

**Legality of National Parks and Involvement of Local People:
Case Studies in Java, Indonesia and Kerala, India**

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ABSTRACT

Establishing and managing protected areas in developing countries have been in a dilemma between improvement of local livelihood and nature conservation. National or international efforts have been made to overcome problems of protected areas that originated from local people. However, protected area-people conflicts have not been solved yet. Supposed underlying causes are problems in legality of the areas and alienation of local people from protected areas. Previous studies on protected area considered legality as an accomplished fact. Legality obtained through accomplishment of establishment procedures is pre-requisite for proper management. Even though the legal procedures in establishing protected areas have been completed, however, it does not automatically solve the problems of protected areas, because even demarcated protected areas are threatened from dependencies of local people on the resources inside.

Taking the geographical diversity and various schemes of protected area into account, this study focused on national park (NP) in Indonesia and India, and selected Java Island for Indonesia and Kerala State for India as the case studies. The objectives were: 1) to examine legislative, administrative, and institutional arrangements of forest

and protected areas, the process of establishing a protected area, and its disparity with the actual situation, and 2) to examine involvement of local people and find the points that may have led to the success and sustainability. Three new NPs each in Java and Kerala were selected for the case studies on legality, while Ujung Kulon NP in Java and Periyar Tiger Reserve (PTR) in Kerala were selected for the case studies on the involvement of local people. Interviews with key informants in the central governments, local governments, and protected area authorities, and interviews with randomly selected local people on the peripheral areas of PTR were conducted, while site assessments and projects documents were utilized for Ujung Kulon NP.

Differences between Indonesia and India can be found in the legislation and administration systems of forest and protected areas. Procedures in detail to establish a NP are different, but both have same major components, namely declaration, settlement of rights, demarcation and legalization. However, the actual situations in the study sites were similar, namely all NPs had not yet finalized the procedures of establishment. In Java, those procedures were a part of management plan, which means the procedures to acquire legality cannot be completed until management starts. In the cases of Kerala, the procedures were nominal and *de facto* considered to be completed.

Buffer zones development programs in Ujung Kulon NP and India Ecodevelopment Project in PTR were implemented to protect the areas while reducing dependencies of local people through provision of alternative income generating activities. Differences behind the trends in offences were found in the financial mechanisms and implementation process. In Ujung Kulon NP, ineffectiveness of the buffer zones development program resulted in increase of illegal activities. On the contrary, in PTR environmental awareness of local people could be identified,

alternatives to reduce dependency on natural resources were provided, and sustainability of activities beyond the project was ensured.

Conditions surrounding NPs are worse in outside Java and Kerala. Therefore, settlement of rights and establishment of legal basis of NPs in the early stage are pre-requisites to the effectiveness of administration and management of NPs. Further studies are necessary for outside Java and Kerala, either on NPs, other types of protected area, or on forest areas.

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List of acronyms and abbreviations

Acronym/Abbreviation	English/Indonesian
ASEAN	Association of Southeast Asian Nation
CBD	Convention on Biological Diversity
CBNRM	Community-Based Natural Resources Management
CHR	Cardamom Hill Reserve
CIA	Central Intelligence Agency
CSS	Centrally Sponsored Scheme
EDC	Ecodevelopment Committee
FD	Forest Department, India
FREE Project	Forestry Research Education and Extension Project
FSI	Forest Survey of India
G. O.	Government Order
GEF	Global Environment Facility
ICDP	Integrated Conservation and Development Project
ICRAF	International Center for Research in Agroforestry
IEP	India Ecodevelopment Project
IUCN	International Union for the Conservation of Nature and Natural Resources
JFM	Joint Forest Management
KFD	Kerala Forests and Wildlife Department, the Government of Kerala, India
<i>LATIN</i>	<i>Lembaga Alam Tropika Indonesia</i> , an Indonesian NGO
<i>Menhut</i>	<i>Menteri Kehutanan/Minister of Forestry of the Republic of Indonesia</i>
MoEF	Ministry of Environment and Forests, India
MoF	Ministry of Forestry, Indonesia
MoU	Memorandum of Understanding
BAPPENAS	<i>Badan Perencanaan dan Pembangunan Nasional</i> (National Development and Planning Agency of Indonesia)
NGO	Non-Governmental Organization
NP	National Park/ <i>Taman Nasional</i>
NRCO	Natural Resources Conservation Office/ <i>Balai Konservasi Sumberdaya Alam</i>
NTFP	Non-Timber Forest Product
PTR	Periyar Tiger Reserve
PUSPICS	The Training Center for Image Interpretation and Integrated Surveys (now: The Remote Sensing Approach for Resources Inventory using Image Interpretation and Integrated Surveys), a joint cooperation between Gadjah Mada University and National Coordinating Agency for Surveys and Mapping (<i>Badan Koordinasi Survei dan Pemetaan Nasional/BAKOSURTANAL</i>).

Acronym/Abbreviation	English/Indonesian
Perhutani	<i>Perusahaan Hutan Negara Indonesia</i> /National Forestry Corporation
RAPPAM	Rapid Assessment and Prioritization of Protected Areas Management
RARE	RARE Center for Tropical Conservation, an international NGO
RMPU	Rhino Monitoring and Protection Unit
TPCG	Technical and Policy Core Group
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific, and Cultural Organization
USA	United State of America
WB	The World Bank Group
WD	Wildlife Department, India
WLPA	Wildlife (Protection) Act, 1972
WWF	World Wildlife Fund for Nature
WWF-IP	WWF-Indonesian Program

1. INTRODUCTION

1.1 Background of the study

The concept of a modern national park (hereafter is called NP) has established itself throughout the world since the first establishment in Yellowstone, USA in 1872. After USA, following countries established their first NPs (Eagles, McCool, & Haynes, 2002; Yoneda, 2005): Canada (1885), New Zealand (1894), Australia (1879), Sweden (1909), Switzerland (1914), Mexico (1917), European colonies in Africa, namely South Africa (1892), Rwanda (1925), Madagascar (1927), and Kenya (1935); Chili (1931), Argentina (1934), and Ecuador (1935); and other British colonies in East Africa (1948-1951).

While some European countries established NPs in their colonies, establishments of NPs in their own suzerain were facing problems due to population density and unavailability of extensive public areas. It was impossible for the then governments to acquire private lands, considering the cost for compensation. One of the compromise solutions were devised by the establishment of “natural park”, in which agriculture, forestry, hunting, and fishing can still be pursued but where urbanization and industrialization are barred (Harroy, 1974). Another was inclusion of private land into NPs by zoning systems (Yoneda, 2005). Italy in 1922 was the first European country, which established NP that includes not only public areas but also private land and regional land (The Japanese Forest Economic Research Institute [JFERI], 2006). It was followed by the United Kingdom (1951) that combines “natural parks”, which strangely enough are called as NPs, with zones called “the national nature reserves” that

are much more strictly protected (Harroy, 1974). France in 1963 adopted an intermediate system with NPs and regional natural parks and Germany in 1970 with “natural park” system (Harroy, 1974; JFERI, 2006).

It can be concluded from the above historical review that there are two concepts of NP, namely USA’s concept that usually called modern NP or according to Runte (1997) “monumental NP” and European concept that called “protection of lived-in landscapes” (Eagles *et al.*, 2002) or “regional NP” (Yoneda, 2005). Another conclusion is in the end of the nineteenth century when a protected area, for example a NP, would be established in an unoccupied area in the USA, Canada or Australia, the status of the land and utilization therein became less critical and its establishment could start immediately. On the contrary, European countries were facing problems in establishing NPs due to population density and unavailability of extensive public areas.

After the World War II, most of the developing countries followed the concept of USA. It was accelerated after the concept of NP was adopted in the General Assembly of IUCN in New Delhi in 1969 with five basic conditions: extensive area, outstanding contents, an effective system of protection, creation, and management by the highest competent authority of the country, and authorization of tourism (Harroy, 1974). In order to help communication and reporting on protected area in the world (Bishop, Dudley, Phillips, & Stolton, 2004), the International Union for the Conservation of Nature and Natural Resources (IUCN) provided a system of protected area categories based on management objectives (IUCN, 1994): Ia) Strict Nature Reserve, Ib) Wilderness Area, II) National Park, III) Natural Monument, IV) Habitat/Species Management Area, V) Protected Landscape/Seascape, and VI) Managed Resources Protected Area. These categories were expected to function as a universal standard, but by legislation each country had already established its own categories of protected

area with different nomenclature from the one by IUCN.

Usuki (2004) studied development and expansion of NPs in the world and specifically in Southeast Asia. Four categories were offered: 1) Late 1900s to World War II was recognized as NPs for (by) foreigners (from USA spread to Europe then to European colonies countries and protectorates), 2) Post World War II to 1960s and 1972 as NPs for mass tourism (such as in Japan and United Kingdom), 3) 1972 to 1992 as NPs for biodiversity and nature conservation (such as in ASEAN nations), and 4) 1992 until now as NPs for environmental education and ecotourism. These categories showed that the modern concept of NP changed from its original concept to more environmentally options as it spread to the rest of the world.

Protected areas have been established based on the necessity of the countries. However, even the relatively undisturbed forest areas in developing countries have never been an unoccupied area, where wilderness still remained to be established as protected area. Therefore, NPs were most possibly established on lands by changing the previous status or functions into NP, which can be assumed to result in increasing restrictions to local people dependent on the resources. This leads to park-people conflicts. MacKinnon, Mackinnon, Child, and Thorsell (1986/1993) mentioned that the legal status of land designated as a protected area is a critical preliminary consideration, and the legislation should provide clear procedures for acquisition, compensation, and as appropriate, expropriation.

From the possibility that NPs in developing countries were established on lands by changing the previous status or functions into NP, it is necessary to first examine the legal changes by establishment of NPs, namely what sort of institutional arrangements on land use and resources utilization existed before establishment of NPs, how those were modified at the establishment, and what are the underlying causes

behind the deficiencies between legal procedures and actual condition.

Establishing and managing protected areas in developing countries have been in a dilemma between conservation of nature and improvement of local livelihood. Their natural resources are assets to represent the world's biodiversity, while people expect their villages, which are usually located in rural areas with valuable natural resources, to be developed. Therefore, already established protected areas have never been free from disturbances originated from local people. MacKinnon *et al.* (1986/1993) also mentioned the challenges to manage protected area systems in the tropics, where most of the developing countries are located, are limitation of funds, resources, public supports, trained expertises, high rates of illiteracy, low level of institutional development, complex land ownership systems, habitat modification due to economic forces, population growth, and political instability. These challenges have made the politicians and government planners to give more orientation to agricultural and production development than to establish protected areas. For this matter, it is necessary to examine how protected area authorities have been solving the problems.

1.2. Literature reviews

Available studies on protected area issues in the developing countries mainly dealt with 1) natural sciences, such as biology, bio-chemical, and ecology, from gene to ecosystem, 2) policy, administration, and management, such as categorization, function, zoning systems, institutional aspects, legislation, governance, and decentralization, 3) plants and wildlife trade, 4) socio-economic and cultural aspects of surrounding people, including intellectual property rights, and 5) involvement of local people, such as concepts of buffer zones, integrating conservation and development, perception and attitudes of local

people toward conservation of nature and protected area. In category 2), only few studies dealt with historical background or how protected areas were established, while in category 4) and 5) most tended to overlook or consider the legal status of protected area as an accomplished fact. However, considering the offences or illegal activities inside protected areas have been done by local people, the following inquiries might be raised, for example why people have done such offences.

In order to give ideas on why the process of establishment of a protected area and its legal status are important, the following section will explain the Theory of Human Territoriality and examples from various countries on the legality of forest and protected areas and involvement of local people.

1.2.1. Theory of human territoriality

Territoriality is “the attempt by an individual or group to affect, influence, or control people, phenomena, and relationships, by delimiting and asserting control over a geographic area. This area is called the *territory*” (Sack, 1986). Further, Sack (1986) emphasized that a place could be used as a territory at one time and not at another, which meant in creating territory we were also creating a kind of place that required constant effort to establish and maintain. The delimitation of a place became a territory only when its boundaries were used to affect behaviour by controlling access. The definition pointed out that territoriality established control over an area as a means of controlling access to things and relationships. Territoriality was a strategy to establish different degrees of access to people, things, and relationships.

The Sack definition not only defined what territoriality was, but it also suggested what it could do. Three interdependent relationships of characteristics could be recognized. First, it involved a form of classification by area: territory as a place and

usually defined by a name. Second, it contained a form of communication: a territory was communicated by demarcation of the boundary using marker or sign, or gesture of a person when pointing boundary of an area. A territorial boundary might be the only symbolic form that combined a statement about direction in space and a statement about possession or exclusion. Third, it involved an attempt at enforcing control over access to the area and to things within it, or to things outside of it by restraining those within.

Vanderveest and Peluso (1995) stated this theory was the most useful theory for their study of territorialization and state power in Thailand. They systemized and generalized the analysis of territorialization by illustrating the process through a discussion on how territorial civil administration units were established and the state's attempts to take over the administration of rights to land and "forest".

They focused on the territorialization of resources and people in rural areas, specifically: (1) the territorialization of civil administration in rural Siam/Thailand; (2) State's attempts to take over the administration of rights to land through mandatory registration of land titles based on surveys; and (3) State's attempts to control the use of major portions of national territory by demarcating it and defining it as forests. However, they concluded that the latter two territorialization strategies were not successful, because the people ignored and resisted the State's goals and there were conflicting mandates among state agencies that also undermined territorial control.

Further, Vanderveest and Peluso (1995) explained that territorialization of the forests in Thailand took place in three stages: 1) declaration that all unoccupied lands within the national boundaries were state forest under the jurisdiction of the Royal Forest Department initiated in 1896, 2) demarcation of reserve and permanent forests as "protected forest" and "reserved forest" was initiated in 1932 and accelerated after 1964, and 3) functional territorialization, as NP and wildlife sanctuary, was initiated since

1960s. These stages showed that protected areas in Thailand were established on forest areas.

