and had danced naked, castrated the men, and engaged in other similar depravity. Most contemporary historians agree these allegations were false. Thousands of Gerwani members were raped or killed as a part of the massacres of members of PKI and those who were associated with PKI and communism (Wieringa 1995). Prior to the attempts of the 1980s women's activists in rebuilding women's movement, women's issues re-entered public domain through studies and publications the field of family planning and population control.<sup>52</sup>

Until the late of 1980s, Indonesian academic scholars rarely participated in social movements. There were a limited number of academic scholars serving as advisory members for non-governmental organizations when the New Order regime allowed these organizations to emerge in the late 1980s. Nevertheless, they had almost no visible collective role in any of the various forms of social movements during this period. This "non-involvement" attitude on the part of academic scholars probably related to the massacres of communists, or those who were suspected of communist sympathies, carried out by the New Order regime. In addition to this, many academic scholars were civil servants who were positioned by the New Order regime as a group that should help the regime in formulating, implementing and evaluating the national development plan. As I mentioned previously, in the late 1960s President Suharto appointed 15 professors to become members of his first ministerial cabinet and recruited academic scholars to

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<sup>52</sup> In 1975, the Indonesian social science journal *Prisma* published a collection of relevant article under the theme "Women and New Horizon" (*Wanita dan Cakrawala Baru*)

help the national development planning agency (Bappenas). In 1978, through the NKK policy the New Order regime officially restricted the political roles of academic scholars and stressed that higher education institutions were part of the government bureaucracy (Nugroho 2005, Laksono 2005).

After a few years of living under the NKK policy, in the late 1980s, academic scholars began to participate in various programs organized by a small number of non-governmental organizations. Among these organizations were women's organizations, which were established by women's activists with backgrounds in social science. Gradually these organizations invited female academic scholars of social science to get involved. This collaboration contributed to the development of women's studies and its inclusion as one of the graduate programs offered by public universities. In the case of the women's studies program at the University of Indonesia (UI), since its opening in 1989 until mid 2011 this program, which was renamed the Gender Studies Center, has produced 168 graduates. This number may seem low, but the multiplier effect has been considered great since many of its graduates have been so active in academia, politics, the women's movement, and journalism (Suryakusuma 2011). Due to political restriction by the New Order period these programs were considered as sites of non-radical women's studies (White, 2005). Nevertheless, since the late 1980s one of the pioneers of women's studies at UI namely Professor Saporinah Sadli<sup>53</sup> has been known as a progressive scholar and an activist that has been involved in women's movement and has supported the development of programs run by social justice oriented women's organizations that adopted

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<sup>53</sup> Her husband, Mohammad Sadli (1922-2008) was an economist and in 1960s he became a member of the so-called "Berkeley Mafia," a group of economists who earned doctoral degrees from UC Berkeley. He served as a minister and economic advisor for Suharto's regime until 1978. After his retirement, he was one of the first senior figures in Indonesia to become openly critical of the Soeharto regime (Ikhsan et al. 2001).

critical approach and feminist perspective. Between 1996 and 2001 she became a member and subsequently vice chair of the National Commission on Human Rights (*Komnas HAM*), although she later resigned due to a disagreement on basic principles (Suryakusuma, 2011). In 1998, right after the fall of Suharto's regime, she played an important role in the establishment of the National Commission on the Elimination of Discrimination against Women (*Komnas Perempuan*).

During 1980s, the development of women's studies at Bogor Agricultural University (Institut Pertanian Bogor/IPB) was mostly in line with agricultural studies. It was also influenced by the contribution of the late Pudjiwati Sajogyo, one of very few IPB's professors in rural sociology who focused on women's issues. She served as the principal investigator for the first systematic study of women's rural economic activity and decision making, supported by the FAO and carried out in 1977-1979 (Sajogyo 1980). During 1981-1986, the Ford Foundation provided support for research on rural women outside Java and for the establishment of IPB's women's studies program under the field of rural sociology at IPB (White 2005, 129).<sup>54</sup> Pudjiwati Sajogyo is a definitely a pioneer in women and gender studies in agriculture and rural communities. This was in line with the fact that during the late 1970s and the 1980s, a limited number of scholars of women's studies focused their work on urban middle-class women (Scott 2011). The focus of Pudjiwati Sajogyo and her team, however, was mostly on academic research and education. The link between their works with social movements was relatively limited at the time.

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<sup>54</sup> During the first year of the project, Dr. Ann Dunham, Barack Obama's mother, who worked at the Ford Foundation's Indonesia Office as a project specialist worked closely with Dr. Pudjiwati Sajogyo in this project (Scott 2011).

During the late 1980s, another group of university graduates, with backgrounds in natural science, founded environmental non-governmental organizations (NGOs). One of the organizations was named the Indonesian Green Foundation (*Yayasan Indonesia Hijau/YIH*). YIH was established in 1978 as a result of the World Wildlife Fund's (WWF) orangutan protection project in Gunung Leuser of Aceh Province. As one of the first environmental NGOs in Indonesia, YIH actively conducted environmental awareness-raising programs (Ko Numura, 2007). During 1987-1989 I served as one of the volunteers of YIH's environmental education program. As part of this program, YIH invited a few academic scholars as guest lectures for the topic of forest conservation. Beginning with environmental education programs, YIH and other NGOs gradually participated in environmental advocacy. In the early 1980s, ten Jakarta-based environmental, consumer, and human rights organizations established the Indonesian Environmental Forum (WALHI) (Mayer, 1996).

During 1984-1985, academic scholars of forestry, agriculture, and rural sociology from three universities in Java (Gadjah Mada University, Padjadjaran University, and Bogor Agricultural University/IPB) began to participate in the "diagnostic study of social forestry." This study was supported by the Ford Foundation and served as part of the preparation for the government-endorsed social forestry program on state forest land in Java. The main objectives of this study were: 1) to get information concerning policy and implementation of the management and the utilization of state forests and the participation of villagers in these activities; and 2) to discover forest management and forest utilization patterns in the respective research sites which may enable villagers to attain maximum benefits from the forest in a sustainable manner (Kartasubrata et al. 1995). During that time mainstream environmental NGOs in Indonesia, including WALHI, were not in full favor of social forestry. These

organizations did not want to endorse the state-sponsored initiative because they were concerned that it would be handled in such a way that the government, and not the citizens, would continue to benefit. Nevertheless, as I discussed in chapter three, the social forestry program had enabled the beginning of collaborations between academicians and “development NGO’s” which led to the conception of different ideas in later years, which I consider more progressive.

### ***Beginning of Collaborations between Scholars and Activists***

In the late 1980s, WALHI began to work with a small group of academic scholars. One of these scholars was George Aditjondro, an intellectual activist who was a lecturer at Satya Wacana University, a small private university in Salatiga, Central Java. Aditjondro was a student journalist during the late 1960s and was active at the Indonesian Student Journalist Association (IPMI). From 1971-1979 he became a journalist at Tempo news magazine. As a journalist he made friends with many environmental and agricultural activists, including those who established the “development NGOs.” After several years of working at Tempo, Aditjondro decided to dedicate himself to the empowerment of agricultural communities. In 1974, he was involved in the establishment of the Rural Guidance Secretariat with Bambang Ismawan, Prof. Sajogdjo (rural sociologist of IPB), and Abdullah Sarwani. In 1980 he was involved in the establishment of WALHI. During the 1980s he worked for the Societal Development Foundation of Irian Jaya (YPMD-Irja). In 1987 he received the Kalpataru environmental award, a prestigious award presented annually by President Soeharto, in recognition of his significant role in building environmental awareness (Amirrachman, 2007). In the late 1980s, Aditjondro served as one of the key resource persons for WALHI’s series of training sessions for the

university students' who were leaders and key members of nature lovers' groups. These training sessions, known as "Nature Conservation Training" (*Pendidikan Konservasi Alam/PKA*) were aimed at preparing the students to become investigators of environmental problems. In his lectures during the training sessions, Aditjondro introduced the application of socio-political analysis of environmental problems. Training participants, including myself who joined the 1988 PKA Training, learned from him how political economies at the international and national levels where the main factors in creating environmental problems. This learning process had encouraged many participants of the 1988 PKA Training to become student activists. Not long after this training, Aditjondro pursued graduate studies at Cornell University in the U.S. In 1993 he completed his doctoral dissertation on the impact of the Kedung Ombo dam in Central Java (Amirrachman 2007).

Responding to the problems of massive state-sponsored deforestation, Indonesian environmental activists began organizing intensive campaigns against state forest policies and the destructive practices of logging companies in the late of 1980s. After applying a variety of campaign methods, environmental activists who worked in WALHI's secretariat decided to conduct a comprehensive study to reveal the economic contributions of logging companies by tracing the so-called economic rent these companies were supposed to pay. In developing the study WALHI's activists closely worked with two economic scientists from the University of Indonesia (UI), Dr. Rizal Ramli and Dr. Mubariq Ahmad. The results of the study showed that the government of Indonesian received only 17 percent of the total rent the logging companies were paid. The remaining 83 percent went into the pockets of government officials at all levels (WALHI, 1993). A series of meetings to discuss the results of this study enabled the environmental activists to further develop their relationship with the economists of UI.

In addition to developing a collaborative framework with economists, the environmental activists began to work with anthropologists. One of these was Dr. Iwan Tjitradjaja, a professor of anthropology at the University of Indonesia (UI) Jakarta. In the 1990s he was the head of the Center for Research and Development of Ecological Anthropology (*Pusat Pengkajian dan Pengembangan Anthropologi Ekologi Universitas Indonesia/P3AE-UI*) at UI. Under his leadership, P3AE-UI developed research on community-based forest management models. He arranged a series of open forums where P3AE-UI researchers presented their research. Activists attended these events and had an opportunity to learn from and to interact with P3AE-UI researchers and other social science scholars. During this period of time, Dr. Tjitradjaja also served as the academic advisor for a number of Indonesian anthropology graduate students whose theses and dissertations were related to this topic. Some of his former students joined P3AE-UI as researchers.

Until the late 1990s, researchers of P3AE-UI were actively involved in social movements. Yando Zakaria, an independent anthropologist who joined a research project of P3AE-UI in the early 1990s, was also involved in WALHI's study on forest-related issues. As part of this study, which was funded by the Ford Foundation, Zakaria produced an extensive report entitled "*Hutan dan Kesejahteraan Masyarakat Lokal*" (Forest and Prosperity of Local Community) which was published by WALHI in 1994. This publication explores a variety of local community-based forms of forest resources management with specific case studies on how local knowledge and traditional wisdom in Bali continues to exist, how these two aspects are disappearing in the islands of Mentawai, and lessons learned from community-based environmental conservation at the nature reserve of Arfak Mountain, Manokwari, West Papua.

WALHI circulated this report widely among environmental organizations and other social-justice oriented NGOs.

This publication served as one of the most important references used by environmental activists in searching for ideas regarding alternative approaches to extractive forestry. The environmental activists then developed their own discourse on community-based forest management which emphasized the issues of land tenure and resource rights, and the recognition of the existence of many different local models of community-based forest management that are developed based on local knowledge. In the mid 1990s, to accommodate the diversity of these local models they coined the term “community-based forest system” (sistem hutan kerakyatan/SHK). Since networking had become an effective approach to coordinate the advocacy process, the NGOs working on SHK-related issues felt that it was the time to establish a special network on and for SHK. The establishment of other networks inspired the 1997 founding process of the Supporting Consortium of People’s based Forest System (*Konsortium Pendukung Sistem Hutan Kerakyatan/KpSHK*), which I introduced in chapter five, specifically aimed at promoting and advocating community-based forest management. I discussed in chapter five how KpSHK’s efforts to promote SHK were closely tied to the environmental movement and the broader social movements taking place in Indonesia at the time.

### ***Learning from Thailand’s Experiences***

In mid 1997, the Ford Foundation sponsored ten Indonesian men who participated in the international conference on community forestry in Thailand that was organized by a Bangkok-

based regional organization called the Center for People and Forest (RECOFTC).<sup>55</sup> At that time, the director of RECOFTC was Dr. Somsak Sukwong, a professor of forestry at the Kasetsart University in Thailand. Dr. Sukwong was one of the founders of RECOFTC. He was also known as a Thai academic forestry scholar who worked closely with justice-oriented environmental NGOs in Thailand.

The group of Indonesian participants at the 1997 RECOFTC conference consisted of KpSHK activists as well as academic forestry scholars and reform-minded forestry officials. All of these forestry officials had previously participated either in state-sponsored or Ford Foundation-sponsored social forestry projects. One of the KpSHK activists who participated in this conference explained to me that during the trip to Thailand this group had an opportunity to visit a community forestry project in northern Thailand and to meet Thai activists and progressive academic scholars. Members of the Indonesia group were impressed and inspired by the productive collaboration between Thai activists and progressive academic scholars in the Community Forest Management Project.