In conclusion, when we think of a protected area, the authority can control a protected area only when the boundary is demarcated, and access to the area and resources therein is restricted. Depend on the legislation, classifying an area as a protected area makes us clear on the inclusion or exclusion of people. Demarcation of boundary is the way of the authority to communicate to people about the said protected area, its restrictions, and the consequences that implies. In demarcation activities, the exact places of boundary are compromised between the authority and the people. Then, law enforcement becomes a legal attempt to control access to protected area.

The next section summarized studies on legality of forest and protected areas in various countries.

1.2.2. Legality of forest and protected areas

Kothari, Pande, Singh, and Variava (1989) after completing an all India survey on protected areas and comparing between the process of establishing sanctuaries and NPs stated that “a protected area is legally *not a national park* until the final notification has been issued”. In India, an area became a sanctuary upon declaration, but various rights and leases had to be settled later, while for NPs, intention to constitute a NP was declared first, all steps that were prescribed for a sanctuary were followed, and after the completion of these steps, the area was declared as a NP.

Ministry of Environment and Forests [MoEF], the Government of India (1998a) admitted that the exercise of determining the rights had till recently not been completed (as cited by Kutty & Kothari, 2001). It was due to lack of guidelines, and district authorities had preferred to delete or denotify parts of protected areas than facing

problems of rights settlement. Kothari *et al.* (1989) mentioned that only 21 of 52 NPs in India have completed their legal procedures.

Kasereka (2003) analyzed factors affecting boundary demarcation in Kahuzi-Biega National Park after German-Congo bilateral conservation project that enhanced the recognition of boundary demarcation in some communities, but not others. Legal boundaries of the park were not negotiated with local communities, and resulted in park officials-people conflicts. Factors affecting boundary demarcation in the study site were: 1) boundary demarcation was positively influenced by participation of traditional chiefs at demarcation missions, 2) boundary demarcation was negatively affected by the number of complaints that was signed by “urbanized natives”, 3) law enforcement was necessary, and 4) development inputs elicited the commitment of local people to park boundary demarcation and conservation.

W. Fujita (2004) examined the formation of socio-ecological space through establishment of NP in northeastern Thailand and found that two villages have been included into the NP although the Royal Forest Department knew the existence of these villages. Among the impacts of NP regulation on villagers’ lives were any kind of subsistence activities become illegal and actual regulations with patrol and arrest were also practiced. However, residing and cultivating existing farmland and gathering forest products have been overlooked.

Y. Fujita (2004) reviewed forest policy in Lao PDR to understand the process of the development of control over forest resources. The review on recent government efforts to reclassify forest and land types according to scientific forest management were resulted in: 1) delineation of national reserve forest, even though unclear and ill defined, has ruled out human intervention within the boundary, and 2) application of new land and forest management institution was less troubling for permanent agriculture land and

settlement land, where ownership of land plots were already well defined, however, it imposed constraint in outer resource zone. From the case study in Phao Phanang, the new forest boundary overlapped with customary boundaries of villages, and new land and forest management institution complicated local resources use.

Completion of park boundary demarcation became one of the key steps for the initiation of Integrated Conservation and Development Project (ICDP) implementation in Kerinci Seblat National Park, Sumatera (World Bank [WB], 1996b). Kerinci Seblat NP finally completed the boundary demarcation and obtained its legality through the decree of the Minister of Forestry (hereafter Ministerial Decree) No. 901/Kpts-II/1999 on October 14, 1999.

The World Agroforestry Centre (ICRAF) Southeast Asia Regional Office since 1997 has been dealing with the research on the process of establishing forest area in Indonesia, in relation to land tenure system and customary law and rights. Learning from the experience in Krui, West Lampung, which has been known for *damar* (*Shorea javanica*) agroforestry practices by local people since colonial period (Rappard, 1937; Torquebiau, 1984), Fay, Sirait and Kusworo (2000) stated that the delineation process was long and complicated, shortcuts were often taken, and at times the process was manipulated. Therefore, they concluded that the national forestland could be considered illegal and illegitimate.

Most of forest areas on the statistics were not followed by boundary demarcation (Sirait *et al.*, 2004) and even an administrative discrepancy was found. The latter referred to the basis of land tenure that was in the authority of the National Land Agency (*Badan Pertanahan Nasional*), while forest utilization and management without the authority to give land status lied to Ministry of Forestry (MoF) (Fay & Sirait, 2005).

Most of NPs in Indonesia are unclearly demarcated both on maps and in the field,

which lead to encroachment and overlapping development interests (settlements, concession, and plantation). In addition, many of those NPs have not yet been officially legalized by the ministerial decree, thus do not have legal status as a NP (Soekmadi, 2002).

1.2.3. Involvement of local people

There has been a change in the management philosophy for protected area around the world including Indonesia, from exclusion of local people to inclusive one. Participation development in Indonesian NPs could be classified into three phases (Soekmadi, 2002): 1) technocratic era (1980 - mid 1980s) was known as NP management against people, 2) passive participation era (mid 1980s - late 1990s), where management for and by people were conducted through buffer zones development projects, from local aspiration but financed by central government and donor agencies, and 3) active participation era (late 1990s – present) has been known for its political negotiation among parties for each role in NP management and benefit sharing.

MacKinnon *et al.* (1986/1993) defined areas adjacent to protected areas as buffer zones, on which land use was partially restricted. Buffer zones were designated to give an added layer of protection to the protected area itself while providing valuable benefits to neighboring rural communities.

ICDP was a new approach to compromise conservation and people, which could be compared to participatory forest management for forest resources. It refers to projects have been implemented in protected areas that aimed at ensuring conservation of biodiversity by reconciling management of protected area with the social and economic need of local people. The characteristics of those projects were: (1) protected area management activities include biological resources inventories and monitoring, patrols to

prevent illegal activities, infrastructure maintenance, applied biological research, and conservation education, (2) establishment of buffer zones around protected area, and (3) existence of local social and economic development activities that comparable to rural development activities or approaches that rely on compensation and substitution strategies. In accordance with the difference of domestic and local conditions, ICDPs have been applied from small to large-scale areas with different degree of involvement of local people and various types of funding mechanism (Wells, Brandon, & Hannah, 1992).

However, Wells *et al.* (1992) studied the initial stage of ICDPs implementation in 23 projects in Africa, Asia, and Latin America and concluded that even under best conditions ICDPs could play only a modest role in mitigating the powerful forces that causing environmental degradation.

ICDP approach has been applied to various parts of developing countries, with synonyms like Community-Based Natural Resource Management (CBNRM) in southern Africa (Wainwright and Wehrmeyer, 1998), Nature Reserve Management Project in China, Kerinci Seblat ICDP in Indonesia, Forest Management and Conservation Project in Lao PDR, Conservation Management of Priority Protected Areas in the Philippines, Conservation Forest Area, Protection, Management, and Development Project in Thailand (Sanjayan, Shen, and Jansen, 1997), and Ecodevelopment Program in India (Sanjayan *et al.*, 1997; Badola, 2000).

Wainwright and Wehrmeyer (1998) did empirical study to determine the effectiveness of a CBNRM program in Zambia and concluded that it failed to make conservation and development compatible. From existing studies, Muller and Albers (2004) pointed out how the complexity in implementation process of ICDPs had led to failures. To cope with this, they developed a model to comment on the role of market

settings in conservation policy and the compensation mechanisms for the access to protected areas. Similarly, Johannesen and Skonhøft (2005) revealed various difficulties in implementation of ICDPs and suggested a benefit-sharing mechanism in the form of transfer of income from tourism and hunting to local people and as a return to reduction of the local people's activities inside the protected area.

MacKinnon (2001) noted that early enthusiasm for ICDPs was questioned critically by other researchers (such as Kramer *et al.*, 1997; Noss, 1997; Brandon *et al.*, 1998; Hackel, 1999; Oates, 1999; and Wells, Guggenheim, Khan, Wardojo, and Jepson, 1999), on the ICDPs impact on conservation and development objectives. To these critical examinations, she explained “sometimes” and “under some circumstances” ICDPs had still worked successfully. Through lessons learned from Southeast Asia, MacKinnon and Wardojo (2001) suggested the factors for the success of ICDPs as showed in Box 1.

Uniyal and Zacharias (2001) utilized project documents (the impact assessment and baseline surveys) of India Ecodevelopment Project (IEP) in Periyar Tiger Reserve (PTR), India and stated that the trainings on participatory management that was provided for the park staffs had changed their perceptions and attitudes toward villagers. Consequently, interactions between the park and the people became more positive than before. Dependency on PTR resources was also reduced.

Other studies and reviews on the concepts of the involvement of local people were conducted for example by Kothari, Singh, and Suri (1996), Kothari, Pathak, Anuradha, and Taneja (1998), Wells *et al.*, (1999), Anuradha (2000), Apte and Kothari (2000); Kothari, Pathak, and Vania (2000), Saigal (2000), Singh, Sankaran, Mander, and Worah (2000), Soekmadi (2002), Harada (2003), Harada (2004), McCarthy (2004), Kothari, Vania, Das, Christopher, and Jha (2004), Saberwal, Rangarajan, and Kothari

(2004), and Wollenberg *et al.* (2006). Their studies focused on the involvement of local people in the management of protected area and surrounding, and also efforts, campaigns, actions, programs, and projects from domestic and international NGOs to encourage collaborative management of protected area with local people and other stakeholders.

Box 1. Factors for the success of ICDPs

1. Clear definition of protected area objectives and conservation targets, with management, zoning and development activities that support those objectives.
2. Consultation with all stakeholders, especially local indigenous communities, to allow participation in planning and management, building on local knowledge and resource management systems as appropriate, and ensuring consistency with conservation objectives.
3. Clear and agreed boundaries of protected areas with local communities involved in demarcation. Firm but fair enforcement of boundaries, park regulations and land-use rules, through local community and local government structures as well as conservation agencies.
4. Appropriate institutional arrangements, mandate, and resources for strong protected area management, with flexibility to adapt resource use to real needs to meet conservation objectives. This will include establishing partnerships with key individual and groups, including community leaders and women's groups appropriate.
5. Strong capacity within the responsible conservation agency, whether this is run by the government, NGOs or community groups or mix of these groups.
6. High-level and sustained political and financial commitment, including financial mechanisms to cover recurrent core costs of protected areas and associated necessary/linked development activities.
7. Inter-sectoral cooperation and sectoral/regional impact assessments, to ensure that parks and conservation are integrated into regional development plans, and to avoid conflicting strategies between different government agencies, e.g. public works and conservation. Involvement of park managers in spatial planning and public and private investment decisions likely to impact on protected areas.
8. Clear and explicit linkages between conservation and development. Where alternative livelihood opportunities are offered to communities they should be consistent with park conservation objectives delivered in a timely fashion and preferably funded through regular development programs to encourage mainstreaming.
9. Support for education and awareness programs aimed at all levels of stakeholders from local communities to policy-makers, to increase understanding and awareness of protected area value and benefits, including their crucial role in providing ecosystem services.
10. Appropriate indicators to monitor the biodiversity, social and management effectiveness impact of ICDP activities, and adaptive management to respond to changing needs.
11. Long-term commitment to areas and programs, starting with a few sample, small-scale pilot activities with modest aims, and building on successes and lessons learned.
12. Incentives and a policy environment which encourage protected area conservation, by exploiting synergy between habitat protection and development and/or linking future or additional development opportunities to environmental performance.

Source: MacKinnon & Wardojo, 2001

Studies on programs/projects that involved local people are diverse but mostly critical to the effectiveness of ICDPs. However, what were the points that led to the success and sustainability of the involvement were not in their scopes. Moreover, the studies mentioned above also did not pay much attention to the legal status of protected area, which is the pre-requisites for the involvement process. Only by legality, inclusion and exclusion of people and enforcement within the boundary of protected area can be cleared.

It can be concluded that there are problems in establishing protected areas, such as informality, opacity, and power play when implementing the procedures. Amendment of legislation affects forest and protected areas classification and legality. However, how protected areas are defined according to the law, how the process to establish, whether existing protected areas fulfill the legality, and whether these legal situations are linked to the conflicts surrounding the park have not been considered.

1.3. Objectives

As introduction of modern protected area, originated from the USA, is relatively new to developing countries, it is assumed that certain institutional arrangements on the land use and resources utilization, such as in forest areas, have already existed. Therefore, the quality of such existing arrangements and successional adoptability of procedures to establish protected area on such existing arrangements are necessary to be examined.

Even though the criteria and procedures to establish a protected area are implemented properly, it does not automatically solve the problems of protected areas. Illegal logging, wildlife poaching, and other offences are often carried out by local people in return for cash. Encroachments for agricultural land and settlements inside

protected areas are also often become short cuts not only for subsistence but also for better living, even they realize illegality of their activities. The existence of enclaves inside protected areas also raise problems, because the enclaves are usually only provided land for settlements and limited land for cultivation, while people reside in the enclaves depend on forest resources for their subsistence. Therefore, additional measures, for example involvement of people into the management of protected area, are also necessary to be examined in order to cope with growing pressures from people.

On the necessity of examinations on procedures and the process that actually happens on the establishment of protected areas in the developing countries and on additional measures to cope with protected area problems, the objectives of this study are to examine legislative, administrative, and institutional arrangements of forest and protected areas, the process of establishing a protected area and its disparity with the actual situation, and to examine involvement of local people and find the points that may have led to the success and sustainability.

1.4. Terms and Definitions

Since this study involved two countries; there are terms that sometimes have different definitions in each country. For the purpose of this study, national forest means forest that ownership of the land lies to the country, which in Indonesia refers to state forest (*hutan negara*) and in India refers to reserved, protected and unclassed forests.

A protected area is defined as an area that is given status as protected area or in other names by the law in force, which in Indonesia by Act of the Republic of Indonesia No. 5 of 1990 on conservation of living resources and their ecosystems (hereafter is called Conservation Act) and hunting park as defined by Act of the Republic of

Indonesia No. 41 of 1999 on forestry (hereafter is called Forestry Act) and in India by Wildlife (Protection) Act, 1972 (hereafter is called WLPA). Details of protected area categories of each country are given in section 2.1 (zoning system of forest and nature conservation areas) of chapter 3 for Indonesia and chapter 4 for India. Therefore, in this study, the status of the protected areas are used as they are used in each country, eventhough the definition and allowable and resctricted activities therein might be different.

Legality of a protected area is defined as the legal status issued by the authority of each country, which in Indonesia by the Minister of Forestry through a decree on stipulation of an area as a protected area and in India by the central/state government through a government order on final notification of an area as a protected area. This legality is issued after a process of protected area establishment is accomplished.

Peripheral areas of protected areas are defined as areas outside protected areas around the border or adjacent, which in Indonesia often termed as buffer zones or in India often termed as fringe areas.

Local people are defined as forest dwellers and or people who live in the peripheral areas.

Involvement of local people in the management of protected area is defined as activities of local people within or outside protected areas, whether voluntary or under a mechanism, to support the protection and sustainability of biological diversity (biodiversity) of protected areas.

ICDPs refer to projects have been implemented in protected areas that aimed at ensuring conservation of biodiversity by reconciling management of protected area with the social and economic need of local people (Wells *et al.*, 1992). Therefore, in this study, ICDPs are not limited to projects that officially initiated and funded by the World

Bank. Any project that has the characteristics given by Wells *et al.* (1992) is considered as one of ICDPs.

Involvement of local people in the management of protected area is successful when people-originated problems in protected areas can be reduced after the involvement, and local people become independent from protected areas, either on resources or financial support.

Sustainability of involvement of local people is defined as a continuance of activities initiated at the first time of involvement process without financial support, either from protected areas or other institutions that financed the involvement.

2. METHODOLOGY

2.1. Framework of the study and selection of study sites

In order to simplify the frameworks, land use is categorized only to forest and non-forest areas. The term forest comprehends both forest land and resources. Forest areas are legally called forest areas when they are demarcated. Then, to manage the land and resources therein, various types of management functions, such as reserved forest, protection forest, production forest, protected areas, etc., can be applied on. Legality of each function of forest areas, including protected areas, is regarded as pre-requisite for proper management. The legality of protected area in this study means a legal status of an area as a protected area under the law in force, which is given by the government when the process to establish a protected area, including demarcation, is accomplished. Once bears a protected area status, an area is mostly restricted and local people are limited or even prohibited to use it. Among various status of protected area, this study focused on NP, because NP is internationally recognized and the characteristics are more or less similar in all over the world. NP is also the symbol and the proof that countries concern on and are engaging nature conservation.

As mentioned in the background of the study and literature reviews, protected areas in developing countries, particularly NPs, are most possibly established from lands that are having particular arrangements. The overall assumptions that caused protected area-local people conflicts after the establishment are: (1) the procedures to establish protected areas under the law in force do not request settlement of rights when

the previous status of the area concerned is national forest, (2) eventhough there are provisions on settlement of rights, the procedure is neglected in actual situation, or management as a protected area precedes completion of legal framework, and (3) deficiencies in legality as in (1) and (2) form common backgrounds of conflicts between protected area administration and local people.

This study firstly examined legal definition, classification of forests and protected areas, and administrative management bodies. Next, the initial process to create NPs based on legislation was elucidated, institutional arrangements existed before NPs establishment were identified, and then compared with its actual implementation in selected study sites. The disparity and the underlying causes behind the deficiencies between legal frameworks and actual conditions were identified. In the actual conditions, protected areas, either accomplishing legality or not, always at risk of population pressure. It may increase protected area-local people conflicts, when legality of protected area is incomplete or neglected or when population pressure is high. Then, to understand how protected areas have been reducing their conflicts with local people and to find the points of its success and sustainability, studies on the involvement of local people in the management of protected area were conducted. The involvement of local people could be in the form of various projects that aimed at ensuring conservation of biodiversity while incorporating the needs of local people. These projects have been called ICDPs if the characteristics are similar to those prescribed by Wells *et al.* (1992) as mentioned in section 1.2.3. The summary of this framework is shown in Figure 2.1.

From the list of developing countries, Indonesia and India were purposively selected as case studies, firstly because their conditions fulfilled the assumption that certain institutional arrangement on the land use and resources utilization have already

existed on the areas proposed to be established as protected areas. Forest administration and management have been established in these countries since colonial period, and subsequent to it, protected areas were established although in limited numbers. Both have developed direct management system by the government and applied the system that so-called scientific forestry.

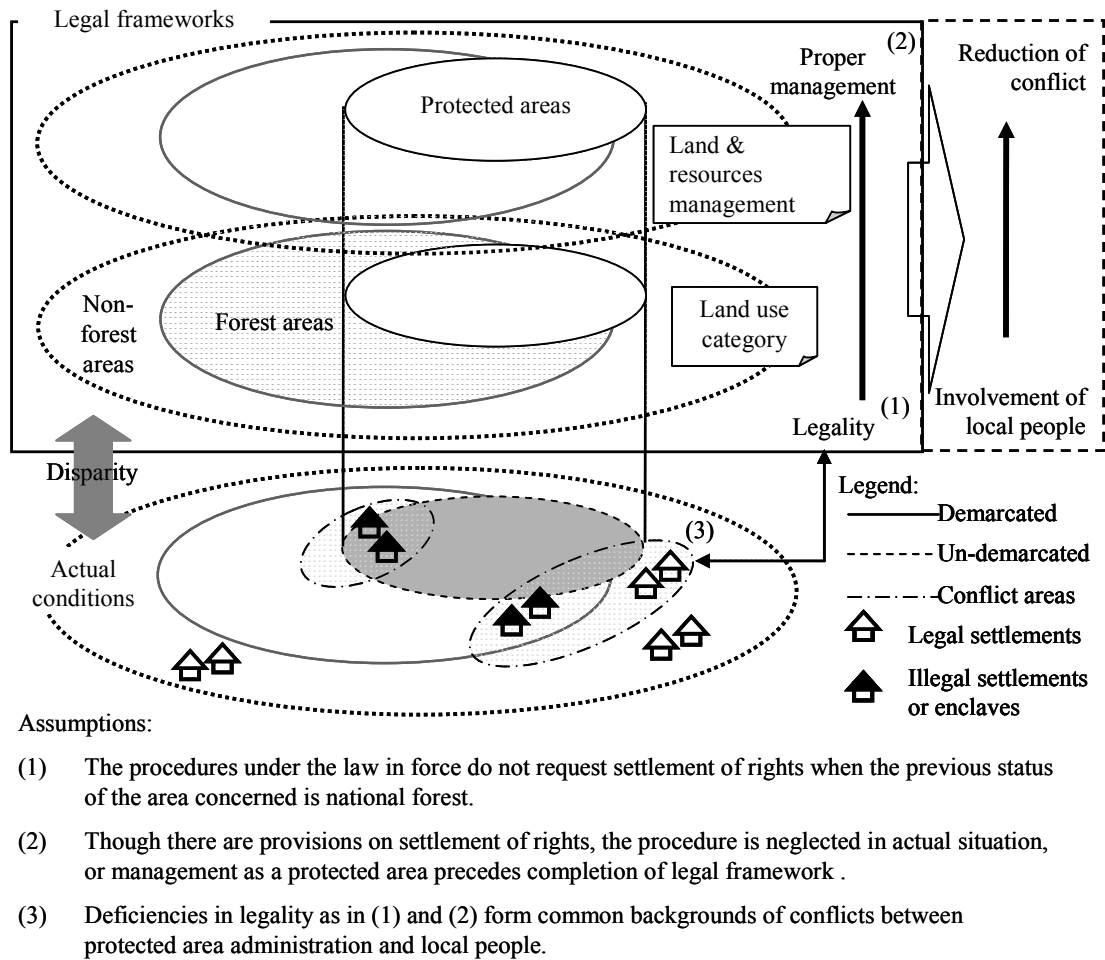


Figure 2.1. Framework of the study

Note: Marine/aquatic areas are not included in this framework

Secondly, the two countries were also worth being compared within the aspects on legality of protected area and involvement of local people, because their large territories contain typical ecosystems of Southeast Asia and South Asia and rich in population. Thirdly, each country has been acting as important country, in respective

region, Southeast Asia and South Asia.

However, not all part of these countries fullfil the condition of similarity in forest infrastructures, either soft infrastructures, namely demarcated forest areas, mapping and inventory, organization, and personnel, or hard infrastructures, namely roads, building and equipment. The establishment of forest infrastructures that started during the colonial period was in the main part of India, including Kerala State, but only in Java Island (hereafter is called Java) as for Indonesia. After independence, protected areas were established mostly on forest areas. Unfortunately, until now the demarcation processes in most of these protected areas have not completed yet, or the areas have not yet legalized as protected areas, thus do not have legality yet. Besides these reasons, Java and Kerala were selected as the study sites among other regions in the two countries because their similarities (Table 2.1) of having similar climate, high population density, and both also have newly established protected areas.

Table 2.1. Background to compare two countries

Status		Indonesia	India
Land-use	Demarcated	Java	Main part
	Un-demarcated	Outside Java	Arunachal Pradesh, Orissa, Manipur, Chhattisgarh, Karnataka, Assam, Meghalaya, Nagaland, and Mizoram*
Population	High-density	Java	Kerala, etc.
	Low-density	Outside Java	North-eastern, etc.

Note: * the states are arranged from the largest occupation of unclassified forest areas of more than 500,000 ha (FSI, 2005)

Table 2.2 shows the selected study sites based on research topic. Legality of protected area was addressed in this study through comparison between legislation and reality of the new protected areas in two regions, Java and Kerala, whether the process of establishing them were conducted as per legislation. Coincidentally, the status of all

new protected areas is NP. To address involvement of local people in protected area management, Ujung Kulon National Park and Periyar Tiger Reserve (PTR) were selected because both have similarities as the habitat of flagship species such as Javan rhino (*Rhinoceros sondaicus*) and tiger (*Panthera tigris tigris*) respectively, threats and pressures came from local people despite having long history and legality as protected areas, and protection and ecotourism programs as well as village based projects, namely Buffer Zones Development Programs in Ujung Kulon NP and India Ecodevelopment Project (IEP) in PTR, have been implemented to overcome the problems.

Table 2.2. Selected study sites based on research topics

Research topic	Java	Kerala
Legality of protected areas	Gunung Merapi	Mathikettan Shola
	Gunung Merbabu	Pambadum Shola
	Gunung Ciremai	Anamudi Shola
Involvement of local people in protected area management	Ujung Kulon	Periyar

From the above explanation, it can be summarized that there are three scales of study based on the locations: Indonesia versus India, Java versus Kerala that represented by three new NPs in each region, and Ujung Kulon NP versus PTR. Based on the topics, Indonesia and India were compared in the legislation, analyzed its impact within the aspects of forest and protected areas establishment, administration, and management. The legal procedures to establish protected areas were compared to the implementation in three new NPs in Java and Kerala respectively. New NPs were selected for the study on legality in order to collect as much information as possible in the process of establishment. At last, Ujung Kulon NP and PTR were selected for the example of protected areas that have gained legality, but have been suffering from the conflicts with

local people. Zoning in Ujung Kulon NP was completed in 1997 and boundary demarcation in 1999. However, from 1999 to 2005, neither Ujung Kulon nor other NPs that may have completed demarcation not yet stipulated as NP. The interruption by political crises may possibly delay the issuance of the stipulation decree. PTR gained its legality as a NP in 1982.

2.2. Outline of the study sites in Java, Indonesia

Java is the most populated island in Indonesia. It covers 132,186 km² of area and is divided into one special capital city district (*Daerah Khusus Ibukota Jakarta*; hereafter is called Jakarta), one special region (*Daerah Istimewa Yogyakarta*; hereafter is called Yogyakarta), and four provinces (Banten, West Java, Central Java, and East Java Provinces). The population density in Java is 918 persons per km² (Statistics Indonesia, 2000a; 2000b). Based on forest area designation for each province, the total forest area in Java is 3,289,263 ha or 2.55 % of the total forest areas and aquatic ecosystems in Indonesia (MoF, 2004).

The study sites (Figure 2.2) are new NPs in Java, namely Gunung Merapi National Park (6,410 ha), Gunung Merbabu National Park (5,725 ha), and Gunung Ciremai National Park (15,500 ha), and Ujung Kulon National Park (102,551 ha). As the word *gunung* (mountain) shows, each NP consists of a volcano or mountain range with some mountain peaks and surrounding roots. Gunung Merapi NP stretches over Sleman District, Yogyakarta, and three districts in Central Java Province: Boyolali, Klaten and Magelang. Gunung Merbabu NP is located in Boyolali, Magelang and Semarang Districts, Central Java Province, and Gunung Ciremai NP in Kuningan and Majalengka Districts, West Java Province.