Collaboration between Thai activists and academic scholars was a dynamic process. According to the Thai academic scholar Chayan Vaddhanaphuti, an activist-intellectual who is the key individual of the Regional Center for Social Science and Sustainable Development at Chiang Mai University, Thai universities traditionally have the following four mandates: 1)teaching; 2)research; 3)providing services to the community; and 4)promoting and preserving local and national culture. Teaching has been the primary purpose of Thai universities. However, it was also closely related to and responded to the endeavors and needs of the Thai government for qualified civil service personnel. Throughout the peak period of Thailand's

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<sup>55</sup> Previously, it was known as Regional Community Forestry Training Center for Asia and the Pacific.

economic development in the 1970s and 1980s, their teaching mandate was also aimed at serving the business sector as well (Vaddanaphuti 1994).

In the 1970s some Thai universities launched “graduate volunteer programs,” which Vaddanaphuti refers to as being comparable to a domestic Peace Corps for Thailand. By joining the program, university graduates served as volunteers for development projects in rural areas. By doing so, these young people have firsthand experience in working with the villagers and learning their problems. Years later, some of these volunteers emerged as leaders of Thai NGOs. In the late 1980s, Thai professors began to collaborate with NGOs. Some of them started their collaboration by working as external evaluators of the programs run by these NGOs. This initial collaboration enabled the two parties to exchange knowledge and to build friendships. They gradually realized that they needed to strengthen their collaborations (Vaddanaphuti 1994).

Vaddanaphuti further states:

NGOs found they needed collaborative support from academics, who seemed more sympathetic than government officials. For their part, academics found that NGOs, because of their history of working directly with the people, were a bridge to local communities with whom academics could collaborate in sustainable development endeavors (Vaddanaphuti 1994, 12).

In a series of conversations with Celia Lowe (2004), Vaddanaphuti explains that collaborative work between activists and academics gave opportunities for academics to engage in dialogues with farmers, slum dwellers, and hill tribe people. This process enabled the Thai academics to critically examine the concept of community and to develop methods to study local history, local culture, and local knowledge of these groups.

A study on community forestry that Vaddhanaphuti participated in during 1990<sup>56</sup> was one of pioneering studies focused on the question of who had access to resources and who did not (Lowe, 2004, p. 87). This study apparently contributed to the emerging discussions between activists and academics at the Social Research Institute about community forestry in northern Thailand. These discussions led this group to develop a participatory action-research project known as the “Community Forest Management Project” (Vaddhanaphuti 1994). This project served as an active learning media not only for activists and academics but also for Thai villagers, reform-minded government officials, and other concerned citizens.

The collaborative notion of the aforementioned project inspired Indonesian activists and academic forestry scholars who visited the project sites in Chiang Mai, Thailand after they attended the RECOFTC conference on community forestry in May 1997.<sup>57</sup> The Ford Foundation Indonesia program provided financial support for their participation at the RECOFTC conference and their field trip to the Thai community forest management project sites in Chiang Mai. The idea of having a field trip to the Thai Community Forest Management Project’s site had previously been discussed among some Indonesian activists because they had heard about social justice-oriented initiatives on community forest management in Thailand and they wanted to learn directly from Thai activists.<sup>58</sup> At the same time, Jeffrey Campbell, who served as the Program Officer of the Ford Foundation Indonesia Program, had thought about an idea to

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<sup>56</sup> In this study, Vaddhanaphuti worked together with his three fellow academic scholars who are all faculty members at the Regional Center for Social Science and Sustainable Development at Chiang Mai University. All of them earned PhDs in social science from universities in the U.S. (Lowe 2004).

<sup>57</sup> Interview, Muayat A. Muhshi, former national coordinator of KpSHK who later worked for FKKM, February 1 2009

<sup>58</sup> Interview, Muayat A. Muhshi, former national coordinator of KpSHK who later worked for FKKM, February 1 2009

facilitate cross-learning among proponents of community forestry in Southeast Asia.<sup>59</sup> Their ideas emerged and enabled Indonesian proponents of community forestry to have first-hand learning regarding the collaborative notion of the Thai community forest management project. In particular, these all-male scholars and activists learned how Thai rural and urban-based environmental movements along with the Thai Royal Forestry Department (RFD) and university researchers facilitated the formulation of collaborative resource management systems in an upland watershed area of the Chiang Mai Province and how this collaborative work developed joint forces to place greater pressure on the political system to extend management rights and responsibilities to local communities in Thailand.

### ***Collaboration of Indonesian Activists and Academic Forestry Scholars***

Inspired by the active alliance of their Thai counterparts, the Indonesian activists and academic forestry scholars began to informally discuss an idea to form a network that could facilitate their collaborative work.<sup>60</sup> The activists who joined this 1997 Thai trip, several of whom I interviewed during my field work in 2008 – 2010, observed that a network where activists and academic scholars worked together would strengthen the NGOs' work in advocating community-based forest management as an alternative approach. These activists believed that the participation of Indonesian academic forestry scholars, who once had “insider” status not only because they were all civil servants but because they had participated in state-

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<sup>59</sup> Campbell, Jeffrey. Personal communication. May 25 2006

<sup>60</sup> Campbell, *ibid*

sponsored social forestry projects, would force the authorities to pay more attention to the concept of community-based forest management that they were proposing.

Not long after the Thailand trip, the group of activists and scholars organized a seminar in September 23 1997 in Yogyakarta. This seminar was aimed at sharing information, perspectives and experiences they had gained from the Thailand trip. The Forestry School of Gadjah Mada University, particularly its three scholars who joined the trip, hosted the seminar. The Ford Foundation provided funding support for the event. Twenty five participants from various social groups who had been involved in social forestry/ community forestry/ or CBFM issues attended the seminar. Among the twenty five participants, there were only two women: myself and a fellow female activist who worked for Bina Desa, a “development” NGO that had participated in the New Order social forestry program since the mid 1980s.

Besides learning about Thai’s experience on developing collaborative forest management systems from the Thailand trip, participants of the seminar actively discussed the term “community forestry.” Participants representing environmental NGOs, including KpSHK, strongly suggested the adoption of the term “community-based forest system” (*sistem hutan kerakyatan*/SHK) that they were intensively promoting. Representatives of the state forestry institutions preferred the term *perhutanan sosial* (social forestry) since the term the NGOs proposed would have the consequence of shifting the state control over forest land and resources. Not only that, as I discussed in chapter five the term “*sistem hutan kerakyatan*” the NGOs proposed has the word “*kerakyatan*,” referring to the notion of “people-based,” which was popularly used by communist organizations during the 1950s and the early 1960s. Responding to this debate, the academic forestry scholars reminded the participants that they needed to focus on the spirit of exploring an alternative concept that could bring direct benefit for forest villagers.

Some scholars suggested the bridging term: *kehutanan masyarakat* (community forestry). This term uses the word “*masyarakat*” (community) which sounds softer politically. The word “*kehutanan*” (forestry) represents the scientific regime that needed to be transformed toward what the academic forestry scholars call “pro-people science” (Indonesian: *ilmu pengetahuan yang berpihak pada masyarakat*). In discussing this topic, Professor Hasanu Simon stated during the meeting that the development of forestry science should allow the exploration of approaches on the management of forest resources that would bring justice and welfare for rural communities. By doing so, Professor Simon added, forestry science would become “pro-people science.”<sup>61</sup>

The debates on the concept of community forestry that took place during the seminar, however, did not address the question on who can be considered “community” or “people.” Activists and the proponents of SHK who attended the seminar, including myself, introduced the term “*masyarakat adat*” and suggested to include this group into the range of actors considered as part of “community” or “people.” Although participants from government agencies seemed uncomfortable with this suggestion, but there was no objection on it. Many participants of the seminar, including myself at the time, however, had not yet seen the need for this concept to include gender aspects. Couple months after this seminar, I began paying attention on gender issues and started to get involved in a series of activities organized by several women’s organizations. Few years later, during 1999-2002, I intensively facilitated a series of gender trainings organized by RMI in collaboration with several women’s organizations including Kapal Perempuan. Main aim of these trainings was to facilitate gender mainstreaming into community forestry programs, ranged from research to advocacy activities. Nevertheless, effort to facilitate

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<sup>61</sup> My recollection of the 1997 meeting, added with interview with Professor Simon in September 10 2010.

the integration of gender issues into community forestry concepts and programs was not an easy task. Among many different factors that contributed to this situation was a common understanding among activists and proponents of community forestry at the time that the priority must be given to the efforts in transforming the state-control paradigm into “people-centered” one in the management of forest resources in Indonesia. Based on my observations as a training facilitator for a series of gender trainings for the proponents of community forestry during 1999-2002, I learned a common statement delivered by many proponents of community forestry. In a gender training I facilitated in September 2000, one activist of community forestry stated that “once we could establish the people-centered paradigm we would think about gender issues.<sup>62</sup>” In other words, the focus of the proponents of community forestry during the late 1990s was to challenge state-control over the management of forest resources, which materialized in the industrial based scientific forestry.

During the 1997 seminar, I observed and felt the emergence of the enthusiasm of the academic forestry scholars from the three Indonesian forestry schools (two are located in Java and another is in East Kalimantan) to further mainstream the idea of community forestry as an alternative to the existing industrial based scientific forestry. The idea of founding a network of multi-stakeholders, which includes government agencies, forestry business, academic institutions, NGOs, and Community-based Organizations, regarding community forestry as a “mainstreaming vehicle” appeared as another main topic of this seminar. At the end of the conference, September 23 1997, the seminar participants agreed upon the establishment of the Communication Forum on Community Forestry (*Forum Komunikasi Kehutanan*

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<sup>62</sup> Ten years later, in one gender training that I facilitated in mid of April 2010 I heard a similar statement. During the discussion, one agrarian reform activist stated that “gender issues are important, but agrarian reform is more important.”

*Masyarakat/FKKM*). They elected two academic forestry scholars from Gadjah Mada University, Dr. Hasanu Simon as its first chairperson and Dr. San Afri Awang as secretary general, and it was agreed that their institution (School of Forestry of Gadjah Mada University) would host its headquarters.

The active participation of a small group of academic forestry scholars in FKKM marked a critical point for the development of “scientific ideas” of community forestry. These scholars produced a number of scholarly articles and books on the alternative approach the government of Indonesia should take in order to conserve the forests and at the same time directly benefit forest villagers (see Simon 2001, Awang 2003, 2004, Sardjono 2004).

### ***FKKM and the Collaborative Advocacy Process***

Eight months after the establishment of FKKM, President Soeharto resigned after 32 years in power. The post-Soeharto era is known as the “reform period.” During this period, FKKM became a vehicle for activists and academic forestry scholars to deliver critiques of the destructive forms of industrial scale timber-based extractive forestry. At the same time, FKKM served as a media to advocate community forestry as a new paradigm for forest resource management. Proceedings and ideas from FKKM’s first general assembly, after the Soeharto’s resignation, were published as “The Right Starting Points toward the New Era of Indonesian Forestry” (FKKM, 1998). The document delivered a vision regarding democratic and just forest management, which should be developed based on the ecosystem approach and should consider people as the main subject of forest management. The document also requested that the government of Post-Soeharto Indonesia shift its focus on timber management into a strategy that

emphasizes forest ecosystem management, pro-people, location specific, decentralized, and publicly accountable (FKKM, 1998).

FKKM continued its actions by organizing an advocacy of community forestry concepts. With support from the Ford Foundation, and later from the USAID-sponsored Natural Resources Management Project (NRM), FKKM began its advocacy work. In conducting this process, FKKM learned from the experiences of various groups who had conducted forest-related campaigns and advocacies. Active advocacy work of FKKM cannot be separated from the role of FKKM's secretary general, Dr. San Afri Awang, who was a student activist in the 1970s. His experience in student movements enabled him to facilitate FKKM in making strategic plans for its advocacy work. In addition, his familiarity with social movements helped FKKM to develop close connections with activists of various groups, including community groups (especially peasants' organizations and *masyarakat adat*) and NGOs who focused on environmental issues, agrarian reform, rights to forest resources, and forest-related legal reform.

If we compare the FKKM's efforts with the "save-the forest" campaigns organized by mainstream environmental NGOs during the late period of the New Order period, the strategies that FKKM adopted represent a different approach, particularly in terms of the application of scientific authority brought about by the participation of the academic forestry scholars. In its advocacy process, FKKM focused more on the use of the media, intensive meetings with high-level forestry officials, including the Minister of Forestry, and lobbying the parliament. In terms of media use, FKKM not only collaborated with the mainstream media (such as national newspapers and national TV stations) but also worked with certain forestry journals whose products are specifically circulated among bureaucratic and professional foresters. In lobbying

high-level forestry officials and the parliament, FKMM used technical scientific language that represented the scientific authority backing their position.

Because I was involved in this process, I still vividly remember many occasions where the academic forestry scholars of FKMM came to the offices of high-level forestry officials and to the meeting rooms in the parliament building. It was fascinating to see these politically powerful places turned into academic class rooms because these scholars usually delivered an academic analysis to illustrate their ideas. All of this process enabled FKMM to lead the advocacy process toward a new vision for forestry under the new government (Fay and Sirait 2003).