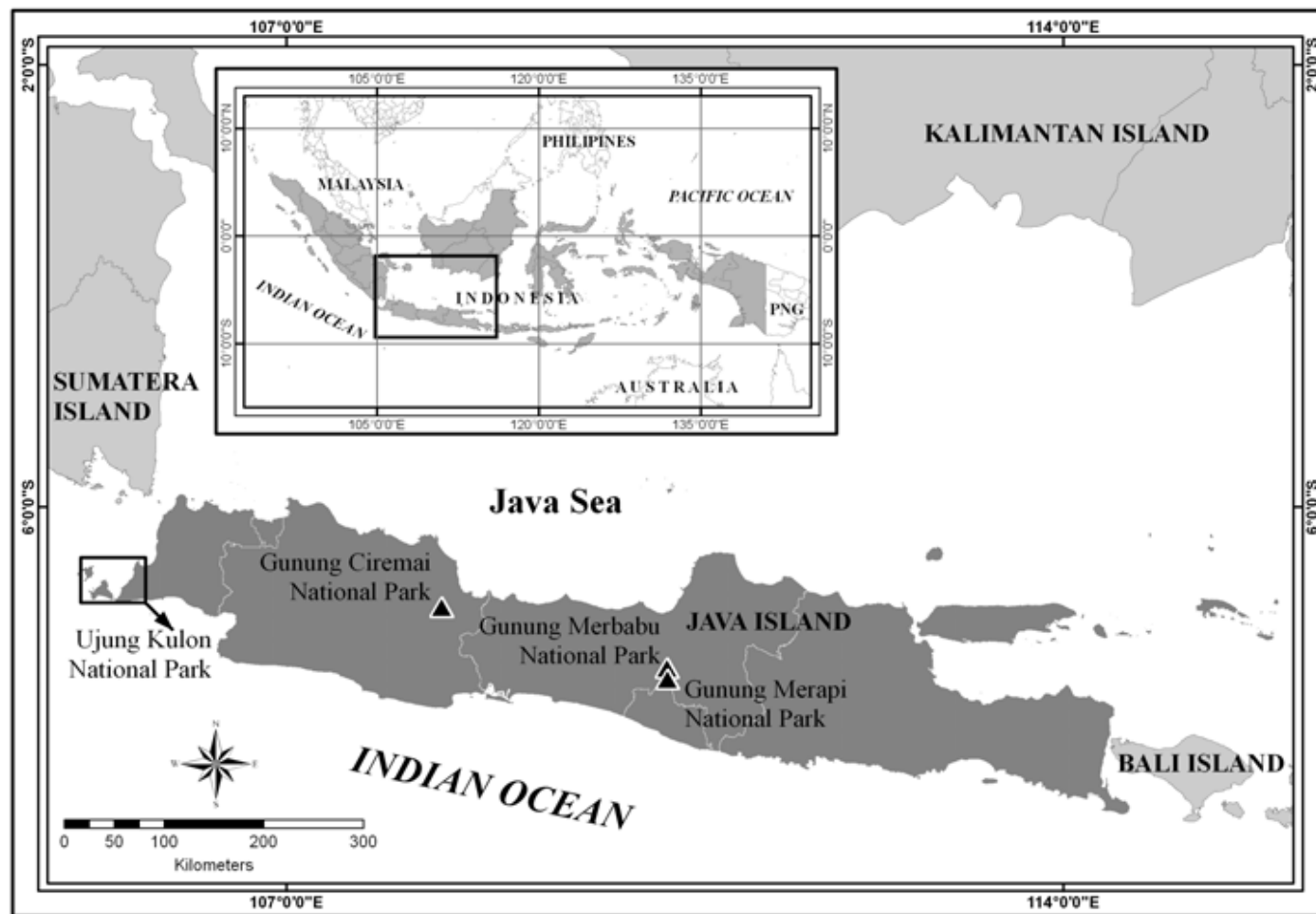


Figure 2.2. Map of study sites in Java, Indonesia

2.2.1. Gunung Merapi National Park

Gunung Merapi is one of the most active volcanoes in the world, with unique and specific ecosystems, which is called tropical forest affected by volcanic activities. It has an important role in the livelihood of surrounding areas, such as source of water. At least 72 species of flora, including 47 species of orchids, 10 species of mammals, 99 species of birds, and 3 species of reptile could be found here. Among them are endangered and endemic species (Sriyanto, 2004). Further, Yogyakarta Natural Resources Conservation Office and Faculty of Forestry Gadjah Mada University (2003) reported potentiality of nature and cultural tourism, grass for livestock, and sand mining in Gunung Merapi, before designated as NP, so far contributed not less to the local livelihood.

2.2.2. Gunung Merbabu National Park

Gunung Merbabu is the habitat for endangered flora, such as orchids, and fauna, such as panther (*Panthera pardus*) and Javan Eagle (*Spizaetus bartelsi*). This area is a water catchment area, so it is important for the surrounding communities. Before designated as NP, this area was protection forest and limited production forest under the management of National Forestry Corporation (hereafter is called *Perhutani*). Therefore, the trees found in the area are mainly production oriented trees planted by the company from 1964 to 2003, such as pine (*Pinus merkusii*), acacia (*Acacia decurrens*), *suren* (*Toona sureni*), *puspa* (*Schima noronhae*), etc. (Sriyanto, 2004; Satyatama *et al.*, 2005). Further, Central Java Provincial Forestry Office and *PUSPICS* (The Remote Sensing Approach for Resources Inventory using Image Interpretation and Integrated Surveys) of Faculty of Geography Gadjah Mada University (2003) reported that there are some enclave settlements in the area, and forest-based activities, such as hunting and collecting fodder

and firewood, have been done by people in the enclaves and by surrounding communities may become conflict in the future.

2.2.3. Gunung Ciremai National Park

Forest ecosystems in Gunung Ciremai are mostly virgin forests that can be classified as low-land rainforest, montane rainforest, and sub-alpine forests. Gunung Ciremai contains high biodiversity and has high potentiality for ecotourism, functions as a water catchment area for surrounding areas, source of important rivers and spring water for local livelihood, agriculture, fishery, local drinking water company, and industries in three districts, namely Cirebon, Kuningan and Majalengka.

Problems and challenges in this area before designated as NP were encroachment, illegal logging, sand mining, forest fire, and road construction through the protection forest, which connected Palutungan in Kuningan to Ciinjuk in Majalengka, for agricultural products transportation (Harjadi, Wastra, Setiawan, Rinekawati, & Santoso, 2003; Ministerial Decree No. 424, 2004; Sriyanto, 2004). The most critical problem is allocation of certain parts of production forest in Gunung Ciremai area, which was initiated when the area was managed by *Perhutani*, to be managed by people through Community-Based Forest Management program. This program had been continued even after the function of the area was reclassified into protection forest.

2.2.4. Ujung Kulon National Park

Ujung Kulon NP lies between 06°30'43" - 06°52'17"S and 102°02'32" - 105°37'37"E. It covers an area of 102,551 ha that consists of 76,214 ha of terrestrial areas and 44,337 ha of marine areas. Legal status of the area was obtained in 1921 from Dutch colonial as a terrestrial nature reserve and then changed to wildlife sanctuary in 1937, with

additional areas of Peucang and Panaitan islands. After independence, the status was changed back to nature reserve with addition of marine areas as far as 500 meter to the sea from the lowest tidal point. In 1967, southern part of Gunung Honje of 10,000 ha, and in 1979 northern part of Gunung Honje of 9,498 ha were included into the Ujung Kulon Nature Reserve. Then, in 1980 this reserve was managed by NP management system, based on Minister of Agriculture's statement, however, the NP organization was established in 1984. In 1990, the administration and management of Krakatau islands of Ujung Kulon NP were transferred to Tanjung Karang NRCO II, while Carita recreation forest was transferred to *Perhutani* Unit III West Java. Ujung Kulon was legally designated as a NP by Ministerial Decree No. 284/Kpts-II/1992 issued on February 26, 1992, which covers an area of 102,551 ha that consists of 76,214 ha of terrestrial areas and 44,337 ha of marine areas. At the same year, Ujung Kulon NP as the last habitat for Javan Rhino (*Rhinoceros sondaicus*) was included in the World Natural Heritage Site of UNESCO. In 1997, the zoning process was completed. In 1999, Ujung Kulon NP completed its boundary demarcation through the Ministerial Decree No. 758/Kpts-II/1999. However, until the preliminary study was conducted in 2005, it has not yet been legalized by stipulation decree.

2.3. Outline of the study sites in Kerala, India

Kerala State is located in South India. It covers 38,863 km² of area and is divided into 14 administrative districts. Census of India (2001) reported the population density in this state as 819 persons per km², the third rank in India. In 2005, Forest Survey of India (FSI) published State of Forest Report 2003 that mentioned forest area of Kerala was 11,268 km². This forest area is divided into 23 forest divisions and 12 wildlife divisions

and managed by Kerala Forest and Wildlife Department (hereafter is called KFD).

The study sites (Figure 2.3) are new NPs in Kerala, namely Mathikettan Shola National Park (1,282 ha), Pambadum Shola National Park (132 ha), and Anamudi Shola National Park (750 ha), all are administratively located in Idukki District and under management of Munnar Wildlife Division; and Periyar Tiger Reserve (77,700 ha) is administratively located in Idukki and Pathanamthitta Districts, under management of Periyar Wildlife Division.

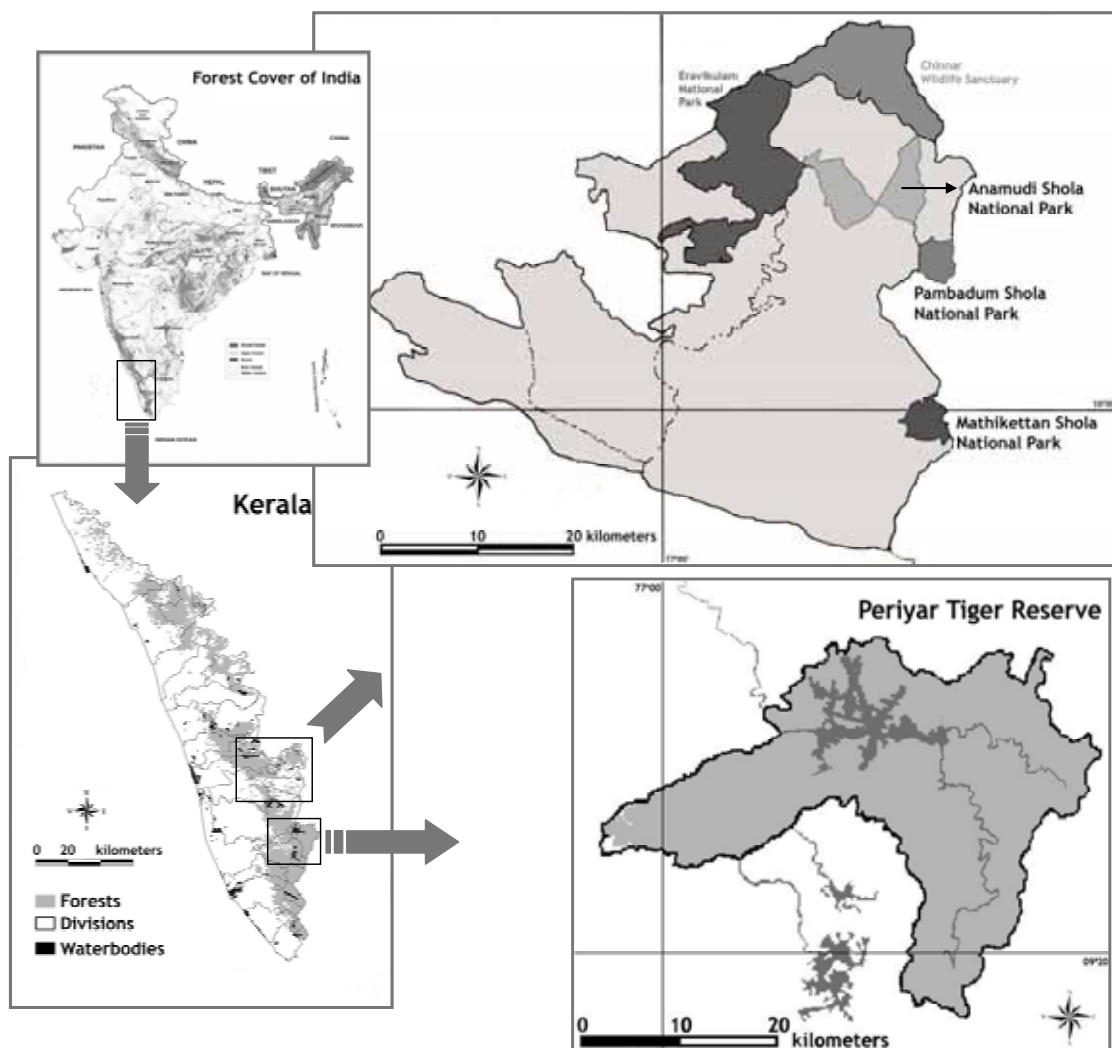


Figure 2.3. Map of study sites in Kerala, India

Sources: Ministry of Environment & Forest [MoEF], 2001; Kerala Forest & Wildlife Department [KFD], 2004 (unpublished); Menon *et al.*, 2005a; 2005b; 2005c

2.3.1. Mathikettan Shola National Park

Mathikettan Shola NP consists of four types of vegetation, namely west coast tropical evergreen forests, west coast semi-evergreen forests, south Indian moist deciduous forests and grasslands. It contains 63 species of trees, 63 species of herbs and shrubs, 15 species of climbers. From two days observation of fauna, Menon *et al.*, (2005a) found that there are at least 13 species of insect, 27 species of birds, and 9 species of mammals.

2.3.2. Pambadum Shola National Park

Menon *et al.* (2005c) also reported four types of vegetation in Pambadum Shola NP as in Mathikettan Shola NP. They found 28 species of trees, 73 species of herbs and shrubs, and 16 species of climbers inside the NP. They also detected 14 species of birds and 9 species of mammals from field survey. Brijesh (2004) mentioned 321 species of Lepidoptera, while Mathew and Mohandas (2001) mentioned 24 species of insects other than Lepidoptera (as cited in Menon *et al.*, 2005c).

2.3.3. Anamudi Shola National Park

The same four types of vegetation are found also in Anamudi Shola as found in Mathikettan Shola and Pambadum Shola. Based on a single visit to Anamudi Shola, Menon *et al.* (2005b) reported 62 species of trees, 151 species of herbs and shrubs, 39 species of climbers, 11 species of birds, and 9 species of mammals. In these areas, Mathew and Mohandas (2001) reported 344 species of insects, while Nameer (2001) reported 76 species of birds (as cited in Menon *et al.*, 2005b). Further, Menon *et al.* (2005b) reported that some tribal colonies inhabited the out borders of Mannavan Shola, part of Anamudi Shola, namely Muthuva colonies at Gudalar and Kulachivayal and

Tamilian colonies at Perumala, Puthur, and Kanthalur. These people were wholly dependent on Mannavan Shola for firewood, timber, and wood for various agricultural purposes.

2.3.4. Periyar Tiger Reserve

Periyar Tiger Reserve lies between 9°15' - 9°40'N and 76°55' - 77°25'E. It covers an area of 77,700 ha and is administratively located in the Idukki and Pathanamthitta Districts, Kerala. The legal status of the area is a wildlife sanctuary that was established in 1950, but it has been called PTR since it was involved in Project Tiger in 1978. In 1982, the core area (35,000 ha) was declared as a NP, and in 1991 it was also selected as one of the sites for Project Elephant, which enhanced not only the importance in wildlife conservation but also the economic potentials such as eco-tourism. Along with these projects, IEP was started in December 1996 and formally finished in June 2004.

2.4. Data collection and analysis

Preliminary studies were conducted from February to March 2004 in Kerala, India, and from January to March 2005 in Sumatera and Java, including Ujung Kulon NP, Indonesia. As results of preliminary studies, research locations were set to PTR, were visited from August to September 2004, and new NPs in Kerala, namely Mathikettan Shola, Pambadum Shola and Anamudi Shola NPs, were visited from August to September 2005. Research locations in Indonesia were set to Ujung Kulon NP and new NPs in Java, namely Gunung Merapi, Gunung Merbabu and Gunung Ciremai NPs, were visited from January to February 2006.

During field surveys, primary and secondary data were collected through

interviews with key informants in central government, local government, and park authorities and interviews by sampling method to local communities were conducted in PTR.

Primary sources on NP establishment and management are interviews with key informants both at the central and local levels. The offices at the central level visited for interviews were: Wildlife Division in MoEF (India), Directorate of Area Conservation, and Law and Organization Bureau in MoF (Indonesia). At the local level, offices visited for interviews were: Munnar Wildlife Division (India), Yogyakarta NRCO, Central Java NRCO, West Java II NRCO, and Forest Area Consolidation Office Region XI Yogyakarta (Indonesia). Interviews with PTR authorities were conducted to understand how IEP had been implemented. To understand what the responses of local communities in the process of IEP implementation, interviews with local communities by sampling method were conducted. At the time of interviews with Ecodevelopment Committees (hereafter is called EDC) members, interpreters between English, Malayalam, and Mannan (Mannan tribe's language) were employed. Detailed method for research in Ujung Kulon NP and PTR are available in section 3.5.1 and 4.5.2.2

Secondary sources, such as legislation, reports, management plans, statistical data, and other related literatures were collected in the offices visited for primary data and also in following institutions: Kerala Agricultural University (Thrissur), Kerala Forest Research Institute (Peechi), Center for Development Studies (Thiruvananthapuram), Indian Institute of Public Administration (New Delhi), and following NGOs: WWF India Kerala Office (Thiruvananthapuram), WWF India (New Delhi), Kalpavriksh (New Delhi), National Campaign for People's Right to Information (New Delhi), Tata Energy Research Institute (New Delhi), and *LATIN (Lembaga Alam Tropika Indonesia, Bogor-Indonesia)*.

For the analysis, first, the legal definition of forest and protected areas was reviewed, with viewpoints of land use categories and management, and the administrative as well as management bodies by forest land use were elucidated. Second, the initial process to create NPs based on legislation and institutional arrangements existed before NPs establishment were identified, and then compared with those actual situations in study sites. Third, in order to find the points of success and sustainability of involvement of local people, buffer zones development programs in Ujung Kulon NP and IEP in PTR were analyzed within the aspects of financial mechanisms, implementation process, and effects to park and local people. Discussion was focused on the comparison between Indonesia and India on the legislative and administrative characteristics, existing institutional arrangements and procedures in establishing NPs, issues found in the actual situation, advantages and disadvantages, and the involvement of local people.

3. FOREST RESOURCES ADMINISTRATION AND MANAGEMENT IN JAVA

Indonesia is an archipelagic country that stretches from 6° N to 11° S and 95° to 141° E with an extent of 1,919,440 km² (Central Intelligence Agency [CIA], 2006). Within this geographical area, *Badan Perencanaan dan Pembangunan Nasional* (BAPPENAS) (2003) reported that Indonesia is estimated to have 90 types of ecosystem, from snow peaks at Jayawijaya, alpine, subs-alpine, montane to lowland rainforests, coastal forest, grasslands, savannah, wetlands, estuaries, mangrove and marine and coastal ecosystems, including sea grass and coral reefs to deep sea ecosystems. Although it covers only 1.3% of the total landmass in the world, Indonesia harbors very high flora and fauna species diversity, as outlined in Table 3.1. These potentials are inhabit forest areas and aquatic ecosystems, which deforested and degraded over time.

Table 3.1. State of biodiversity potentials in Indonesia

Category	Number of species	Endemic species	Percentage of (2) to the total species in the world	Rank in the world
(1)	(2)	(3)	(4)	(5)
Mammal	515	39%	12	2
Primates	35	18%		4
Reptile	511	150 species	7.3	4
Bird	1,531	397 species	17	5
Amphibian	270	100 species		6
Invertebrate	2,827			
Butterfly	121	44%		
Freshwater fish	1400			3
Plants	38,000	55%		5
Palm	477	225 species		1
Timber	350	155 species	50	

Sources: MoF, 1994; Mittermeier *et al.*, 1997; Newman, 1999 as cited in BAPPENAS, 2003

3.1. Legislative bodies in Indonesia and forest-related legislation

The Constitution of 1945 (hereafter is called the Constitution) cover only basic arrangements of the nation. It is supported by lower legislation, from the highest rank namely: act (*undang-undang*), government regulation substituting act (*peraturan pemerintah pengganti undang-undang*), government regulation (*peraturan pemerintah*), presidential regulation (*peraturan presiden*), and regional regulation (*peraturan daerah*) (Act of the Republic of Indonesia No. 10, 2004). In this set of legislation, the higher ones only include global arrangements of particular administrative matters and are valid throughout the country, for example legislation that is related to land, forestry, human right, etc., including ratification of international conventions. The lower ones are usually issued in order to explain in more detail about a certain article of a higher legislation, to guide particular implementation of a higher legislation, or containing criteria and standards that are valid to related fields. It is the characteristic that legislation must not against or contradict each other, either vertically, higher versus lower, or horizontally, on the same level. The acts, the government regulation substituting acts, and the government regulation (hereafter are called the higher legislation) should be approved by the House of Representatives and enacted in the national gazettes (*lembaran negara*). Regional regulation, which is only valid within provinces, districts, or cities that are issuing it, should be approved by the Local Houses of Representatives and enacted in the regional gazettes (*lembaran daerah*).

Other than the set of legislation mentioned above, there are subordinate regulations under the governmental bodies, namely presidential decrees (*keputusan presiden*), presidential instructions (*instruksi presiden*), ministerial decrees (*keputusan menteri*), ministerial regulations (*peraturan menteri*), and circulars within the

departements (*surat edaran*). Subordinate regulations are in detail and often act as the implementation rules or guidances to run the country. However, these regulations do not need to take public approval and are not published in the national gazettes.

Administrative divisions in Indonesia are as follow (Figure 3.1): state/country (*negara*), provinces (*propinsi*)/special capital city district (*daerah khusus ibukota*)/special regions (*daerah istimewa*), and districts (*kabupaten*)/cities (*kotamadya*). Under the districts/cities there are sub-districts (*kecamatan*) and then villages (*kelurahan/desa*). Governors, heads of districts, mayors, and their staffs are local government who administer provinces, districts and cities.

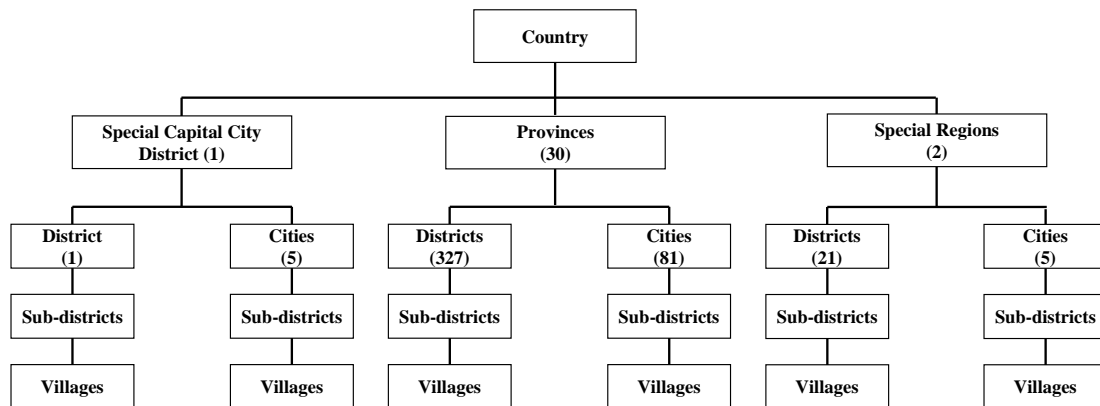


Figure 3.1. Administrative divisions in Indonesia
 Source: Minister of Internal Affairs Regulation No. 18, 2005

Article 33 paragraph 3 of the Constitution states “the land and the waters as well as the natural richness therein are to be controlled by the State to be exploited to the greatest benefit of the people”. Regarding the natural richness related to forest, there are two Acts that regulate forest resources administration and management, namely Act of the Republic Indonesia No. 41 of 1999 on forestry (hereafter is called the Forestry Act) and Act of the Republic Indonesia No. 5 of 1990 on conservation of living resources and their ecosystems (hereafter is called Conservation Act). The Forestry Act is replacing

Act of the Republic of Indonesia No. 5 of 1967 on basic forestry law.

As subordinate legislation of the Forestry Act and the Conservation Act, there are government regulations and ministerial decrees. For example, there are government regulations that regulate decentralization of some forestry administration to local government (Government Regulation No. 62, 1998), sanctuary reserves and nature conservation areas (Government Regulation No. 68, 1998), protection and preservation of wildlife and wild plants (Government Regulation No. 7, 1999) and their utilization (Government Regulation No. 8, 1999), forest administration and preparation of forest management, forest utilization and forest area use plans (Government Regulation No. 34, 2002), forestry planning (Government Regulation No. 44, 2004), and forest protection (Government Regulation No. 45, 2004). The extent of forest area is determined by Minister of Forestry (hereafter is called the Minister) through the Minister of Forestry Decree (hereafter is called Ministerial Decree) on Designation of Provincial Forest Areas and Aquatic Ecosystems. Aquatic ecosystems are included because these areas may become parts of sanctuary reserves and nature conservation areas.

3.2. Zoning system and involvement of local people

3.2.1. Zoning system of forest and nature conservation areas

Within the vast area of Indonesia, the Minister determined extent of forest areas and aquatic ecosystems of 126,829,561.28 ha (66.08% of geographical area). This extent was determined using Provincial Spatial Planning (*Rencana Tata Ruang Wilayah Propinsi*) and Forest Land Use by Consensus (*Tata Guna Hutan Kesepakatan*) and then legalized into the Ministerial Decree on Designation of Provincial Forest Area and

Aquatic Ecosystems. At present, only 24 main provinces (before separation of some provinces into smaller ones) have been designated by the ministerial decree, while designation process for forest areas in 3 provinces, namely North Sumatera, Riau, and Central Kalimantan, is in progress (MoF, 2006).

Zoning system or categorization of forest areas in Indonesia is based on the Forestry Act, while categorization of nature conservation areas is based on the Conservation Act. The Forestry Act categorizes forests based on the status and the function. There are two statuses of forest, namely state forest (*hutan negara*, hereafter is called national forest) and right forest (*hutan hak*). In the Elucidation of the Forestry Act, right forest is generally known as private forest (*hutan rakyat*). Irrespective of the ownership status, the Forestry Act defines three categories of forest function: conservation (*konservasi*), protection (*lindung*), and production (*produksi*).

Based on those functions, the national forest areas then are categorized into conservation forest (*hutan konservasi*), protection forest (*hutan lindung*), and production forest (*hutan produksi*). The Forestry Act mentions that the conservation forest areas consist of nature reserve forest area (*kawasan hutan suaka alam*), nature conservation forest area (*kawasan hutan pelestarian alam*), and hunting park (*taman buru*). Further, the MoF (2006) defined protection forest as a forest with the main functions of protecting life support systems for hydrology, preventing floods, controlling erosion, preventing sea water intrusion, and maintaining soil fertility. Production forest is a forest area with the main function of producing forest products. The production forest is categorized into fixed (*hutan produksi tetap*), limited (*hutan produksi terbatas*), and convertible (*hutan produksi yang dapat dikonversi*), based on the utilization (MoF, 2006). The last category is the only forest areas that can be de-designated for non-forestry purposes activities, for example transmigration projects, mining, and

agricultural plantation. The Forestry Act also regulates globally on affirmation processes of forest areas, while the details of the processes, including de-designation processes, are determined in the subordinate regulation. Table 3.2 shows the extent of each category of the national forest areas.

Table 3.2. Extent of national forest areas and aquatic ecosystems in Indonesia

Category based on function	Areas in ha		Total
	Terrestrial	Marine	
Conservation forest	18,260,401	3,455,246	21,715,647
Protection forest	29,097,193		29,097,193
Production forest:	57,526,096		57,526,096
1. Permanent production forest	27,653,098		27,653,098
2. Limited production forest	16,202,462		16,202,462
3. Convertible production forest	13,670,535		13,670,535
Subtotal 1 (excluding 3 provinces)	104,883,689	3,455,246	108,338,935
North Sumatera Province			3,848,358
Riau Province			3,906,333
Central Kalimantan Province			10,735,935
Subtotal 2 (3 provinces)			18,490,626
Total (subtotal 1 + subtotal 2)			126,829,561

Note: Separate calculation for forest areas and aquatic ecosystems in North Sumatera, Riau, and Central Kalimantan Provinces are shown due to on-going designation process.
Source: MoF, 2006

The Forestry Act also regulates that the three forest functions are also applicable to the right forest. Therefore utilization of right forests shall be undertaken by the concerned holders in accordance with the forest functions. Utilization of right forest with protection and conservation functions shall be undertaken as long as it does not disturb those functions (Forestry Act: article 36).

In article 38, the Forestry Act strongly regulates that for the necessity of development in non-forestry sectors, only production and protection forest areas can be utilized without changing their main functions. Mining activities shall be conducted based on a license of land-use that is issued by the Minister upon approval of the House of Representative, which details are regulated in Minister of Forestry Regulation (hereafter is called Ministerial Regulation) No. P.14/Menhut-II/2006. However, open-mining is prohibited in protection forest areas. On the other hand, in article 68, the Forestry Act regulates that communities within and around the forests shall have the rights to receive compensation, in accordance with prevailing laws and regulations, for: (1) losing access to their surrounding forests as source of income and subsistence activities and (2) losing their ownership of lands, because of the designation as forest areas.