### ***Contesting Science and the Advocacy Process of the Revised Forestry Law***

The beginning of the “reform period” was marked by a series of debates regarding the three competing drafts to revise the 1967 Basic Forestry Law (BFL). The first draft, promoted by the Ministry of Forestry, focused on state control over forest lands and resources and the application of conventional ideas of scientific forestry. The second draft, promoted by the Indonesian Forestry Business Community, whose members were logging companies and timber-based industries, concentrated on providing more legal assurance for forestry businesses including ‘security’ over state forest lands allocated and licensed to forestry companies for logging and industrial timber plantation. This group emphasized the stringent role of the state in controlling state forest lands allocated as production forests, in particular securing the boundaries that have been confronted by local communities. The third draft, promoted by progressive

forestry scholars and activists, focused on the adoption of community forestry as the new paradigm of management of forest lands and resources.

Formulation of the third draft was led by FKMM during 1998-1999. Dr. Hasanu Simon and Dr. San Afri Awang actively organized FKMM meetings, and facilitated public lectures on relevant issues. Not long after the fall of the New Order regime in May 1998, these two scholars, on behalf of FKMM, actively “recruited” their fellow academic forestry scholars and legal scholars as well as activists, public interest lawyers, and community members to join the FKMM drafting team and to actively participate in a series of academic reviews of the 1967 BFL. This was undertaken in order to turn the concept of community forestry into law. The one-year process of reviews produced an academic draft of suggested revisions for the 1967 BFL. These two leading scholars also organized public debates and instituted a public consultation process to get feedback on the academic draft. After the drafting team of FKMM felt the draft was complete, they presented it to parliament. I personally was privileged to participate in this process. There is an old adage from a Chinese Proverb which says, “may you live in interesting times.” Some may feel that this saying is almost a curse, but from my own experience of “living through interesting times” during these debates and discourses in Indonesia I believe that I consider it closer to a blessing.

At the same time, the Ministry of Forestry developed a counter discourse using regime scholars to oppose community forestry. The Ministry of Forestry formed an “academic team” to formulate their own version of an academic draft with suggested revisions to the forestry law by inviting competing academic forestry scholars from the same institutions as the “pro-community forestry” scholars. These scholars are individuals who believed in state control over forest lands and resources. They focused on the conventional ideas of scientific forestry based on the notion

that “forestry is about trees.” Other species that occupied the forests such as wildlife, humans and other parts of the forest ecosystem such as soil and water, needed to be managed by the state in order to provide prosperity for the Indonesian people/citizens.

Meanwhile, the Association of Indonesian Forest Concession Holders known as APHI (*Asosiasi Pengusaha Hutan Indonesia*), one of the key players in the political arena of forest economy in Indonesia controlled by Indonesian timber tycoon Bob Hasan, invited another team of academic forestry scholars to work for them in preparing their own version of an academic draft that could facilitate the interests of forest concession holders and logging companies. The academic scholars who joined this team were the ones who had been working for the logging industries in the past. These scholars supported several of the ideas promoted by the scholars of the Ministry of Forestry’s academic team, particularly the idea regarding state-control over forest land and forest resources. However, they differed from them in terms of state control over logging practices and the timber industries.

The scholarly reviews of the 1967 BFL by these three separate academic teams created tensions within the discipline of forestry. The academic forestry scholars of the three camps produced academic papers and popular articles representing their different points of view, which were partly influenced by their political positions at the time. This picture clearly shows that forestry science is linked with a whole range of institutions, economic requirements and political issues of social regulation as Foucault argues (Foucault 1980). At the same time, forestry science also closely relates to the networks of the individual and collective roles of academic forestry scholars and their collaborators. This is in line with what Latour asserts in his concepts regarding the contributions of actors-networks in the building of knowledge (Latour 1993).

During 1998-1999 I had an opportunity to witness how forestry scholars of the three camps openly debated their political-scientific opinions. These debates were probably the first time any Indonesian academic scholar could publicly discuss such issues since the beginning of the New Order Regime. One of the debates took place in a public hearing facilitated by the Indonesian House of Representatives in July 1999. I had an opportunity to witness this public discourse. This event was not only attended by representatives of the state apparatuses and timber industries, but also included activists and community representatives, as well as forestry students from two forestry schools; Bogor Agricultural University (IPB) and Gadjah Mada University (UGM).

Unfortunately, the progressive academic forestry scholars who were trying to promote pro-community forestry did not receive political support. The final version of the Forestry Law established in August 1999 was the one that integrated the state's draft with the timber industries' (see *Down to Earth*, No. 42, August 1999). The progressive forestry scholars continued to deliver their concerns on many occasions. Yet, they gradually reduced their political actions. This reduction is understandable, given the fact that being involved in political interventions consumes an individual's time and energy. Nevertheless, they maintained their commitment to community based forestry by building and strengthening research centers that promoted community based forestry, mainstreaming this concept into the forestry pedagogy, and publishing more books and articles on the topic.

### ***Progressiveness, Academic Freedom and Knowledge Production***

Pro-gres-sive. adj. 1. Moving forward; advancing. 2. Proceeding in steps; continuing steadily by increments: progressive change. 3. Promoting or favoring progress toward better conditions or new policies, ideas, or methods: a progressive politician; progressive business leadership. Pro-gres-sive. noun. 1. A person who actively favors or strives for progress toward better conditions, as in society or government.

The American Heritage Dictionary

Having explored the accounts of how the progressive scholars contributed to the furthering of community based forestry knowledge, as well as how they are currently involved in political efforts at mainstreaming their concept, one may ask how progressiveness and academic freedom contributes to the knowledge building they facilitate.

The idea of “progressiveness” is not new for Indonesia. During the late colonial period, Dutch-educated natives began to view the world in a new way and to feel that they could change their world. They expressed this new consciousness in modern forms and language such as letters, newspapers, novels, songs, rallies, strikes, unions, parties, and ideologies. All of this enabled the spirit of the national awakening to blossom in colonial Indonesia. That popular movement was and still is called the *pergerakan* (movement). In this process “natives moved (*bergerak*) in their search for forms to express their new political consciousness, and put in motion (*menggerakan*) their thoughts and ideas” (Shiraishi 1990, xi). I would call their new political consciousness, thoughts and ideas “progressive.” Progressive natives whose ideas and actions inspired others include native doctors and medical students, as well as a group of feminist writers, journalists, and teachers. Indonesian author Pramoedya Ananta Toer put together stories of the key “progressive” natives during the nationalist movement in the Buru quartet he created (Toer 1991).

Nevertheless, there has been limited information on the participation of native students and academic scholars from higher educational institutions related to natural science, such as forestry and agrarian studies, about how progressive ideas and thoughts developed within these institutions. This may partially relate to the primary purpose of forestry schools in colonial Indonesia to produce professional manpower to support the colonial forest service as well as the state forestry company. The political discourse on state control over forest land and resources, combined with scientific discourse on controlling forest establishments through silviculture, seems to be “normalized” among Dutch-trained professional foresters during the late colonial period in the late nineteenth century.

Stories and journeys of the progressive forestry scholars in contemporary Indonesia should be seen not only as part of the social movements in the late authoritarian era, but should also be linked to the bigger picture of the socio-cultural picture of Indonesia. These scholars are part of social groups whom the New Order regime and its alliances (including timber industries) expected to participate in the New Order’s development projects. Interestingly, as part of the supposedly state-allied experts some of these very same scholars have chosen different paths by developing alternative concepts that are even contrary to government policies and ideas. These scholars, individually and collectively, hold self-consciousness and the subjective meaning of their actions as more important than any adverse consequences they may experience by disagreeing with their government. Their decision to become highly committed scholars can be viewed in terms of their capacity to establish an alternative identity.

According to Immanuel Kant, “the scholar speaking through his writings to the true public which is the world, like the clergyman making public use of his reason, enjoys an unlimited freedom to employ his own reason and to speak in his own person” (Kant 2002 [1784],

p. 138). In this conception, Kant views humans as essentially free. This is because human beings are rational; they have reasons for the actions they take. However, the Indonesian academic scholars experienced restrictions in voicing opinions that were critical of government held ideas during the New Order period. Therefore they were not free. In developing alternative/critical ideas and managing to promote them in some way, these scholars exercised their own freedom; in particular their academic freedom. Nicholas Rose' concept of freedom is helpful to understand this phenomenon (Rose 1999). Freedom in this context is understood in terms of the act of liberation from bondage, the condition of existence in liberty, the right of the individual to act in any desired way without restraint, and the power to do as one likes. In this context, freedom can be seen as a form of political resistance (Rose 1999, 84).

However, it is also essential to note that the academic freedom the Indonesian progressive academic scholars have been exercising since the late New Order era in the early 1990s is in line with a certain social setting which began during that period where non-state actors such as NGOs, funding agencies, and multilateral institutions (such as United Nations Food and Agriculture Organization/FAO) began to play significant roles. This social setting opened up "conditions of possibilities" that enabled the Indonesian progressive scholars to make their own choices on the nature of the scientific ideas they wanted to formulate and which actors they wanted to develop collaborations with as well as with whom to form alliances. Since that time, their sources of affiliation and funding have not been limited to the Ministry of Forestry, state forestry companies, or private timber industries. In this context, freedom is in line with what John Ransom refers to as "the actual set of choices that a determinate social setting provides – and cannot help but provide – for the participating actors" (Ransom 1997, 125). Ransom's notion of freedom is influenced by Foucault's conception. Foucault argues that we need to view

freedom as a relationship which consists of both “reciprocal incitation and struggle” (Foucault 1983 in Ransom 1997, p. 124). Adopting and extending Foucauldian’s conception of freedom, Nikolas Rose asserts that the problem of freedom now comes to be understood in terms of “the capacity of the autonomous individual to establish an identity through shaping a meaningful everyday life.” Here, freedom is seen as autonomy, as “the capacity to realize one’s desires, to fulfill one’s potential through one’s own endeavors, to determine the course of one’s own existence through acts of choice” (Rose 1999, 84).

In developing the community based forestry concept, the progressive academic forestry scholars seem to have a strong commitment which relates to social justice consciousness. Their action to develop community based forestry concepts are in line with grassroots articulations, is one of many different steps they have taken in exercising their freedom to fulfill their potential, to establish their existence, and to develop affiliations. This is in concert with what Nicolas Rose argues: “modern individuals are not merely ‘free to choose’, but obliged to be free, to understand and enact their lives in terms of choice. They must interpret their past and dream their future as outcomes of choices made or choices still to make” (Rose 1999, 87). The continual exercise of the freedom to be a progressive scholar can be taken as an example of an ability to negotiate one’s own freedom.

Yet, Rose reminds us that freedom of autonomy is not merely about ideas or concepts. Quoting political scientist Wendy Brown who argues that freedom is “a relational and contextual practice that takes shape in opposition to whatever is locally and ideologically conceived as unfreedom,” Rose asserts that freedom should also be understood as “a set of practices, devices, relations of self to self and self to others, of freedoms as always practical, technical, contested, involving relations of subordination and privilege” (Rose 1999 p. 94). For progressive academic

scholars, their academic freedom is a set of practices they perform relative to their previous political positions that were limited by the authoritarian regime. So, the notion of the academic freedom they exercised, which was in opposition to academic “unfreedom”, were shaped by the ways the authoritarian state conducted the political restrictions of members of the academic community. New political positions the progressive scholars adopted and the progressive scientific ideas they developed emerged as a response to their relationships with other progressive scholars, other progressive groups (such as activists, public interest lawyers), and with “unprogressive” groups (such as “pro-state” scholars and “pro-timber industries” scholars) as well.

Essential nature of freedom, especially political freedom, has historical root in Indonesia. The Indonesian term for this concept is *merdeka*. Referring to an old Javanese-English dictionary written by P.J. Zoetmulder and another source, Anthony Reid (1998) traces the term and found out that although the word came to the Indonesian archipelago from the Sanskrit *mahardika* (meaning eminent, wise, rich or illustrious), it evolved into a Malay word *mardeka* (meaning freeman, not being a slave) recorded in the Malay word-list collected by Frederick de Houtman in Aceh in 1600 (Reid 1998, 142-143). Reid further notes that in the late nineteenth century Europeans in the Archipelago “adopted the word *merdeka* (usually in the Dutch form *Mardijker*) to refer to the earliest Asian slaves who were freed after becoming Christian” (Reid 1998, 149). Around the turn of the twentieth century, during the era where Dutch colonial power became more inescapable, mostly for rural people in the Dutch East Indies, *merdeka* emerged a central concept for those who resented taxes, corvée laborers, registrations, and other forms of interventions by the colonial state. This concept was adopted by Javanese landless peasants who joined the Samin movement in rural areas around Blora of Central Java at the beginning of the

twentieth century (Reid 1998,151-152). Members of the Samin movement rejected paying taxes, refused to surrender to the colonial government, and considering themselves free (*merdeka*) (McVey 1965, 176).

At the same period of time, a small group of young aristocrats in Java who received Dutch education began to express their ideas of freedom, which include freedom from traditions and political freedom for their people. One of them is Kartini, a young Javanese princess who had only completed Dutch's elementary education but educated herself by extensively reading Dutch literature, newspapers and journals when her parents 'secluded'<sup>63</sup> her at home. During her short life (1879-1904), Kartini wrote letters, in Dutch and to Dutch people. Her letters provide a very clear description of colonial and feudal conditions in Java at the beginning of the 20th century. In particular, the letters she wrote to a penfriend Stella Zeehandelaar (an ordinary young Dutch woman who learned about through reading and from the perspective of 'progressive' circles) during 1899-1903. Kartini's letters to Stella reflect her emotional and intellectual opposition to certain traditions that limited the women of her class. Kartini's letters also represent a sense of national aspiration which includes a critique of colonialism (Kartini et al. 2005). This idea seemed to be part of discussion within a growing circle of the Javanese elites of her day.

During the first quarter of the twentieth century, the notion of freedom as both a personal and political goals within the term *merdeka* was further developed by young educated people in the Dutch East Indies. The Indonesian novelist Pramoedya Ananta Toer delivers both notions of freedom in the Buru quartet novels through the adventures of Minke, the Dutch-educated writer and journalist. Minke's model was Tirto Adhi Soerjo, the pioneer Javanese journalist and activist

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<sup>63</sup> This was a cultural tradition practiced by Javanese aristocrat parents at the time, which aimed to prepare their daughter before her marriage. Kartini's father was a regent of Jepara, Central Java. Although he had Dutch education, he strongly kept Javanese traditions

who established a commercial association in 1909. Using the Malay words, Tirta Adhi Soerjo proclaimed this organization as an association of *kaum mardika* (free people). His action was followed by the establishment of organizations and periodical publications (newspapers and magazines) that used the words *mardika* and *merdeka*.

From the late 1920s to the period of the declaration of Indonesia's independence in 1945, the political notion of freedom within the term *merdeka* became the key agenda of the nationalist movement. At the same time, the personal aspect of freedom (Indonesian: *bebas*) or 'free' in the sense of 'unfettered' was also developed, particularly by urban youth who joined the Indonesian revolution of 1945-1949. Reid refers to Anton Lucas who described different meanings of freedom among the hundreds of revolutionaries he interviewed by stating that "each person was seeking his own freedom in the exhilaration of looking for new personal liberty, which in turn formed a new consciousness" (Lucas 1991, 158 cited in Reid 1998, 156).

During the late period of the New Order era, the notion of "new consciousness" emerged and circulated among Indonesian academic forestry scholars through their relations with various actors. Each individual progressive scholar in this position may also materialize as a response to the internal dynamic within oneself. Several progressive scholars are "veterans" of student activists groups who always want to contribute to social change in Indonesia, while others may have political interests (such as wanting to be politically popular figures in order to have high positions in the Ministry of Forestry); meanwhile, some individuals may experience their own version of "enlightenment" where they realize that they can "exit from" their apolitical consciousness and the authority of the state apparatuses. In each context, an individual progressive academic forestry scholar applies a practice of freedom as "an exercise of the self on

the self by which one attempts to develop and transform oneself, and to attain to a certain mode of being” (Foucault 1997, p. 282).

Nevertheless, the “new consciousness” and the notion of progressiveness regarding their ideas on community forestry have certain limitations. The greatest limitation to the progressiveness is that local communities are mostly viewed as a homogeneous entity. As I narrated in the section on the formulation of community forestry concept during the 1997 seminar in Yogya, the lack of debates on who would be considered “local communities” as well as limited understanding on heterogeneity aspects of “community” and “people,” including gender aspects, contributed to the fact that certain aspects, including gender and other socio-cultural aspects at the community level, were not fully addressed during the formulation of community forestry concepts at the time. In addition, limited understanding on gender issues among proponents of community forestry and limited academic research on this topic conducted by Indonesian scholars contributed to the gender neutral notion of community forestry.

### ***Concluding Remarks***

The Indonesian progressive academic forestry scholars who are members of what Foucault calls “society of normalization” (Foucault, 1977) are also actors of an alternative oppositional activity. What they are normalizing is the possibility to have alternatives and to be oppositional. Their direct and localized relationship to scientific knowledge and institutions enable them to speak with authority and to negotiate their political positions. Their influential thought and ideologies, which came along with their participation in the community forestry movement, and their contributions to the formulation of community forestry concepts represent

the complex ways of exercising their freedom. The notion of freedom they apply is not singular; instead it represents a complexity and a heterogeneity of ideas and practices of freedom that relate to their position in the web of relationships (with their own being, their fellow progressive scholars, their fellow forestry scholars, their fellow forestry professionals and members of state apparatuses, forest villagers, funding agencies' officers, as well as other actors). As a result, various conceptions regarding community forestry they have formulated are not static, unmediated representations of community-managed forests; instead their scientific thoughts are always in active dialogues with other key actors in the realm of community forestry. The concepts of community forestry these progressive scholars have built reflect their interests as social actors.

As social actors, the Indonesian progressive scholars have strategically appropriated opportunities that are available both domestically (such as collaborative work with social movements) and transnationally, which includes funding support and intellectual networks. Producing concepts of community forestry represents what Celia Lowe calls “counterhegemonic forms of thought and action” and “the alternative political imaginations” (Lowe 2006) that planted the transformative seeds within the academic forestry and other institutions in Indonesia. Although their progressive ideas have certain limitations, particularly in terms of integrating gender aspects and heterogeneity notions within community forestry, they opened social possibilities for further advancement. This task has gradually been taken up by a younger generation of academic scholars, activists and other proponents of community forestry in contemporary Indonesia.

## Chapter 7

### **Conclusions: Networks and Moments of Social Possibility for Alternative Ideas**

This dissertation is a study, based in ethnographic and historical approaches, of the formation of “scientific forestry” as the dominant paradigm of forest management in Indonesia and “community forestry” as the alternative model, the cultural aspects of collaboration between social movements and forestry science, the adoption of gendered local knowledge promoted by and circulated within social movements into academic forestry science. The research and writing process of the dissertation also employ a feminist methodology that ties knowledge together with standpoint and subjectivity. I substitute objectivity by an involvement, therefore this dissertation is partial, situated, and negotiated, as well as and engaged as it is of an active conversation.

In studying the formation of above narratives of forest management in Indonesia, I trace the genealogies of ideas and actions, with close attentions to political interventions, cultural forces, social tensions as well as transnational and local interactions and collaborations. Therefore, I mostly examine the vibrant travels and transformations of “scientific forestry” and “community forestry” as well as other interconnected ideas and actions such as “social forestry,” “community-based forest management,” and “community-based forest system.” In particular, I investigate how the formation these thoughts and actions in Indonesia provided social possibilities and opened up conditions of diverse political possibilities that served as ‘seeds of change’ in later years. In other words, I emphasize my analysis on networks and moments of social and political possibilities for “alternative” ideas.

In this dissertation I have narrated stories, observations, and examinations showing that the development process of scientific forestry in Indonesia represents an assemblage of actors, events, scientific frameworks, material practices, cultural considerations, as well as political, socio-cultural and economic structures that works at sub-national, national and transnational levels across different periods of time. As I have shown, the formation process of scientific forestry was in one way or another influenced by the connection with the development of knowledge and practices on forest utilization during the pre-colonial era. By narrating and analyzing a variety of stories on the ancient global trading networks and the pre-colonial ship making industries in which timber and other forest products played critical roles, I argue that preliminary and limited forms of timber-based forestry had occurred during the pre-colonial era. All of this connects with the application of knowledge on forest utilization during the pre-colonial period. This process then contributed to the development of specific models of scientific forestry during the colonial period. Political interventions and cultural forces have shaped knowledge of forests and forest utilization during the pre-colonial and the colonial periods.

In Post-Colonial Indonesia, state academic forestry institutions and their scientists have provided the main contributions to the development and the operations of a scientific forestry regime. In addition to powerful influence from the Indonesian military and the timber tycoons in the establishment and operationalization of forestry policies during the New Order era (1966-1998), the connections between male-dominant forestry scientists and the related business community during this period e New Order era have also shaped the development and the operation of scientific forestry regimes. The networks of male-dominant foresters who carry a strong spirit of the “forester’s corps” (Indonesian: *korps rimbawan*), and a strong sense of

“foresters’ solidarity” contribute to this process. Gender roles and gender relations contribute to the establishment of gendered networks of foresters.

The involvements of civil society and other groups have enriched the complexity of the functions and practices of forestry science in Indonesia. Collaborations of state agencies and various social groups, including academic institutions and development NGOs, through numerous ways, contributed to the development of a variety of forms of the ideas that later known as “social forestry.” In the case of the New Order’s social forestry, which was developed during 1980s and early 1990s, there were several different occasions of collaboration in which the government of Indonesia had a strong role. There is no doubt that the New Order’s social forestry programs failed to address underlying causes of injustices faced by forest dependent communities. Nevertheless, the formation of social forestry in Indonesia opened new opportunities that enabled some of the participants in contributing to the beginning process that enabled further discussions and actions which lead to the conception of different ideas in later years, which I consider more progressive. Moreover, this process served as ‘seeds of change’ which supported the reform movement in later years.

Meanwhile, Indonesian environmental NGOs were suspicious of the idea of social forestry when the ideas of “social forestry” was developed during the late 1980s and the early 1990s. This group was organizing an intensive series of campaigns and advocacy against state-controlled forestry in Indonesia. Beginning in the mid 1980s, despite facing heavy political controls over popular social movements, Indonesian non-governmental organizations (NGOs) addressed the problems of deforestation by organizing intensive campaigns against the environmentally and socially destructive practices of logging companies. These organizations also advocated for the change of forestry policies that supported those destructive operations.

Although their efforts were organized in collaboration with transnational campaigns organized by international environmental NGOs, the Indonesian environmental NGOs had their own domestic agenda: political reform.

Gradually, the Indonesian NGOs began criticizing the centralized, state-controlled scientific forestry concepts. Along the way, they started promoting a variety of local models of community-based forest management as an alternative approach to the centralized, state-controlled scientific forestry in New Order Indonesia. In 1997 some activists of these organizations coined the term *sistem hutan kerakyatan*/SHK (“community-based forest system”), which referred to the diversity of local forms of community-based forest management. These activists emphasized that these forms have existed for many generations and they have been developed based on “local knowledge.” The activists’ ideas were expressed in active dialogues with the transnational concept known in English as community-based forest resource management (CBFM), colored with disagreements and various forms of collaborations. During the New Order period, the process to search for CBFM models in Indonesia created an arena that included emancipatory political struggles not only for rural communities but also for other social groups who opposed authoritarian rule and the destructive power of capital.

A vibrant series of explorations of various models of SHK was initiated and developed by environmental non-governmental organizations (NGOs). Other organizations such as international funding agencies and international research organizations as well as a limited number of scholars of national academic institutions also actively participated in the process. Through a combination of field explorations and desk studies supported by certain funding agencies, activists “rediscovered” a variety of successful local models of community-based forest management in many different areas within Indonesia. Activists’ observation from their work at

the grassroots level, along with relevant scientific and popular articles written by social scientists, served as important references for this process. This process, combined with the spirit of searching for “alternative” systems to the hegemonic scientific forestry, encouraged NGOs across Indonesia to identify local forms of community-based forest management within their regions. The search for these alternative models of forest management in New Order Indonesia formed an arena for opening a political dialogue and at the same time formed opposition to the authoritarian regime. This process also gave opportunities to different groups, who participated in it, to continue developing collaborative work in the Post-New Order era. The work done by all of these groups has not adequately changed government policy or its attitudes, but it has created the atmosphere needed to continue until genuine change can be made.

Among various groups that participated in the search for the “alternative” approach for forest management was a small number of academic forestry scholars. Because this group of scholars departed from the dominant industrial based scientific forestry attitudes and produced alternative ideas that would strive for social justice, particularly for forest villagers, I call them “progressive” scholars. Collaborations between progressive academic forestry scholars and activists during the late New Order period enabled the creation of alternative forestry ideas, which in turn challenged the hegemony of industrial based scientific forestry. Since most of progressive scholars had previously been involved in various research projects sponsored either by the ministry of forestry, state forestry companies, or timber industries, it is interesting to explore how they navigated their knowledge and political positions within these institutions while generating these alternative forestry ideas.

In observing how academic forestry scholars, through their collaborations with social movements, contributed to the development of community forestry ideas, this chapter applies the

intersection of Foucauldian approaches to power/knowledge, the ethnographic approaches to scientific practice, actors and networks associated with Bruno Latour along with other science studies scholars. By analyzing various events, I was able to determine that networks and moments of social possibilities that emerged in the collaborations between the “progressive” forestry scholars and social movements have positively contributed to the voicing of politically controversial ideas allowed the development of community forestry.

The Indonesian progressive academic forestry scholars who are members of what Foucault calls “society of normalization” are also actors of an alternative oppositional activity. What they are normalizing is the possibility to have alternatives and to be oppositional. Their direct and localized relationship to scientific knowledge and institutions enable them to speak with authority and to negotiate their political positions. Their influential thought and ideologies, which came along with their participation in the community forestry movement, and their contributions to the formulation of community forestry concepts, represent the complex ways of exercising their freedom. The notion of freedom they apply is not singular; instead it represents a complexity and a heterogeneity of ideas and practices of freedom that relate to their position in the web of relationships (with their own being, their fellow progressive scholars, their fellow forestry scholars, their fellow forestry professionals and members of state apparatuses, forest villagers, funding agencies’ officers, as well as other actors). As a result, various conceptions regarding community forestry they have formulated are not static, unmediated representations of community-managed forests; instead their scientific thoughts are always in active dialogues with other key actors in the realm of community forestry. The concepts of community forestry these progressive scholars have built reflect their interests as social actors.