The Conservation Act regulates conservation of living resources and their ecosystems. The areas are categorized to sanctuary reserves (*kawasan suaka alam*) and nature conservation areas (*kawasan pelestarian alam*). Sanctuary reserves consist of strict nature reserves (*cagar alam*) and wildlife sanctuaries (*suaka margasatwa*). In the framework of international conservation activities, strict nature reserves and other particular areas can be established as biosphere reserves (*cagar biosfir*). Nature conservation areas consist of NPs (*taman nasional*), grand forest parks (*taman hutan raya*), and nature recreation parks (*taman rekreasi alam*). However, this Act does not include hunting parks as one of areas for conservation of living resources and their ecosystems, maybe because one of its allowable activities is wildlife hunting that against conservation meaning. Table 3.3 shows the extent of conservation forest areas.

Table 3.3. Extent of conservation forest areas in Indonesia

Category	Terrestrial		Aquatic	
	Units	Areas (ha)	Units	Areas (ha)
Sanctuary reserves				
Strict nature reserve	228	4,456,489	9	274,215
Wildlife sanctuary	70	5,083,705	7	339,218
Nature conservation areas				
National park	42	12,165,845	8	4,218,349
Grand forest park	21	343,454	-	-
Nature recreation park	101	300,412	18	765,501
Hunting park	15	219,392	-	-
Total: 519 units in 28,166,580.30 ha	477	22,569,297	42	5,597,283

Source: Directorate General of Forest Protection and Nature Conservation [DG of FPNC], 2006

Further, the Conservation Act regulates the management of NPs. A NP is managed through a zoning system that may consist of a core zone, utilization zones, and other zones depending on necessity. Activities that are prohibited in the NPs are those that may modify the natural integrity of the core zone and those that are inconsistent with the function of utilization and other zones of NPs, for example diminishing or degrading the function and the extent of core zone, and introducing exotic species of plants and animals. Tourism activities may be developed in the utilization zones of NPs based on the management plans. For such activities, the government may grant concession rights, which the holders should promote public participation. However, for the purposes of maintaining or rehabilitating natural resources and their ecosystems, the government may halt utilization activities and temporarily close the accesses to NPs (Conservation Act: article 29 to 35).

3.2.2. Involvement of local people in nature conservation

In Indonesia, peripheral areas of protected areas are termed as the buffer zones, following the concept of MacKinnon *et al.* (1986/1993). According to Government Regulation No. 68 (1998), buffer zones function as protector of the protected areas from threats and disturbances that originated from outside as well as from inside, which may change the areas physically and or functionally. Buffer zones are determined based on 3 criteria: 1) geographically bordering the sanctuary reserves and or nature conservation areas, 2) influencing ecologically from inside and outside sanctuary reserves and or nature conservation areas, and 3) able to resist disturbances that are coming from inside and outside sanctuary reserves and or nature conservation areas. Authority to legalize the function of a national land or private land as buffer zones lies to the Minister after hearing with the Governor of the respective areas as well as respecting the rights of the land owners. Buffer zones are managed by the land owners with regard to the ecological aspect of protected areas.

The government conducts activities to build the function of buffer zones, such as improvement of local communities' awareness on conservation of living resources and their ecosystems, improvement of knowledge and skills to improve communities' welfare, land rehabilitation, improvement of land productivity, and other activities (Government Regulation No. 68, 1998).

Buffer zones development by protected area authorities has been aimed to reduced dependencies of local people on protected area resources. There are various programs as well as efforts, campaigns, actions, and projects have been funded and conducted in the buffer zones by the governments or other institutions, including domestic, international NGOs, and donor agencies (Wells *et al.*, 1999; Harada, 2003;

Soekmadi, 2002; Harada, 2004; McCarthy, 2004; Wollenberg *et al.*, 2006, etc.). Meanwhile, peripheral areas where buffer zones development has been implemented are within the administrative control of local governments (provinces, districts, sub-districts, and villages). Local governments have responsibility to develop village facilities, infrastructures, etc. for the welfare of the people.

The budget for buffer zones development in protected areas is mostly originated from national budget and reforestation fund, while forest product levies is usually used for technical operations, including those for buffer zones development activities (personal communication with a NP official, October 2, 2006).

Mechanisms to finance buffer zones development by protected area authorities can be classified into 3 groups based on the sources of budget (Figure 3.2): 1) from the central government, 2) from international donor agencies, and 3) from domestic donor agencies.

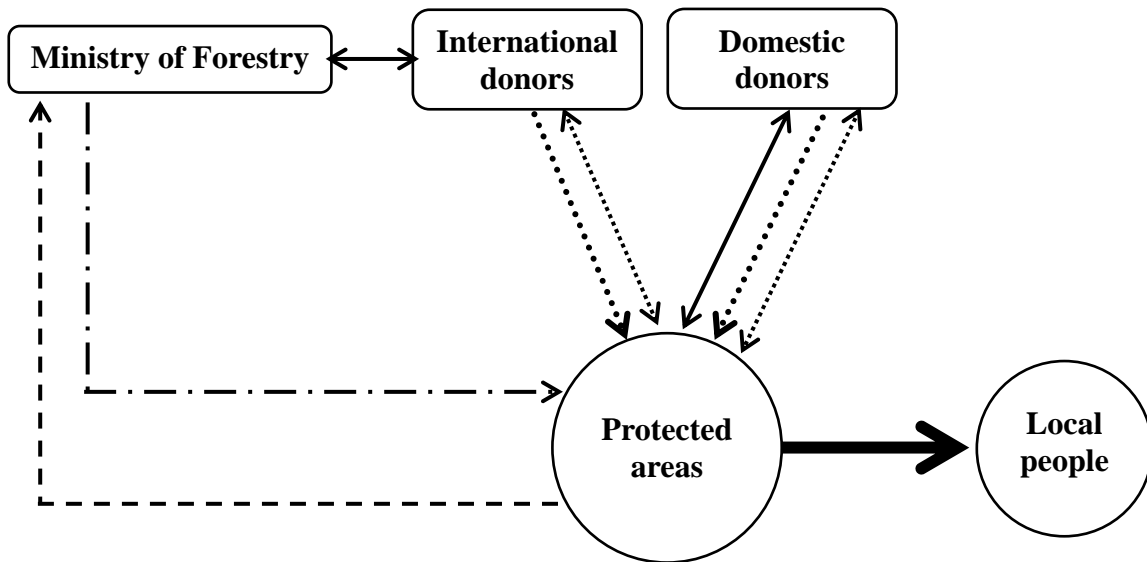


Figure 3.2. Financial mechanisms of buffer zones development

Notes:
 — = MoU
 - - - = proposal
 = approval & budget
 = project coordination & implementation
 ■ = Schemes of buffer zones management: trainings, money, tools, seedlings, chicks or other livestock, etc.
 Source: personal communication with a NP official, October 2, 2006

The first mechanism is included in the annual budget of protected areas. First, inventory of local people needs is conducted by protected area authorities, in order to improve livelihood as an exchange to reduce their dependencies on protected area resources. Together with other necessities of protected areas, the budget for buffer zones development is included in the proposal of annual budget and then the proposal is submitted to the MoF. After scrutinizing the proposal and determined the amount, the MoF approved the proposal and provide the budget to protected areas (personal communication with a NP official, October 2, 2006).

In the second mechanism, international donor agencies is defined as any international institutions, for examples private companies, NGOs, associations, individuals, etc., which having interests to cooperate with protected areas in buffer zones development. International institutions can cooperate with protected areas through MoU with the MoF. However, project coordination and implementation and distribution of project budget are conducted directly between donor and protected areas.

The third mechanism applied for cooperation between protected areas and domestic donor agencies, for examples local governments, private companies, NGOs, associations, individuals, etc. As applied to international donors, the domestic donors firstly must bind a MoU, but directly with the protected areas. This direct relation is applied also to project coordination and implementation. Budget from domestic donors is then directly provided to protected areas (personal communication with a NP official, October 2, 2006).

Protected areas authorities manage all budget that come from all mechanisms. The budget allocated for buffer zones development is distributed to local people through various schemes, but seldom in the form of cash. One of the schemes is training package (lecture, practice, tools, etc.) for income generating activities, in examples

trainings on tour guiding, wood carving, trees planting, cultivation, maintenance, harvest, and post harvest processing of medicinal plants, etc. Another scheme is livestock distribution as a revolving asset among villagers. Others might be applied upon other means and targets of people. The target is not only the people who are identified as disturbing protected areas, but also the people who support the sustainability of the park. However, according to a NP official, it is often difficult to distribute the means of buffer zones development only to targeted people, because of jealousy of others. As a result, usually all households in the target settlement receive the means with very limited amount, for example only one or two seedlings per household. Despite such even distribution, people that have been willing to receive or implement the programs were limited (personal communication with a NP official, October 2, 2006).

3.3. Administration and management of forests

3.3.1. Forest areas under the direct control of Central Government

National forests areas are controlled and managed by the MoF through its directorate generals (*direktorat jenderal*). In the fields, the national forests areas are managed by technical implementation units (*unit pelaksana teknis*) of each directorate general (Figure 3.3). There are five directorate generals in MoF with each main task are as follow (Ministerial Regulation No.P.13, 2005): Forestry Planning Agency (*Badan Planologi Kehutanan*) to coordinate arrangements of legislation issuance, implementation, documentation, legal supports and development; Directorate General of Forest Protection and Nature Conservation (*Direktorat Jenderal Perlindungan Hutan dan Konservasi*

Alam) to formulate and implement policies and technical standardization in forest protection and nature conservation; Directorate General of Land Rehabilitation and Social Forestry (*Direktorat Jenderal Rehabilitasi Lahan dan Perhutanan Sosial*) to formulate and implement policies and technical standardization in land rehabilitation and social forestry; Directorate General of Forestry Production Development (*Direktorat Jenderal Bina Produksi Kehutanan*) to formulate and implement policies and technical standardization in forest production development; and Forestry Research and Development Agency (*Badan Penelitian dan Pengembangan Kehutanan*) to conduct researches and development in forestry.

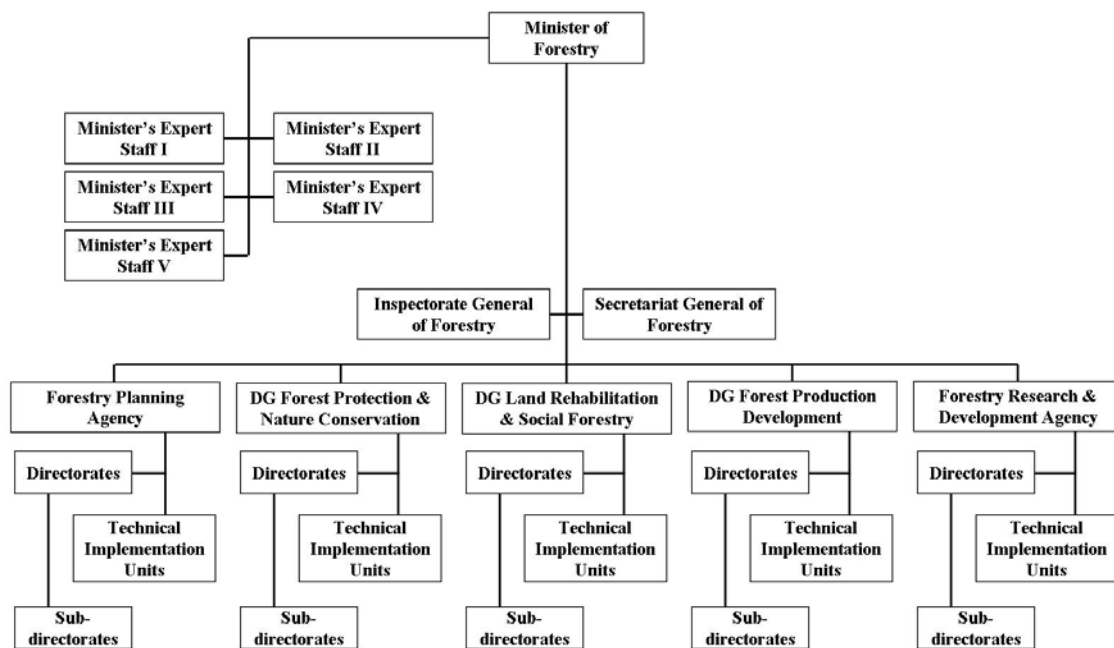


Figure 3.3. Organization chart of Ministry of Forestry of the Republic of Indonesia

Note: DG = Directorate General

Source: Ministerial Regulation No.P.13, 2005

Among the directorate generals, Directorate General of Forest Protection and Nature Conservation is the only one that directly controls and manages conservation forest areas. In the field, these areas are managed by technical implementation units

under Directorate General of Forest Protection and Nature Conservation, namely 1) Natural Resources Conservation Offices (*Balai Konservasi Sumberdaya Alam*; hereafter is called NRCO) that manage strict nature reserves, wildlife sanctuaries, nature recreation parks, and hunting parks, and 2) National Park Offices (*Balai Taman Nasional*; hereafter is called NP Office) that manage NPs. Other directorate generals control the national forest areas in other forms, such as issuing regulations, guidelines, notifications, and licenses. As examples, on behalf of the Minister, Directorate General of Forestry Production Development controls production forests by regulating and establishing guidance and licenses for utilizing forest areas, exploitation of timber, non-timber and environmental services within forest areas, while Forestry Planning Agency controls forestry planning, inventory, mapping, and forest area affirmation.

In the field, as the technical implementation unit of Forest Planning Agency, Forest Area Consolidation Offices (*Balai Pemantapan Kawasan Hutan*) manage and coordinate forest area affirmation activities. Directorate General of Land Rehabilitation and Social Forestry controls the forest and critical land rehabilitation programs and social forestry (Government Regulation No. 34, 2002; Ministerial Decree No. 394, 2004; Ministerial Regulation No.P.13, 2005).