As social actors, the Indonesian progressive scholars have strategically appropriated opportunities that are available both domestically (such as collaborative work with social movements) and transnationally, which includes funding support and intellectual networks. Producing concepts of community forestry represents what Celia Lowe calls “counterhegemonic forms of thought and action” and “the alternative political imaginations” (Lowe 2006) that planted the transformative seeds within the academic forestry and other institutions in Indonesia. Although their progressive ideas have certain limitations, particularly in terms of integrating gender aspects and heterogeneity notions within community forestry, they opened social possibilities for further advancement. This task has gradually been taken up by a younger generation of academic scholars, activists and other proponents of community forestry in contemporary Indonesia.

## Bibliography

- Abdullah, Taufik. 1978. *Manusia Dalam Kemelut Sejarah*, edited by . Translated by , edited by . Jakarta: Lembaga Penelitian, Pendidikan dan Penerangan Ekonomi dan Sosial.
- Adimihardja, Kunaka. 1992. *Kasepuhan Yang Tumbuh Di Atas Yang Luruh : Pengelolaan Lingkungan Secara Tradisional Di Kawasan Gunung Halimun, Jawa Barat*, edited by . Translated by , edited by . Bandung: Tarsito.
- Afiff, Suraya Abdulwahab. 2004. "Land Reform Or Customary Rights? : Contemporary Agrarian Struggles in South Tapanuli, Indonesia."
- Afiff, Suraya and Celia Lowe. 2007. "Claiming Indigenous Community: Political Discourse and Natural Resource Rights in Indonesia." *Alternatives: Global, Local, Political* 32 (1).
- Agrawal, A. and C. C. Gibson. 1999. "Enchantment and Disenchantment: The Role of Community in Natural Resource Conservation." *WORLD DEVELOPMENT -OXFORD-* 27 (4): 629-649.
- Agrawal, Arun, and Clark C. Gibson . 2001. *Communities and the Environment : Ethnicity, Gender, and the State in Community-Based Conservation*, edited by . Translated by , edited by . New Brunswick, N.J.: Rutgers University Press.
- . 2001. *Communities and the Environment : Ethnicity, Gender, and the State in Community-Based Conservation*, edited by . Translated by , edited by . New Brunswick, N.J.: Rutgers University Press.
- Agrawal, Arun and Clark C. Gibson. 1999. "Enchantment and Disenchantment: The Role of Community in Natural Resource Conservation." *World Development* 27 (4).
- Arnold, J. E. M. and Trees and People (Program) Forests. 1991. *Community Forestry : Ten Years in Review*, edited by . Translated by , edited by . Rome: Food and Agriculture Organization of the United Nations.
- Arnold, J. E. M. and R. Persson. 2009. "Reorienting Forestry Development Strategies in the 1970s Towards Forests for People." *Ipfe International Forestry Review* 11 (1): 111-118.
- Ashton, Mark S. and Florencia Montagnini . 2000. *The Silvicultural Basis for Agroforestry Systems*, edited by . Translated by , edited by . Boca Raton, Fla.: CRC Press.
- Aspinall, Edward and Monash University. Centre of Southeast Asian Studies. 1993. *Student Dissent in Indonesia in the 1980s*, edited by . Translated by , edited by . Clayton, Victoria, Australia: Centre of Southeast Asian Studies, Monash University.

- Awang, San Afri,. 2004. *Dekonstruksi Sosial Forestri : Reposisi Masyarakat Dan Keadilan Lingkungan*, edited by . Translated by , edited by . Yogyakarta: Bigraf Pub. & Program Pustaka.
- . 2004. *Dekonstruksi Sosial Forestri : Reposisi Masyarakat Dan Keadilan Lingkungan*, edited by . Translated by , edited by . Yogyakarta: Bigraf Pub. & Program Pustaka.
- . 2003. *Politik Kehutanan Masyarakat*, edited by . Translated by , edited by . Yogyakarta: Center for Critical Social Studies bekerjasama dengan Kreasi Wacana Yogyakarta : Distributor, Lembaga untuk Kreasi Penerbitan Masyarakat.
- . 2003. *Politik Kehutanan Masyarakat*, edited by . Translated by , edited by . Yogyakarta: Center for Critical Social Studies bekerjasama dengan Kreasi Wacana Yogyakarta : Distributor, Lembaga untuk Kreasi Penerbitan Masyarakat.
- . 2006. *Sosiologi Pengetahuan Deforestasi : Konstruksi Sosial Dan Perlawanan*, edited by . Translated by , edited by . Jogjakarta: Debut Press.
- Barber, Charles Victor and Berkeley University of California. 1989. "The State, the Environment, and Development the Genesis and Transformation of Social Forestry Policy in New Order Indonesia."
- Barber, Charles and Kirk Talbott. 2003. "The Chainsaw and the Gun: The Role of the Military in Deforesting Indonesia." *Journal of Sustainable Forestry* 16 (3/4): 131-160.
- Barton, Gregory. 2001. "Empire Forestry and the Origins of Environmentalism." *Journal of Historical Geography* 27 (4): 529-552.
- Belcher, Brian, Genevieve Michon, Arild Angelsen, Manuel Ruiz Pérez, and Heidi Asbjornsen. 2005. "The Socioeconomic Conditions Determining the Development, Persistence, and Decline of Forest Garden Systems." *Ebot Economic Botany* 59 (3): 245-253.
- Bene, J. G., H. W. Beall , and Albert Côté. 1977. *Trees, Food, and People : Land Management in the Tropics*, edited by . Translated by , edited by . Ottawa: International Development Research Centre.
- Betsill, Michele Merrill, and Elisabeth Corell. 2008. *NGO Diplomacy : The Influence of Nongovernmental Organizations in International Environmental Negotiations*, edited by . Translated by , edited by . Cambridge, Mass.: MIT Press.
- Blaikie, Piers M., and H. C. Brookfield. 1987. *Land Degradation and Society*, edited by . Translated by , edited by . London; New York: Methuen.
- . 1987. *Land Degradation and Society*, edited by . Translated by , edited by . London; New York: Methuen.

- Boeke, Julius Herman. 1946. *Evolution of the Netherland Indies Economy*, edited by . Translated by , edited by . S.l.: Inst. of Pac. rel. pubs.].
- Boomgaard, Peter. 1992. "Forest Management and Exploitation in Colonial Java, 1677-1897." *Forest & Conservation History* 36 (1): 4-14.
- . 2011. "Land Rights and the Environment in the Indonesian Archipelago, 800-1950." *Journal of the Economic & Social History of the Orient* 54 (4).
- . 2008. "Technologies of a Trading Empire: Dutch Introduction of Water- and Windmills in Early-Modern Asia, 1650s--1800." *History and Technology* 24: 41--59.
- Boomgaard, Peter. 1997. "Forest Management and Exploitation in Colonial Java, 1677-1897." *Agriculture, Resource Exploitation, and Environmental Change / Ed.by Helen Wheatley*: 291-311.
- BRANDIS, DIETRICH. 1901. "Indian Forestry." *Nature* 63 (1642): 597-601.
- Brandis, Dietrich,. 1896. *Burma Teak Forests.*, edited by . Translated by , edited by . New York:.
- . 1971. *Indian Trees; an Account of Trees, Shrubs, Woody Climbers, Bamboos, and Palms Indigenous Or Commonly Cultivated in the British Indian Empire.*, edited by . Translated by , edited by . Dehra Dun: Bishen Singh Mahendra Pal Singh.
- . 1860. *Report on the Teak Forests of Pegu : A Memorandum on the Teak in the Tharawaddy Forests*, edited by . Translated by , edited by . London: HMSO.
- Brookfield, H. C., Yvonne Byron , and Lesley M. Potter. 1995. *In Place of the Forest : Environmental and Socio-Economic Transformation in Borneo and the Eastern Malay Peninsula*, edited by . Translated by , edited by . Tokyo; New York: United Nations University Press.
- Brosius, J. Peter, Anna Lowenhaupt Tsing, and Charles Zerner. 2005. *Communities and Conservation : Histories and Politics of Community-Based Natural Resource Management*, edited by . Translated by , edited by . Walnut Creek, CA: AltaMira Press.
- Bruce, John W., Food and Agriculture Organization of the United Nations., and Trees and People (Program) Forests. 1989. *Community Forestry : Rapid Appraisal of Tree and Land Tenure*, edited by . Translated by , edited by . Rome: Food and Agriculture Organization of the United Nations.
- Bruce, John W., Food and Agriculture Organization of the United Nations., Trees and People (Program) Forests, and University of Wisconsin--Madison. Land Tenure Center. 1999. *Legal Bases for the Management of Forest Resources as Common Property*, edited by . Translated by , edited by . Rome: Food and Agriculture Organization of the United Nations.

- Bruenig, E. F. 1996. *Conservation and Management of Tropical Rainforests : An Integrated Approach to Sustainability*, edited by . Translated by , edited by . Wallingford, Oxon, UK: CAB International.
- Bryant, Raymond L. 1994. "The Rise and Fall of Taungya Forestry." *Ecologist* 24 (1).
- Bryant, Raymond L.,. 1997. *The Political Ecology of Forestry in Burma, 1824-1994*, edited by . Translated by , edited by . London: Hurst.
- Bunnell, Frederick P. 1966. "Guided Democracy Foreign Policy: 1960-1965 President Sukarno Moves from Non-Alignment to Confrontation." *Indonesia* (2): 37-76.
- Burma. Forest Dept. and India. Foreign and Political Dept. 1855. *Papers Relating to the Teak Forests of Pegu.*, edited by . Translated by , edited by . Calcutta: T. Jones, Calcutta Gazette Office.
- . 1861. *Report on the Pegu Teak Forests for the Years 1857-58 to 1859-60, with Appendix.*, edited by . Translated by , edited by . Calcutta: C.B. Lewis, Baptist Mission Press.
- Caldwell, Lynton Keith, and Paul Stanley Weiland. 1996. *International Environmental Policy : From the Twentieth to the Twenty-First Century*, edited by . Translated by , edited by . Durham: Duke University Press.
- Callon, Michel, John Law , and Arie Rip . 1986. *Mapping the Dynamics of Science and Technology : Sociology of Science in the Real World*, edited by . Translated by , edited by . Basingstoke: Macmillan.
- Center for International Forestry Research. 2005. *Life After Logging : Reconciling Wildlife Conservation and Production Forestry in Indonesian Borneo*, edited by . Translated by , edited by . Bogor, Indonesia: CIFOR.
- . 1995. *A Vision for Forest Science in the Twenty-First Century.*, edited by . Translated by , edited by . Bogor, Indonesia: Center for International Forestry Research.
- Cernea, Michael M. 1981. *Land Tenure Systems and Social Implications of Forestry Development Programs*, edited by . Translated by , edited by . Washington, D.C. (1818 H St., N.W., Washington 20433): World Bank.
- Chakraborty P. 1999. "The Asiatic Society and its Vision of Science: Metropolitan Knowledge in a Colonial World." *The Calcutta Historical Journal* 21-22: 1999-2000.
- Chambers, R. 1994. "The Origins and Practice of Participatory Rural Appraisal." *World Development*. 22 (7): 953.

- Charnley, Susan and Melissa R. Poe. 2007. "Community Forestry in Theory and Practice: Where are we Now?" *Annual Review of Anthropology* 36 (1).
- Chaudhuri, K. N. 1985. *Trade and Civilisation in the Indian Ocean : An Economic History from the Rise of Islam to 1750*, edited by . Translated by , edited by . Cambridge [Cambridgeshire]; New York: Cambridge University Press.
- Chayan Vaddhanaphuti. and Michigan State University. Center for Advanced Study of International Development. 1994. *University-NGO Relationships : Community Response to the Effects of Deforestation in Northern Thailand*, edited by . Translated by , edited by . East Lansing, Mich.: Center for Advanced Study of International Development, Michigan State University.
- Christie, Jan Wisseman. 1998. "Javanese Markets and the Asian Sea Trade Boom of the Tenth to Thirteenth Centuries A.D." *Journal of the Economic and Social History of the Orient / Journal De l'Histoire Economique Et Sociale De l'Orient* 41 (3): 344-381.
- Colchester, Marcus. 1994. "Sustaining the Forests: The Community-Based Approach in South and South-East Asia." *Development and Change* 25 (1): 69-100.
- Colchester, Marcus and Center for International Forestry Research. 2003. *Bridging the Gap : Communities, Forests and International Networks : Synthesis Report of the Project 'Learning Lessons from International Community Forestry Networks'*, edited by . Translated by , edited by . Jakarta, Indonesia: Center for International Forestry Research.
- Conklin, Harold C. 1957. *Hanunóo Agriculture; a Report on an Integral System of Shifting Cultivation in the Philippines.*, edited by . Translated by , edited by . Rome: Food and Agriculture Organization of the United Nations.
- . 1957. *Hanunóo Agriculture; a Report on an Integral System of Shifting Cultivation in the Philippines.*, edited by . Translated by , edited by . Rome: Food and Agriculture Organization of the United Nations.
- Cook, Harold John. 2007. *Matters of Exchange : Commerce, Medicine, and Science in the Dutch Golden Age*, edited by . Translated by , edited by . New Haven [Conn.]: Yale University Press.
- Coward, E. Walter. 2005. 'Building Models of Community-Based Natural Resource Management: A Personal Narrative.' In Brosius, J. Peter, Anna Tsing, and Charles Zerner (eds). *Communities and Conservation: Histories and Politics of Community-Based Natural Resource Management*. Walnut Creek, CA: Altamira Press.
- Cramb, R. A., Carol J. Pierce Colfer, Quang Trang Le, Quang Trang Le, Quang Trang Le, Nancy L. Peluso, Nancy L. Peluso, and Reed L. Wadley. 2009. "Swidden Transformations and Rural Livelihoods in Southeast Asia." *Human Ecology* 37 (3): 323-346.