3.3.2. Forest areas under the direct control of Local Governments

Before 1998, all national forest areas are controlled and managed by the MoF. However, by the issuance of Government Regulation No. 62 (1998), the central government delegated the management of grand forest park and activities on forest area boundary demarcation to the provincial/district forestry offices, and management of protection forest to the district forestry offices. According to Government Regulation No. 34 (2002), grand forest parks are administered through the following activities: boundary

demarcation, inventory, identification and report on the forest condition, socio-cultural data around and in the areas, zoning into blocks, such as utilization, plant collection, protection, etc., blocks' marking, measurement, and mapping. However, Ministerial Decree No. 107 (2003) indicates that the governors or heads of districts/mayors are assisting the management of grand forest parks in the forms of infrastructure construction, preservation, utilization, and development that must be coordinated with the heads of concerned NRCOs. The governor is assigned to manage grand forest parks that encompass more than one district/city, while heads of districts and mayors are assigned to manage within their jurisdiction areas. If respective grand forest park is necessary to be rehabilitated, Ministerial Decree No. 394 (2004) regulates the provincial/district forestry offices to arrange and establish rehabilitation plan within their jurisdiction areas.

Protection forest are administered through the following activities (Government Regulation No. 62, 1998): boundary demarcation, inventory, identification, and report on the forest condition, socio-cultural data around and in the areas, zoning into blocks, such as utilization, plant collection, protection, etc., blocks' marking, registration, measurement, and mapping. Even though Government Regulation No. 62 (1998) regulates management of protection forest to be delegated to district forestry offices, Government Regulation No. 34 (2002) regulates provincial forestry offices that must arrange and establish the management plans based on aspiration, participation, cultural values, and the environmental condition of the protection forest areas. The management plan includes planning, organization, implementation, evaluation, control, and supervision. Protection forest areas can be utilized by the issuance of licenses for: utilizing the areas, environmental services, or NTFPs within the areas (Table 3.4).

Table 3.4. Utilization of protection forest areas

Utilization category	License	Activities
Areas	Max. 5 years for 50 ha	Cultivation of medicinal plants, ornamental flowers, mushrooms, wildlife captive breeding, and bee honey and swallow's nest production.
Environmental services	Max. 10 years for 1,000 ha	Recreation, sports, water utilization, carbon trade, or forest and environment preservation.
Non-timber forest product	Max. 1 year for amount, species and location details as mentioned in the license.	Sustainable exploitation of canes, honey, fruits, and other forest products, or traditional hunting of non-protected wildlife.

Source: Government Regulation No. 34, 2002

Table 3.5 summarized the sharing of roles between the central and local governments as explained in the previous and current sub-section. Local governments also share roles with the central government in administering permanent and limited production forest areas. According to Ministerial Decree No. 394 (2004), provincial forestry offices determine the quota of timber production for each management unit, control the circulation of forest products, distribute notification letters on the legality of forest product to districts/cities, record the non-tax revenue, and in the forest product marketing, they have to control, supervise, guide, and evaluate the measurement and certification of forest product. Subsequently, the roles of district/city forestry offices are issuing notification letters on the legality of forest product, collecting, recording, and reporting non-tax revenue, control the circulation of forest products, and conducting measurement and certification of forest product in the field.

3.3.3. Differences of forest administration between Java and outside Java

Administration and management of forest areas in Java is a unique case, because it does not follow the general arrangement as shown in Table 3.5. This refers to protection and production forest areas which are assigned to *Perhutani*. However, protection and production forest areas in Yogyakarta are managed by Yogyakarta Provincial Forestry

Office, because *Perhutani* does not have forest management unit areas in Yogyakarta.

Table 3.5. Administrative organizations of forests and protected areas in Indonesia

Category	Administration	Management
Conservation forest		
Sanctuary reserves		
Strict nature reserves	Central Government	NRCOs
Wildlife sanctuaries	Central Government	NRCOs
Nature conservation areas		
National parks	Central Government	National Park Offices
Grand forest parks	Local Governments	Provincial/District Forestry Offices
Nature recreation parks	Central Government	Natural Resources Conservation Offices
Hunting parks		
	Central Government	NRCOs
Protection forest		
	Central Government	License holders
	Local Governments	Provincial/District Forestry Offices Licenses holders
Production forest		
Permanent production forest		
	Central Government	Provincial/District Forestry Offices
	Local Governments	Licenses holders (private)
Limited production forest		
	Central Government	Provincial/District Forestry Offices
	Local Governments	License holders (private)
Convertible production forest	Central Government	Ministry of Forestry

Notes: Local government means Provincial of District Forestry Offices. Licenses for protection forest: utilizing areas, environmental services, or non-timber forest product (NTFP). Licenses for production forest: utilizing areas, exploitation of timber, NTFP, or environmental services.

Source: Forestry Act; Conservation Act; Government Regulation No. 62, 1998; No. 34, 2002; Ministerial Decree No. 107, 2003; No. 394, 2004; Ministerial Regulation No.P.13, 2005

Approximately 2.55 % of the total forest areas and aquatic ecosystems in Indonesia that are set up by the ministerial decree are located in Java (Table 3.6). The remaining 97.45% are located outside Java. Administration and management of these forest areas are following the general arrangement in Table 3.5. Managing forest areas outside Java does not as if in Java. This is because of lack of staff, while the forest areas for each management unit are vast. Moreover, demarcation and administration between forest areas and other lands are not well-managed, which have caused land-conflicts, occupations, and encroachments. Ethnic groups with their customary land and forests

often have conflicts with companies whom holding logging licenses that are overlapping with customary lands and forests. In other cases, conservation forest areas have been established on customary lands and forests without proper settlement of rights in the boundary demarcation activities. Based on legislation, customary lands and forests are regarded as illegal occupations when ethnic groups can not show the proofs that their customary law and system are still in force. Problems in forest areas outside Java are even worsen by illegal logging, illegal hunting, poaching, forest fires, and natural disasters.

Table 3.6. Extent of forest areas and aquatic ecosystems in Java up to 2003

Province	Terrestrial areas in ha	Extent of forest areas and aquatic ecosystems in ha							Total terrestrial and aquatic
		Conservation areas			Protection forests	Limited production forests	Permanent production forests	Total terrestrial	
		Total	Aquatic	Terrestrial					
Jakarta	66,400	108,272	108,000	272	45	0	158	475	108,475
Banten	611,679	145,613	46,187	99,426	11,715	19,810	51,330	182,281	228,468
West Java	3,706,021	132,180	0	132,180	291,3060	190,152	202,965	816,603	816,603
Central Java	3,254,900	115,086	110,117	4,969	75,538	174,185	396,751	651,443	761,560
East Java	4,792,300	230,248	0	230,248	315,505	0	811,583	1,357,337	1,357,337
Yogyakarta	318,600	910	0	910	2,058	0	13,851	16,820	16,820
Total	12,749,900	732,310	264,305	468,005	696,167	384,147	1,476,639	3,024,958	3,289,263

Notes: Conservation areas in Java consist of 79 strict nature reserves, 9 wildlife sanctuaries, 13 NPs, 6 grand forest parks, 26 nature recreation parks and 1 hunting park (DG of FPNC, 2006). Convertible production forest areas do not exist.

Source: MoF, 2004

3.4. National park establishment

The Conservation Act defines a NP as “a nature conservation area with native ecosystems, managed through a zoning system, and utilized for facilitating research, science, education, breeding enhancement, recreation, and tourism purposes”. Either forest

areas or non-forest areas can be designated as a NP, if the area fulfills the following criteria (Government Regulation No. 68, 1998):

- Large enough to ensure natural ecological processes
- Having special and unique natural resources, either plants or animals and their ecosystems as well as natural-intact symptoms of nature
- Having one or more intact ecosystems
- Having indigenous and natural condition of nature for the promotion of tourism, and
- An area, which can be divided into core zone, utilization zone, wilderness zone and other zones that in consideration of rehabilitation purposes, dependency of local people, and in order to support living resources and their ecosystems conservation efforts, can be stipulated as an individual zone.

Through zoning system, NPs in Indonesia are accessible to local people. Local people can continue implementing their usufruct rights in certain parts of NPs that have been set up as intensive utilization zones or traditional utilization zones.

The stakeholders in the establishment of a NP include local people who previously owned or had usufruct rights over the area, including NGOs, institutions who previously manage the area, Forestry Planning Agency, Forest Area Consolidation Offices, the governors, the heads of the districts, mayors, heads of the villages, and district/city offices that managed forests areas where the proposed NP is located. If the proposed NP includes aquatic areas, the navigation offices, fishery offices, Ministry of Transportation, and Ministry of Marine and Fishery are also becoming stakeholders.

3.4.1. Procedures

Article 7 of the Government Regulation No. 68 (1998) stated the nature conservation areas (including NPs) are establish after procedures on designation of the area and its

function, boundary demarcation, and stipulation have been completed. However, lower legislation to implement this article is not available. Procedures of establishing a NP in Indonesia are arranged in various legislations under the Forestry Act. They are mostly dealing with the terrestrial areas, and only a ministerial decree that is dealing with the marine areas.

When a proposed NP is not a forest area, the procedures start from NP designation. When it is a forest area, a procedure to change the function of forest area, for example from protection forest to conservation forest and from production forest to protection forest or conservation forest, must be conducted before the NP designation. Change of forest area functions can only be implemented when the following requirements are fulfilled (Ministerial Decree No. 70, 2001; No. 48, 2004): 1) when the proposed-area satisfied the criteria and standards of the new function, 2) based on Ministerial Decree on Provincial Forest (and Aquatic) Area Designation, and 3) based on the research results of integrated team. Then, the proposal to change the function is submitted to MoF with the supplemental documents: 1) technical advices/consideration from District/City Forestry Offices or Provincial Forestry Offices for across-district/city proposed-areas, 2) recommendation from the head of district/mayor or governor for across district/city proposed-areas, and 3) location map with scale $\geq 1:100,000$. The Minister will request technical advices/consideration from related directorate generals. If the proposal of changing forest area function is approved by the Minister, the Forestry Planning Agency will prepare a draft of Ministerial Decree on Change of Forest Area Function and a map with scale $\geq 1:100,000$. Finally, the draft will be signed by the Minister as Ministerial Decree on Stipulation of Change of Forest Area Function, provided with a map $\geq 1:100,000$ of scale as an attachment.

Regardless who actually takes the initiative in establishing a NP on non-forest

area, a proposal of the NP establishment should be made by the local government (district/city or province for across-districts/cities area) and their Local Houses of Representatives. In general, the central government or NGOs take initiatives to change the forest area function to a NP, but the proposal must be completed with recommendation from heads of the districts, mayors, or governors (Figure 3.4).

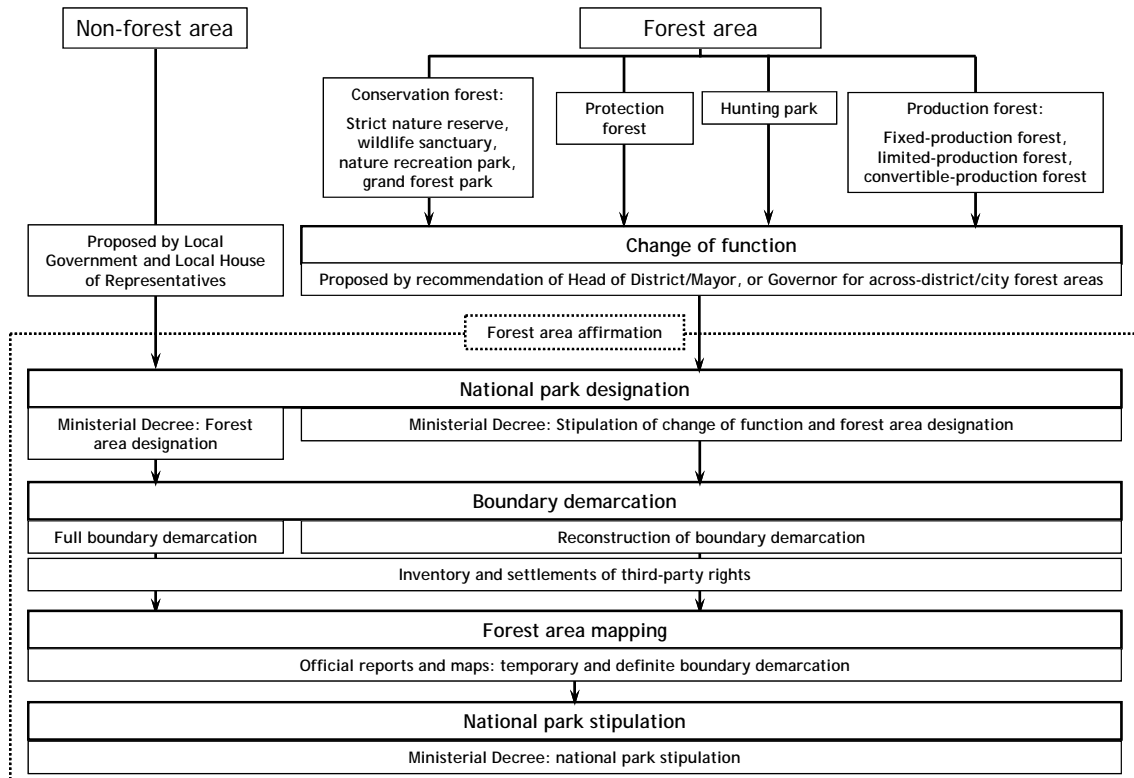


Figure 3.4. Procedures of establishing a NP in Indonesia

Sources: Forestry Act; Conservation Act; Government Regulation No. 62/1998; No. 68/1998; No. 44/2004; Ministerial Decree No. 399/Kpts-II/1990; No. 400/Kpts-II/1990; No. 634/Kpts-II/1996; No. 635/Kpts-II/1996; No. 32/Kpts-II/2001; No. 70/Kpts-II/2001; No. 48/Menhut-II/2004; Ministerial Regulation No. P.19/Menhut-II/2004

Essentially, the procedures to establish a NP are similar with those of establishing other status of forest areas. In regard to NP, the procedures start when all the requirements of establishing a NP are fulfilled. The Minister will issue a ministerial decree on the designation of the proposed area as a NP and orders the nearest NRCO to the NP to temporarily manage the NP and the Forestry Planning Agency through its nearest Forest Area Consolidation Office to the NP to plan the demarcation activities.