- Cribb, R. B. 1994. *The Late Colonial State in Indonesia : Political and Economic Foundations of the Netherlands Indies, 1880-1942*, edited by . Translated by , edited by . Leiden: KITLV Press.
- Dake, A. C. A. 2006. *The Sukarno File, 1965-1967 : Chronology of a Defeat*, edited by . Translated by , edited by . Leiden; Boston: Brill.
- Darusman, Dudung,. 2001. *Resiliensi Kehutanan Masyarakat Di Indonesia*, edited by . Translated by , edited by . Yogyakarta: Debut Press.
- Dauvergne, Peter. 1997. *Shadows in the Forest : Japan and the Politics of Timber in Southeast Asia*, edited by . Translated by , edited by . Cambridge, Mass.: MIT Press.
- Dezalay, Yves, and Bryant G. Garth. 2002. *The Internationalization of Palace Wars : Lawyers, Economists, and the Contest to Transform Latin American States*, edited by . Translated by , edited by . Chicago: University of Chicago Press.
- Djajapertjunda, Sadikin. 2002. *Hutan & Kehutanan Indonesia Dari Masa Ke Masa*, edited by . Translated by , edited by . [Bogor]: IPB Press.
- Doesburgh, S.C. van, firm,publishers, Leiden. 1931. *The Royal Academy of Science, Universities and Higher Schools in Holland and the Dutch East Indies.*, edited by . Translated by , edited by . Leiden:.
- Dove, Michael R. 1994. "The Existential Status of the Pakistani Farmer: Studying Official Constructions of Social Reality." *Ethnology* 33 (4).
- . 1994. "The Existential Status of the Pakistani Farmer: Studying Official Constructions of Social Reality." *Ethnology* 33 (4).
- . 1993. "Smallholder Rubber and Swidden Agriculture in Borneo: A Sustainable Adaptation to the Ecology and Economy of the Tropical Forest." *Economic Botany* 47 (2): 136-147.
- . 1981. "Swidden Systems and their Potential Role in Agricultural Development : A Case-Study from Kalimantan." *Prisma : The Indonesian Indicator Prisma : The Indonesian Indicator* (21): 81-100.
- Dumarçay, Jacques and Michael Smithies . 1991. *Borobudur*, edited by . Translated by , edited by . Singapore; New York: Oxford University Press.
- Eckholm, Erik P. 1975. *The Other Energy Crisis, Firewood*, edited by . Translated by , edited by . Washington: Worldwatch Institute].

- Fairfax, Sally K. and Louise Fortmann. 1990. "American Forestry Professionalism in the Third World: Some Preliminary Observations." *Population & Environment* 11 (4).
- Fairhead, James, and Melissa Leach. 1996. *Misreading the African Landscape : Society and Ecology in a Forest-Savanna Mosaic*, edited by . Translated by , edited by . Cambridge; New York: Cambridge University Press.
- . 1998. *Reframing Deforestation : Global Analyses and Local Realities ; Studies in West Africa*, edited by . Translated by , edited by . London; New York: Routledge.
- . 2003. *Science, Society and Power : Environmental Knowledge and Policy in West Africa and the Caribbean*, edited by . Translated by , edited by . Cambridge, UK; New York: Cambridge University Press.
- Fay, Chip and Martua Sirait. 2002. 'Reforming the Reformists in Post-Soeharto Indonesia.' In Carol J.P. Colfer and Ida A.P. Resosudarmo (eds). *Which Way Forward? People, Forests and Policymaking in Indonesia*. Washington, DC: RFF Press.
- Feenberg, Anne-Marie. 1997. "Max Havelaar: An Anti-Imperialist Novel." *MLN* 112 (5): 817-835.
- Fernow, B. E. 1913. *A Brief History of Forestry in Europe, the United States and Other Countries*, edited by . Translated by , edited by . Toronto, Ont.; New Haven, Conn.: University Press; The Price, Lee & Adkins co.
- Florida, Nancy K. 1993. *Javanese Literature in Surakarta Manuscripts*, edited by . Translated by , edited by . Ithaca, N.Y.: Southeast Asia Program, Cornell University.
- Food and Agriculture Organization of the United Nations. Forestry Dept. 1985. *Forests, Trees and People.*, edited by . Translated by , edited by . Rome: Food and Agriculture Organization of the United Nations.
- Food and Agriculture Organization of the United Nations. Forestry Dept. and Sweden. Styrelsen för internationell utveckling. 1978. *Forestry for Local Community Development*, edited by . Translated by , edited by . Rome: Food and Agriculture Organization of the United Nations.
- Ford Foundation. 1998. *Forestry for Sustainable Rural Development : A Review of Ford Foundation-Supported Community Forestry Programs in Asia.*, edited by . Translated by , edited by . New York: Ford Foundation.
- Fortmann, Louise. 2008. *Participatory Research in Conservation and Rural Livelihoods : Doing Science Together*, edited by . Translated by , edited by . Chichester, UK; Hoboken, NJ: Wiley-Blackwell.

Foucault, Michel,. 1978. *The History of Sexuality*, edited by . Translated by , edited by . New York: Pantheon Books.

Fox, Jefferson, Yayoi Fujita, Dimbab Ngidang, Nancy Peluso, Lesley Potter, Niken Sakuntaladewi, Janet Sturgeon, and David Thomas. 2009. "Policies, Political-Economy, and Swidden in Southeast Asia." *Human Ecology* 37 (3): 305-322.

Freire, Paulo,. 1970. *Pedagogy of the Oppressed.*, edited by . Translated by , edited by . [New York: Herder and Herder.

Galudra, G. and M. Sirait. 2009. "A Discourse on Dutch Colonial Forest Policy and Science in Indonesia at the Beginning of the 20th Century." *Ifre International Forestry Review* 11 (4): 524-533.

Gibson, Clark C., Margaret A. McKean, and Elinor Ostrom. 2000. *People and Forests : Communities, Institutions, and Governance*, edited by . Translated by , edited by . Cambridge, Mass.: MIT Press.

Gledhill, John. 2000. *Power and its Disguises : Anthropological Perspectives on Politics*, edited by . Translated by , edited by . London; Sterling, VA: Pluto Press.

Goldman, Mara, Paul Nadasdy, and Matt Turner. 2011. *Knowing Nature : Conversations at the Intersection of Political Ecology and Science Studies*, edited by . Translated by , edited by . Chicago; London: University of Chicago Press.

Goss A. 2009. "Decent Colonialism? Pure Science and Colonial Ideology in the Netherlands East Indies, 1910-1929." *J.Southeast Asian Stud..Journal of Southeast Asian Studies* 40 (1): 187-214.

Goss, Andrew,. 2011. *The Floracrats : State-Sponsored Science and the Failure of the Enlightenment in Indonesia*, edited by . Translated by , edited by . Madison, Wis.: University of Wisconsin Press.

Gough, Kathelene. 2002. 'New Proposals for Anthropologists.' In Joan Vincent (ed). *The Anthropology of Politics: A Reader in Ethnography, Theory, and Critique*. Oxford: Blackwell Publishers.

Grainger A. 2009. "Towards a New Global Forest Science." *Int.for.Rev.International Forestry Review* 11 (1): 126-133.

Greenough, Paul R. and Anna Lowenhaupt Tsing. 2003. *Nature in the Global South : Environmental Projects in South and Southeast Asia*, edited by . Translated by , edited by . Durham: Duke University Press.

- Grove, Richard. 1995. *Green Imperialism : Colonial Expansion, Tropical Island Edens, and the Origins of Environmentalism, 1600-1860*, edited by . Translated by , edited by . Cambridge; New York: Cambridge University Press.
- Grove, Richard, Vinita Damodaran, and Satpal Sangwan . 1998. *Nature and the Orient : The Environmental History of South and Southeast Asia*, edited by . Translated by , edited by . Delhi; New York: Oxford University Press.
- Guha, Ramachandra. 2001. "The Prehistory of Community Forestry in India." *Environmental History* 6 (2): 213-238.
- Gunawan, Rimbo, Juni Thamrin, Endang Suhendar, and Indonesia) Akatiga Foundation (Bandung. 1998. *Industrialisasi Kehutanan Dan Dampaknya Terhadap Masyarakat Adat : Kasus Kalimantan Timur*, edited by . Translated by , edited by . Bandung: Akatiga.
- Hadiz, Vedi R. 2006. "The Left and Indonesia's 1960s: The Politics of Remembering and Forgetting." *Inter-Asia Cultural Studies* 7 (4): 554-569.
- Hadiz, Vedi R., Daniel Dhakidae , and Ford Foundation. 2005. *Social Science and Power in Indonesia*, edited by . Translated by , edited by . Jakarta; Singapore: Equinox Pub. ; Institute of Southeast Asian Studies.
- Hafild, Emmy. 2005. 'Social Movements, Community-Based Natural Resource Management, and the Struggle for Democracy: Experiences from Indonesia.' In Brosius, J. Peter, Anna Tsing, and Charles Zerner (eds). *Communities and Conservation: Histories and Politics of Community-Based Natural Resource Management*. Walnut Creek, CA: Altamira Press.
- Hajjar, R. and J. L. Innes. 2009. "The Evolution of the World Bank's Policy Towards Forestry: Push Or Pull?" *Ifre International Forestry Review* 11 (1): 27-37.
- Hambidge, Gove,. 1955. *The Story of FAO.*, edited by . Translated by , edited by . New York: Van Nostrand.
- Hamilton, Graham John. *Forest Mensuration Handbook*, edited by . Translated by , edited by . London: The Stationery Office.
- Hanafi, Imam, Nia Ramdhaniaty, Budi Nurzaman., Ulfa Hidayati, and Latipah Hendarti. 2004. *Nyoreang Alam Ka Tukang, Nyawang Anu Bakal Datang : Penelusuran Pergulatan Di Kawasan Halimun, Jawa Barat-Banten*, edited by . Translated by , edited by . Bogor, Indonesia: Indonesian Institute for Forest and Environment.
- Haraway, Donna. 1988. "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective." *FSt Feminist Studies* 14 (3): 575-99.

- Hayden, Cori,. 2003. *When Nature Goes Public : The Making and Unmaking of Bioprospecting in Mexico / Cori Hayden.*, edited by . Translated by , edited by . Princeton: Princeton University Press.
- Helms, John A. 1998. *The Dictionary of Forestry*, edited by . Translated by , edited by . Bethesda, MD: Society of American Foresters.
- Hochstrasser, Julie. 2007. *Still Life and Trade in the Dutch Golden Age*, edited by . Translated by , edited by . New Haven [Conn.]; London: Yale University Press.
- Holzl R. 2010. "Historicizing Sustainability: German Scientific Forestry in the Eighteenth and Nineteenth Centuries." *Sci.Cult.Science as Culture* 19 (4): 431-460.
- Humphreys, David,. 2006. *Logjam : Deforestation and the Crisis of Global Governance*, edited by . Translated by , edited by . London; Sterling, VA: Earthscan.
- Hurst, Philip. 1990. *Rainforest Politics : Ecological Destruction in South-East Asia*, edited by . Translated by , edited by . London; Atlantic Highlands, N.J., USA: Zed Books.
- Hyma, Albert,. 1942. *The Dutch in the Far East; a History of the Dutch Commercial and Colonial Empire*, edited by . Translated by , edited by . Ann Arbor, Mich.: G. Wahr.
- India. Forest Department. and Brandis. 1876. *Suggestions regarding Forest Administration in British Burma*, edited by . Translated by , edited by . Calcutta: Office of the Supt. of Govt. Printing.
- . 1876. *Suggestions regarding Forest Administration in British Burma*, edited by . Translated by , edited by . Calcutta: Office of the Supt. of Govt. Printing.
- . 1876. *Suggestions regarding Forest Administration in British Burma*, edited by . Translated by , edited by . Calcutta: Office of the Supt. of Govt. Printing.
- International Conference on Land Tenure and Related Problems in World Agriculture, Kenneth H. Parsons, Raymond J. Penn, and Philip M. Raup. 1956. "Land Tenure : Proceedings of the International Conference on Land Tenure and Related Problems in World Agriculture, Held at Madison, Wisconsin, 1951."University of Wisconsin Press, .
- International Symposium on Boat and Ship Archaeology, Lucy Katherine Blue, Frederick M. Hocker , and Anton Englert. 2006. "Connected by the Sea : Proceedings of the Tenth International Symposium on Boat and Ship Archaeology, Roskilde 2003."Oxbow ; [Distributed in the U.S. by] D. Brown Bk. Co., .
- Iskandar, Johan and Roy F. Ellen. 2000. "The Contribution of *Paraserianthes (Albizia) Falcataria* to Sustainable Swidden Management Practices among the Baduy of West Java." *Human Ecology* 28 (1): 1-17.

- Jha, S. 2012. "Radical Politics and Environmentalism Against Taungya in Dooars." *ECONOMIC AND POLITICAL WEEKLY* 47 (1): 112-118.
- Kartasubrata, Junus and Bogor Agricultural University. Faculty of Forestry. Laboratory Social and Economic Policy of Forestry. 2003. *Social Forestry and Agroforestry in Asia*, edited by . Translated by , edited by . Bogor: Laboratory Social and Economic Policy of Forestry, Faculty of Forestry, Bogor Agricultural University.
- Kartasubrata, Junus, Satyawan Sunito, Didik Suharjito, and Institut Pertanian Bogor. Pusat Studi Pembangunan. 1995. *A State of the Art Report of the Social Forestry Programme in Java : Research Support to Perhutanan Sosial Program on Forestland in Java, 1984-1992*, edited by . Translated by , edited by . Bogor, Indonesia: CDS : Perum Perhutani : Ford Foundation.
- Kartasubrata, Junus and Kornelis Freerk Wiersum . 1995. "Traditions and Recent Advances in Tropical Silvicultural Research in Indonesia." *Unasyuva* (181): 30-35.
- Kartini, , Joost Coté, Gunawan Mohamad , and Monash Asia Institute. 2005. *On Feminism and Nationalism : Kartini's Letters to Stella Zeehandelaar, 1899-1903*, edited by . Translated by , edited by . Clayton, Vic.: Monash Asia Institute.
- Kessler, Clive S. 1991. "Empire of Reason (Book Review)." *Annals of Science* 48 (2).
- King, K. F. S. 1968. *Agri-Silviculture (the Taungya System)*, edited by . Translated by , edited by . Ibadan: Dept. of Forestry, University of Ibadan.
- Knapen, Han,. 2001. *Forests of Fortune? : The Environmental History of Southeast Borneo, 1600-1880*, edited by . Translated by , edited by . Leiden: KITLV Press.
- Ko Nomura. 2007. "Democratisation and Environmental Non-Governmental Organisations in Indonesia." *Journal of Contemporary Asia* 37 (4).
- Krishna, Sumi. 2004. *Livelihood and Gender : Equity in Community Resource Management*, edited by . Translated by , edited by . New Delhi; Thousand Oaks: Sage Publications.
- . 2007. *Women's Livelihood Rights : Recasting Citizenship for Development*, edited by . Translated by , edited by . Los Angeles; London; New Delhi: Sage Publications ; Sage Publications India.
- Kumar, Sushil,. 2000. *Social Forestry*, edited by . Translated by , edited by . New Delhi: Reliance Pub. House.
- L., S. S. and Nations, Food and Agriculture Organization of the United. 1980. "Review of Review and Analysis of Agrarian Reform and Rural Development in the Developing Countries since the Mid 1960s." *Population and Development Review* 6 (1): 160.

- Latour, Bruno. 1987. *Science in Action : How to Follow Scientists and Engineers through Society*, edited by . Translated by , edited by . Cambridge, Mass.: Harvard University Press.
- . 1993. *We have Never been Modern*, edited by . Translated by , edited by . Cambridge, Mass.: Harvard University Press.
- Lee Peluso, Nancy. 1995. "Whose Woods are these? Counter-Mapping Forest Territories in Kalimantan, Indonesia." *Antipode* 27 (4): 383.
- Li, Tania. 1996. 'Images of Community: Discourse and Strategy in Property Relations'. *Development and Change* 27(3): 501-28
- Li, Tania. 2005. 'Engaging Simplifications: Community-Based Natural Resource Management, Market Processes, and State Agendas in Upland Southeast Asia.' In Brosius, J. Peter, Anna Tsing, and Charles Zerner (eds). *Communities and Conservation: Histories and Politics of Community-Based Natural Resource Management*. Walnut Creek, CA: Altamira Press.
- Li, Tania. 2007. 'Practices of Assemblage and Community Forest Management.' *Economy and Society* 36(2): 263-293.
- Lindayati, Rita. 2002. 'Ideas and Institutions in Social Forestry Policy.' In Carol J.P. Colfer and Ida A.P. Resosudarmo (eds). *Which Way Forward? People, Forests and Policymaking in Indonesia*. Washington, DC: RFF Press.
- Lowe, Celia,. 2006. *Wild Profusion : Biodiversity Conservation in an Indonesian Archipelago*, edited by . Translated by , edited by . Princeton, N.J.: Princeton University Press.
- Lowood, Henry E. 1990. "The Calculating Forester: Quantification, Cameral Science, and the Emergence of Scientific Forestry Management in Germany." *The Quantifying Spirit in the 18th Century the Quantifying Spirit in the 18th Century*: 315-342.
- Lynch, Owen J., Kirk Talbott , and Marshall S. Berdan. 1995. *Balancing Acts : Community-Based Forest Management and National Law in Asia and the Pacific*, edited by . Translated by , edited by . [Washington, D.C.]: World Resources Institute.
- Maat, Harro. 2001. *Science Cultivating Practice : A History of Agricultural Science in the Netherlands and its Colonies, 1863-1986*, edited by . Translated by , edited by . Dordrecht; Boston: Kluwer Academic Publishers.
- Manguin, Pierre-Yves. 1980. "The Southeast Asian Ship: An Historical Approach." *Journal of Southeast Asian Studies* 11 (2).
- . 1993. "Trading Ships of the South China Sea. Shipbuilding Techniques and their Role in the History of the Development of Asian Trade Networks." *Journal of the Economic and*

*Social History of the Orient / Journal De l'Histoire Economique Et Sociale De l'Orient* 36 (3): 253-280.

Manning, Chris. 1971. "The Timber Boom with Special Reference to East Kalimantan." *Bulletin of Indonesian Economic Studies* 7 (3): 30-60.

Marcus, George E. 1995. "Ethnography In/Of the World System: The Emergence of Multi-Sited Ethnography." *Annual Review of Anthropology*. 24: 95.

Marjokorpi, Antti and Kalle Ruokolainen. 2003. "The Role of Traditional Forest Gardens in the Conservation of Tree Species in West Kalimantan, Indonesia." *Biodiversity and Conservation* 12 (4): 799-822.

Mayer, Judith. 1996. 'Environmental Organizing in Indonesia: The Search for A Newer Order.' In Ronnie D. Lipschutz and Judith Mayer (eds). *Global Civil Society and Global Environmental Governance*. Albany: State University of New York Press.

McDonald, Peter, and J. P. Lassoie. 1996. *The Literature of Forestry and Agroforestry*, edited by . Translated by , edited by . Ithaca, NY: Cornell University Press.

McVey, Ruth Thomas. 1965. *The Rise of Indonesian Communism*, edited by . Translated by , edited by . Ithaca, N.Y.: Cornell University Press.

Menzies, Nicholas. 1988. "Three Hundred Years of Taungya: A Sustainable System of Forestry in South China." *Human Ecology* 16 (4): 361-376.

Menzies, Nicholas K. 2007. *Our Forest, Your Ecosystem, their Timber : Communities, Conservation, and the State in Community-Based Forest Management*, edited by . Translated by , edited by . New York: Columbia University Press.

Messerschmidt, Donald A., P. W. Mol, K. F. Wiersum, Gill Shepherd, Silvia Rodriguez, and Trees and People (Program) Forests. 1993. *Common Forest Resource Management : Annotated Bibliography of Asia, Africa and Latin America*, edited by . Translated by , edited by . Rome: Food and Agriculture Organization of the United Nations.

Michon, Geneviève, and Arild Angelsen . 2005. *Domesticating Forests how Farmers Manage Forest Resources*, edited by . Translated by , edited by . Paris; Bogor Barat, Indonesia; Nairobi, Kenya: Institut de recherche pour le développement ; Center for International Forestry Research ; World Agroforestry Centre.

Moon, Suzanne M. 1998. "Takeoff Or Self-Sufficiency? Ideologies of Development in Indonesia, 1957-1961." *Technology and Culture* 39 (2): 187-212.

- Multatuli., D. H. Lawrence, and Roy Edwards. 1967. *Max Havelaar ; Or, the Coffee Auctions of the Dutch Trading Company*, edited by . Translated by , edited by . Leyden; New York: Sijthoff ; London House & Maxwell.
- Mulyoutami, E., R. Rismawan, L. Joshi, and Traditional forest-related knowledge in Asia. 2009. "Local Knowledge and Management of Simpukng (Forest Gardens) among the Dayak People in East Kalimantan, Indonesia." *Forest Ecology and Management* 257 (10): 2054-2061.
- Munoz, Paul Michel. 2006. *Early Kingdoms of the Indonesian Archipelago and the Malay Peninsula*, edited by . Translated by , edited by . Singapore: Editions Didier Millet.
- Nader, Laura. 1996. *Naked Science : Anthropological Inquiry into Boundaries, Power, and Knowledge*, edited by . Translated by , edited by . New York: Routledge.
- Nair, P. K. R. 1993. *An Introduction to Agroforestry*, edited by . Translated by , edited by . Dordrecht; Boston: Kluwer Academic Publishers in cooperation with International Centre for Research in Agroforestry.
- . 1990. *The Prospects for Agroforestry in the Tropics*, edited by . Translated by , edited by . Washington, D.C.: World Bank.
- Narayan, Kirin. 1993. "How Native is a "Native" Anthropologist?" *American Anthropologist* 95 (3).
- Negi, Sharad Singh and Dietrich Brandis . 1991. *Sir Dietrich Brandis Father of Tropical Forestry*, edited by . Translated by , edited by . Dehra Dun: Bishen Singh Mahendra Pal Singh.
- Nugroho, Heru. 2005. 'The Political Economy in Higher Education: The University as an Arena for the Struggle for Power.' In Hadiz, Vedi R. and Daniel Dhakidae (eds).
- Obidzinski K. and Chaudhury M. 2009. "Transition to Timber Plantation Based Forestry in Indonesia: Towards a Feasible New Policy." *Int.for.Rev.International Forestry Review* 11 (1): 79-87.
- Peet, Richard, Paul Robbins , and Michael Watts. 2011. *Global Political Ecology*, edited by . Translated by , edited by . Abingdon, Oxon; New York, NY: Routledge.
- Peet, Richard and Michael Watts . 2004. *Liberation Ecologies : Environment, Development, Social Movements*, edited by . Translated by , edited by . London; New York: Routledge.

- Peluso, Nancy Lee. 1991. "The History of State Forest Management in Colonial Java." *Forest & Conservation History* 35 (2): 65-75.
- . 1992. "The Ironwood Problem: (Mis)Management and Development of an Extractive Rainforest Product." *Conservation Biology* 6 (2): 210-219.
- . 1993. "'Traditions' of Forest Control in Java: Implications for Social Forestry and Sustainability." *Global Ecology and Biogeography Letters* 3 (6).
- Peluso, Nancy Lee. 1992. *Rich Forests, Poor People : Resource Control and Resistance in Java*, edited by . Translated by , edited by . Berkeley: University of California Press.
- Peluso, Nancy Lee, Suraya Afiff, Noer Fauzi Rachman. 2008. "Claiming the Grounds for Reform: Agrarian and Environmental Movements in Indonesia." *Journal of Agrarian Change* 8 (2-3): 377-407.
- Peluso, Nancy Lee, Matt Turner, Louise Fortmann, and Food and Agriculture Organization of the United Nations. 1994. *Introducing Community Forestry : Annotated Listing of Topics and Readings*, edited by . Translated by , edited by . Rome: Food and Agriculture Organization of the United Nations.
- Peluso, Nancy Lee and Han Knapen. 2003. "Review of Forests of Fortune?: The Environmental History of Southeast Borneo, 1600-1880." *Journal of the Economic and Social History of the Orient / Journal De l'Histoire Economique Et Sociale De l'Orient* 46 (3): 396-399.
- . 2003. "Review of Forests of Fortune?: The Environmental History of Southeast Borneo, 1600-1880." *Journal of the Economic and Social History of the Orient / Journal De l'Histoire Economique Et Sociale De l'Orient* 46 (3): 396-399.
- Peluso, Nancy Lee and Peter Vandergeest. 2001. "Genealogies of the Political Forest and Customary Rights in Indonesia, Malaysia, and Thailand." *Journal of Asian Studies* 60 (3): 761-812.
- Peluso, Nancy Lee, Peter Vandergeest, and Lesley Potter. 1995. "Social Aspects of Forestry in Southeast Asia: A Review of Postwar Trends in the Scholarly Literature." *Journal of Southeast Asian Studies* 26 (1): 196-218.
- Perhutani, Perum. 1996. *Community Participation in Forest Management on Java Island.*, edited by . Translated by , edited by . [Jakarta]: Perum Perhutani.
- . 1992. *Sustained Yield Forest Management in Indonesia : With a Special Emphasis to the Island of Java.*, edited by . Translated by , edited by . Jakarta: Perum Perhutani.

- Poerwokoesoemo, R. Soepardi. 1974. *Hutan Dan Kehutanan Dalam Tiga Jaman*, edited by . Translated by , edited by . Jakarta: Perusahaan Umum Perusahaan Hutan Indonesia (PERUM PERHUTANI).
- Poffenberger, Mark, Kathryn Smith-Hanssen, and East-West Center. 2009. *Forest Communities and REDD Climate Initiatives*, edited by . Translated by , edited by . Honolulu, Hawaii: East-West Center.
- Poffenberger, Mark, Rowena Soriaga, Peter Walpole, Asia Forest Network., and Community Forestry International. 2006. *Communities and Forest Stewardship : Regional Transitions in Southeast Asia*, edited by . Translated by , edited by . Tagbilaran City, Bohol, Philippines; Quezon City: Asia Forest Network and Community Forestry International ; Distributed by Ateneo de Manila University Press.
- Pusat Informasi Kehutanan (Indonesia). 2007. *Kehutanan Indonesia : Soedjarwo Sampai M.S. Kaban.*, edited by . Translated by , edited by . Jakarta: Pusinfo Departemen Kehutanan.
- Queensland art gallery. 19uu. *Historical Collections.*, edited by . Translated by , edited by . South Brisbane, Qld.: Queensland art gallery.
- Raffles, Thomas Stamford, and John Sturgis Bastin . 1988. *The History of Java : Complete Text*, edited by . Translated by , edited by . Singapore: Oxford University Press.
- Rajan, S. Ravi. 2006. *Modernizing Nature : Forestry and Imperial Eco-Development 1800-1950*, edited by . Translated by , edited by . Oxford; Oxford; New York: Clarendon Press ; Oxford University Press.
- Read, Tory, Lafcadio Cortesi, and Biodiversity Support Program. 2001. *Stories at the Forest Edge : The KEMALA Approach to Crafting Good Governance and Sustainable Futures*, edited by . Translated by , edited by . Washington, DC: Biodiversity Support Program.
- Reid, Anthony. 1995. "Humans and Forests in Pre-Colonial Southeast Asia." *Environment and History Environment and History* 1 (1): 93-110.
- Ribot, Jesse C. and Nancy Lee Peluso. 2003. "A Theory of Access." *Rural Sociology* 68 (2): 153-181.
- Ricklefs, M. C. 2008. *A History of Modern Indonesia since c. 1200*, edited by . Translated by , edited by . Stanford, Calif.: Stanford University Press.
- Roosa, John. 2006. *Pretext for Mass Murder : The September 30th Movement and Suharto's Coup d'état in Indonesia*, edited by . Translated by , edited by . Madison, Wis.: University of Wisconsin Press.

- Rostow, W. W. 1960. *The Stages of Economic Growth, a Non-Communist Manifesto.*, edited by . Translated by , edited by . Cambridge [Eng.: University Press.
- Saldanha, Indra Munshi. 1996. "Colonialism and Professionalism: A German Forester in India." *Economic and Political Weekly* 31 (21): 1265-1273.
- Santoso, Suwito, Fendi Siregar, and Kestity Pringgoharjono. 2006. *The Centhini Story : The Javanese Journey of Life : Based on the Original Serat Centhini*, edited by . Translated by , edited by . Singapore; Tarrytown, N.Y.: Marshall Cavendish Editions ; Marshall Cavendish Corp.
- Saputro, Hargo, Sudjono Suryo, and H. M. Soenarjo Hardjodarsono. 1990. "Historisitas Rimbawan Indonesia."Panitia KKI-II, .
- Sardjono, Mustofa Agung. 1995. "Budidaya-Lembo Di Kalimantan Timur : Satu Model Untuk Pengembangan Pemanfaatan Lahan Agroforestri Di Daerah Tropis Lembab."
- Sastrawijaya, Ali, Kusnaka Adimihardja, and Universitas Negeri Padjadjaran. Indonesian Resource Centre for Indigenous Knowledge. 1994. *Sistem Pengetahuan Dan Teknologi Rakyat : Subsistensi Dan Pembangunan Berwawasan Lingkungan Di Kalangan Masyarakat Sunda Di Jawa Barat*, edited by . Translated by , edited by . Bandung: Ilham Jaya.
- Schroeder, Richard A. 1999. "'Re-Claiming" Land in the Gambia: Gendered Property Rights and Environmental Intervention." *Sage Urban Studies Abstracts* 27 (3).
- . 1999. *Shady Practices : Agroforestry and Gender Politics in the Gambia*, edited by . Translated by , edited by . Berkeley: University of California Press.
- Schroth, G. 2004. *Agroforestry and Biodiversity Conservation in Tropical Landscapes*, edited by . Translated by , edited by . Washington: Island Press.
- Schwappach, Adam Friedrich, Fraser Story , and Eric Arthur Nobbs . 1904. *Forestry*, edited by . Translated by , edited by . London: J.M. Dent & co.
- Scott, James C. 1998. *Seeing Like a State : How Certain Schemes to Improve the Human Condition have Failed*, edited by . Translated by , edited by . New Haven: Yale University Press.
- Scott, Janny. 2011. *A Singular Woman : The Untold Story of Barack Obama's Mother*, edited by . Translated by , edited by . New York: Riverhead Books.
- Sears, Laurie J. 2007. *Knowing Southeast Asian Subjects*, edited by . Translated by , edited by . Seattle; Singapore: University of Washington Press ; In Association with NUS Press.

Sellato, Bernard. 2002. *Innermost Borneo : Studies in Dayak Cultures*, edited by . Translated by , edited by . Paris: SevenOrients.

Seminar on the Development of Social Forestry and Sustainable Forest Management, Hasanu Simon , Universitas Gadjah Mada. Fakultas Kehutanan., and Perum Perhutani. 1994. "Social Forestry and Sustainable Forest Management : Proceedings of the Seminar on the Development of Social Forestry and Sustainable Forest Management Held in Yogyakarta, August 29-September 2, 1994." Faculty of Forestry Gadjah Mada University in cooperation with Perum Perhutani, .

Simon, Hasanu., 2004. *Aspek Sosio-Teknis Pengelolaan Hutan Jati Di Jawa*, edited by . Translated by , edited by . Yogyakarta: Pustaka Pelajar.

———. 2004. *Aspek Sosio-Teknis Pengelolaan Hutan Jati Di Jawa*, edited by . Translated by , edited by . Yogyakarta: Pustaka Pelajar.

Simon, Hasanu, and BIGRAF Pub. 2001. *Pengelolaan Hutan Bersama Rakyat = Cooperative Forest Management : Teori Dan Aplikasi Pada Hutan Jati Di Jawa*, edited by . Translated by , edited by . Yogyakarta: BIGRAF Pub.

Simon, Hasanu, K. F. Wiersum , Jiragorn Gajasen, Carl F. Jordan, and Hiroyuki Watanabe. 1992. "Taungnya Cultivation in Java, Indonesia : Agrisilvicultural and Socioeconomic Aspects." *Taungya : Forest Plantations with Agriculture in Southeast Asia : Interplanting Crops can Reduce Land use Conflicts and Increase Sustainability of Forestry in Less Developed Countries*: 101-111.

Sivaramakrishnan, K.,. 1999. *Modern Forests : Statemaking and Environmental Change in Colonial Eastern India*, edited by . Translated by , edited by . Stanford, Calif.: Stanford University Press.

Smith, David M. and David M. Smith. 1997. *The Practice of Silviculture : Applied Forest Ecology*, edited by . Translated by , edited by . New York: Wiley.

Soedjatmoko, , Selo Soemardjan, and Kenneth W. Thompson . 1994. *Culture, Development, and Democracy : The Role of the Intellectual : A Tribute to Soedjatmoko*, edited by . Translated by , edited by . Tokyo; New York: United Nations University Press.

Sudiono, Jon and Soesilo Hardjoprakoso . 2004. *Forests for People = Hutan Untuk Kesejahteraan Masyarakat : Inspirasi Dan Gemanya : Mengenang Penggagasnya Ir. Soesilo Hardjoprakoso*, edited by . Translated by , edited by . [Jakarta]: Yayasan Sarana Wanajaya.

Symposium on Harvesting and Silviculture for Sustainable Forestry in the Tropics and Razali Wan Mohd. 1994. "Proceedings of the Symposium on Harvesting and Silviculture for

- Sustainable Forestry in the Tropics : 5-9 October, 1992, Kuala Lumpur, Malaysia."Forest Research Institute Malaysia, .
- Tewari, D. N. 1992. *A Monograph on Teak (Tectona Grandis Linn.f.)*, edited by . Translated by , edited by . Dehra Dun, India: International Book Distributors.
- Thawngmung, Ardeth Maung. 2003. *Behind the Teak Curtain : Authoritarianism, Agricultural Policies, and Political Legitimacy in Rural Burma*, edited by . Translated by , edited by . London: Kegan Paul International.
- . 2003. *Behind the Teak Curtain : Authoritarianism, Agricultural Policies, and Political Legitimacy in Rural Burma*, edited by . Translated by , edited by . London: Kegan Paul International.
- Thomas, R. Murray. 1973. *A Chronicle of Indonesian Higher Education, the First Half Century, 1920-1970*, edited by . Translated by , edited by . [Singapore: Chopmen.
- Tiwari, K. M. 1983. *Social Forestry for Rural Development*, edited by . Translated by , edited by . Dehra Dun, India: International Book Distributors.
- . 1983. *Social Forestry in India*, edited by . Translated by , edited by . Dehra Dun: Natraj.
- . 1983. *Social Forestry in India*, edited by . Translated by , edited by . Dehra Dun: Natraj.
- Tropical Silviculture Workshop, P. J. Wood, Jerome K. Vanclay, Razali Wan Mohd., IUFRO S1.07-00 Tropical Silviculture., and IUFRO Conference. 1993. "Proceedings of the Tropical Silviculture Workshop, IUFRO Centennial Conference, Berlin, 1-3 September 1992."Forest Research Institute Malaysia, .
- Troup, Robert Scott, and Charles Francis Massy Swynnerton . 1940. *Colonial Forest Administration*, edited by . Translated by , edited by . London; New York, etc: Oxford University Press.
- Tsing, Anna Lowenhaupt. 2005. *Friction : An Ethnography of Global Connection*, edited by . Translated by , edited by . Princeton, N.J.: Princeton University Press.
- Unger, Richard W. 1981. "Dutch Shipbuilding in the Golden Age." *History Today* 31 (4).
- Uzair, Achmad. 2008. "Reformasi in a Javanese (De)Forest(Ed) Village Moving Toward Greater Social Differentiation?"Erasmus University ; Erasmus University Rotterdam [Host].
- Vandergeest, P. and N. L. Peluso. 2006. "Empires of Forestry: Professional Forestry and State Power in Southeast Asia, Part 1." *ENVIRONMENT AND HISTORY* 12: 31-64.

- . 2006. "Empires of Forestry: Professional Forestry and State Power in Southeast Asia, Part 2." *ENVIRONMENT AND HISTORY* 12: 359-394.
- Warner, Katherine, Food and Agriculture Organization of the United Nations., and Trees and People (Program) Forests. 1991. *Shifting Cultivators : Local Technical Knowledge and Natural Resource Management in the Humid Tropics*, edited by . Translated by , edited by . Rome: Food and Agriculture Organization of the United Nations.
- Westoby, J. C. 1989. *Introduction to World Forestry : People and their Trees*, edited by . Translated by , edited by . Oxford, UK; New York, NY, USA: B. Blackwell.
- . 1987. *The Purpose of Forests : Follies of Development*, edited by . Translated by , edited by . Oxford [Oxfordshire]; New York, NY, USA: B. Blackwell.
- Westoby, J. C., University of California,Berkeley.Center for South and Southeast Asia Studies., and University of California,Berkeley.Dept.of Forestry and Resource Management. 1987. *Forestry and Underdevelopment Revisited*, edited by . Translated by , edited by . Berkeley, Calif.?: University of California, Dept. of Forestry and Resource Management?.
- Wieringa, Edwin. 1998. "Who are the Kalang? an Unknown Minority Group on Java and their so-Called Myth of Origin." *Anthropos Anthropos: International Review of Anthropology and Linguistics* 93 (1-3): 19-30.
- Wieringa, Saskia,. 1995. *Subversive Women : Historical Experiences of Gender and Resistance*, edited by . Translated by , edited by . London; Atlantic Highlands, N.J.: Zed Books.
- World Agroforestry Centre. "Agroforestry Systems." Kluwer Academic Publishers.
- World Bank. 1978. *Forestry*, edited by . Translated by , edited by . Washington: World Bank.
- . 1978. *Forestry : Sector Policy Paper.*, edited by . Translated by , edited by . Washington: World Bank.
- Yasmi Y., Guernier J., and Colfer C.J.P. 2009. "Positive and Negative Aspects of Forestry Conflict: Lessons from a Decentralized Forest Management in Indonesia." *Int.for.Rev.International Forestry Review* 11 (1): 98-110.

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