This decree is not published in the national gazette; however, it is often published through news broadcasts and disseminated within the local government and to related communities through extension.

The nearest NRCO to the newly designated NP will manage temporarily until NP Office concerned is established. The NRCO carries out necessary researches on ecology and social economy of surrounding communities and publish a report on the result of the researches. The NRCO also constructs a management plan, which includes demarcation as one of the management activities. The management plan is then submitted to the MoF for examination and approval. Meanwhile, there is no clear explanation on when the Forestry Planning Agency plans the demarcation and then Forest Area Consolidation Office implements demarcation and mapping activities, whether right after the designation, or when the management plan is approved.

Although procedures to establish a NP are similar to those of establishing other forest areas, differences are found in the organization that conducts demarcation activities. For all conservation forest areas, except marine sanctuaries/NPs, Forest Area Consolidation Offices implement the demarcation activities (Ministerial Decree No. 6188, 2002); while a boundary demarcation committee, which members are from various institution including local people, implements those activities in other forest areas (Ministerial Decree No. 400, 1990; No. 635, 1996, No. 32, 2001). In aquatic marine sanctuaries/NPs, demarcation activities are conducted not only by a committee but also assisted by a consolidation team and a consolidation preparation technical team (Ministerial Decree No. 613, 1997). Therefore, demarcation activities in conservation forests can be regarded as exclusive, because it is conducted only by Forest Area Consolidation Offices and local stakeholders become the object of settlement of rights. On the other hand, in other status of forests areas (protection and production forests) and

aquatic conservation areas demarcation activities are inclusive, because involving local stakeholders in boundary demarcation committee.

After the designation of NPs, the next step is boundary demarcation activities. There are two types of demarcation, full boundary demarcation and reconstruction of boundary demarcation. Full boundary demarcation is implemented to non-forest areas and also to forest areas, which boundaries have not been demarcated yet or which do not have complete documents. Reconstruction of boundary demarcation is implemented to forest areas. Reconstruction of boundary demarcation is a series of activities to cross-check the documents of the previous boundary demarcation, to set new boundary, and to check boundary markers in the field, especially on the boundary of newly established NP.

The procedures of boundary demarcation include (Ministerial Decree No. 399, 1990; No. 634, 1996):

- 1) preparation that consist of working map and arrangement,
- 2) arrangement of border trajectory concept,
- 3) meetings of the Boundary Demarcation Committee,
- 4) temporary-border marking (*pemancangan patok batas*),
- 5) inventory and settlement of third party rights related to border trajectory and within the boundary of the proposed forest area,
- 6) border trajectory announcement,
- 7) measurement, mapping, and definite-boundary marking (*pemancangan pal batas*),
- 8) arrangement and signing of the Official Report on Boundary Demarcation (*berita acara tata batas*), and
- 9) legalization of boundary demarcation.

The above-mentioned procedures are conducted completely from one place to another.

Like procedure no. 4) temporary-border marking, 5) inventory and settlement of third party rights, and 6) border trajectory announcement are usually implemented in one time. The third parties are local people and licenses holders who previously owned the land or usufruct rights. A team from Forest Area Consolidation Office accompanied by the NRCO concerned and together with the third parties checks the proposed demarcation areas on the map and then goes to the field to check and inventory the land status where the proposed boundaries are located. When there is a claim that the NP boundaries overlap the lands belong to the third parties, the third parties should show the proofs that the claimed areas are their properties. When it is proven and the authority is still willing to acquire the lands, negotiations are made between the authority and the third parties. If the third parties are willing to release their lands to be established as a NP, compensations must be given based on the negotiation and then terminations of licenses/usufruct rights must be conducted. Finally, the markers are placed. If the third parties are unwilling to release their lands, the claimed areas will be excluded from the NP boundaries, and new boundaries are settled¹. Excluding areas from the NP boundaries can be implemented in two ways, whether moving the boundaries to the places that are bordering the claimed lands and the NP or making enclaves. Official reports are issued after finishing the settlements of rights. The head of the village, the head of sub-district, the head of the district, Forest Area Consolidation Office, and NRCO concerned will sign the official reports (Ministerial Decree No. 399, 1990; No. 634, 1996).

Problems usually occur when the third parties can not show the ownership proofs of the lands, but they are unwilling to transfer the land for NP. If such problems appeared and could not be solved, the boundary demarcation activities in the claimed

¹ personal communication with key informants in the Forest Area Consolidation Office Regional XI Yogyakarta, Feb. 17, 2006

lands are postponed, and the head of Forest Area Consolidation Office must decide what should be done to solve the problems. When the head of Forest Area Consolidation Office can not solve the problems, the head of NRCO concerned together with the Governor must make efforts to solve the problems based on the forest area designation. However, when the problems still can not be solved, the head of NRCO must make decisions based on the consideration of the Minister. When the problems have not been solved, the boundary demarcation activities are continued to the next location that free from problems and the process is started again from the beginning for this new location, the planned boundary are moved to other location, or boundary demarcation activities are temporarily stopped (Ministerial Decree No. 399, 1990; No. 634, 1996).

Two types of official reports that are produced in the boundary demarcation activities (Ministerial Decree No. 399, 1999; No. 634, 1996; No. 32, 2001) are the Official Report on Temporary-boundary Demarcation (*berita acara tata batas sementara*) and the Official Report on Boundary Demarcation. The first report is issued after the step no. 6 in the boundary demarcation has been completed and the following requirements must also have been completed:

- 1) border trajectory that was used in the report must have been announced to the public,
- 2) statement of recognition from the people residing along the forest boundary demarcation trajectory, by the issuance of Official Report on the Announcement of Temporary-border Marking (*berita acara pengumuman pemancangan trayek batas*).

The second is issued after boundary inspection has been completed and Official Report on Boundary Inspection (*berita acara pemeriksaan tata batas*) has been signed and issued. The Official Report on Boundary Demarcation must cover the following:

- 1) approval from the Boundary Demarcation Committee, which is stated in the form of

- signatures of all Boundary Demarcation Committee members,
- 2) statements of inavailability of land ownership rights, cultivation land, building, etc.,
 - 3) implementation routes of forest boundary measurement in detail.

The next step after all boundaries are demarcated is mapping. The Forest Area Consolidation Office must collect all the official reports and maps that produced in all steps, re-examines them, and submits to Forestry Planning Agency. The Forestry Planning Agency will examine the processes, legalize the documents, and prepare stipulation decree and map to be signed by the Minister. The last step of establishing a NP is the stipulation by the ministerial decree that includes an order to concerned NP Office to manage the area.

Table 3.7 gives examples of new NPs that were established in 2000-2004 by changing the functions. Eventhough these areas held the status of national forest, the existence of people inside the forest could not be doubted. However, based on legislation, if there were people inside the forest and they could not show a land ownership certificate, it meant they had been living in the forest illegally. The fact that Kepulauan Wakatobi NP was stipulated in 2002 and Sembilang NP was stipulated in 2003 means there were no land ownership rights inside the NPs. Kerinci Seblat NP was designated in 1996 and was stipulated once in 1999. However, in 2004, the area was extended by adding 14,160 ha of fixed-production forest in Jambi province and re-designated as a NP.

Figure 3.5 shows the progress of demarcation process of NPs in Indonesia. The first NP designation started in 1975 for Manusela NP, but the first stipulation was in 1990 for Rawa Aopa Watumohai NP that was designated in 1976. Currently, there are 50 NPs designated in Indonesia, but only 13 NPs have completed the affirmation process and stipulated as NPs by the ministerial decrees. Among the 13 legal NPs,

only Kepulauan Karimunjawa NP (stipulated in 2001) and Kepulauan Seribu NP (stipulated in 2002) are located in Java. It is obvious that 74% of NPs in Indonesia have not completed their establishment process and consequently those NPs do not have legality.

Table 3.7. Recent changes of forest area functions to NP (2000-2004)

Province	National park	Previous status
North Sumatera	Batang Gadis (2004; d)	FPF, LPF, PF
Riau	Tesso Nilo (2004; d)	LPF
Jambi	Bukit Duabelas (2000;d)	SNR
	Kerinci Seblat (2004;d)	FPF adding the extent of Kerinci Seblat NP
South Sumatera	Sembilang (2003; s)	SNR
Banten	Gunung Halimun-Salak (part; 2003; d)	FPF, LPF, PF adding the extent of already existing Gunung Halimun NP
West Java	Gunung Halimun-Salak (part; 2003; d)	FPF, LPF, PF adding the extent of already existing Gunung Halimun NP
	Gunung Gede-Pangrango (2003; d)	LPF, NRP, PF, SNR adding the extent of already existing Gunung Gede-Pangrango
	Gunung Ciremai (2004; d)	PF
Yogyakarta	Gunung Merapi (part; 2004; d)	NRP, PF, SNR
Central Java	Gunung Merapi (part; 2004; d)	PF
	Gunung Merbabu (2004; d)	NRP, PF
Central Kalimantan	Sebangau (2004; d)	CPF, FPF
Central Sulawesi	Kepulauan Togean (2004; d)	CPF, LPF, Marine areas, PF, FPF
Southeast Sulawesi	Kepulauan Wakatobi (2002; s)	Islands and Marine areas
South Sulawesi	Bantimurung-Bulusaraung (2004; d)	FPF, LPF, NRP, PF, SNR
Maluku	Aketajawe-Lolobata (2004; d)	FPF, LPF, PF

Notes: d = designation; s = stipulation; CPF = convertible production forest; FPF = fixed production forest; LPF = limited production forest; PF = protection forest; NRP = nature recreation park; SNR = strict nature reserve; part = NP encompasses more than one province.

Sources: DG of FPNC, 2006; MoF, 2006; Sriyanto, 2004

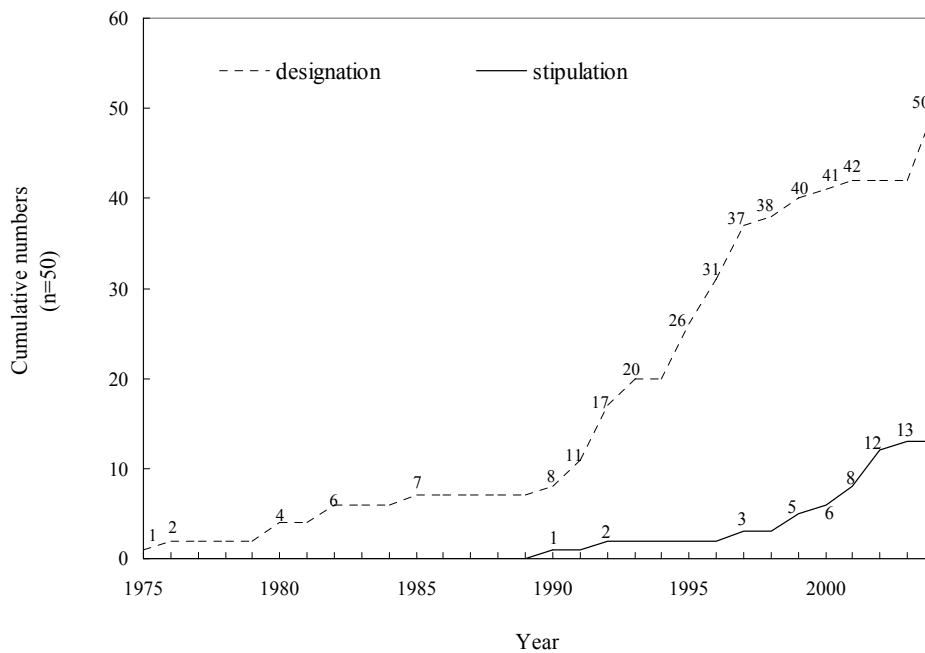


Figure 3.5. Progress of legalization of national parks in Indonesia (1975 - 2004)

Sources: Database of Nature Conservation Information Center, 2006 (unpublished); DG of FPNC, 2004

3.4.2. Implementation of NP establishment procedures: cases of three NPs

In 1931, due to the uniqueness of Gunung Merapi, the Dutch government stipulated the area of 6,472.1 ha as a protection forest. After the independence, in 1975 Minister of Agriculture partially changed the functions of this protection forest in Plawangan Turgo, 198.5 ha as a strict nature reserve and 30 ha as a nature recreation park. In 1984, the Minister of Forestry extended Plawangan Turgo nature recreation park to 31 ha. In 1989, forest area affirmation procedures were completed and the Minister stipulated a larger area of 282.25 ha in Plawangan Turgo as a strict nature reserve and nature recreation park (Yogyakarta NRCO & Faculty of Forestry Gadjah Mada University, 2003; Sriyanto, 2004). Then, based on Ministerial Decree No. 134/Menhut-II/2004 that was issued on May 4, 2004, an area of 6,410 ha including protection forest and Plawangan Turgo Strict Nature Reserve and Plawangan Turgo Nature Recreation Park was changed the function

and designated as Gunung Merapi NP.

Gunung Merbabu NP is designated on May 4, 2004 through Ministerial Decree No. 135/Menhut-II/2004, by changing the function of Gunung Merbabu Protection Forest and Tuk Songo Nature Recreation Park. Before designated as a protection forest and a nature recreation park in 1999, Gunung Merbabu area was under the management of *Perhutani* with the status of protection forest and limited production forest areas. The significance of this area as to be proposed as a NP is stated by Satyatama *et al.* (2005) that “this area has important ecological, hydrologic, economic and socio-cultural functions”. Degradation of Gunung Merbabu Protection Forest was increasing by encroachment, so changing the function of the area into a NP is possibly an action to mitigate it.

Gunung Ciremai is a unique mountainous ecosystem and when it is compared to other mountains in Java, it is located relatively near to the sea. In 1999, Ministerial Decree No. 419/Kpts-II/1999 on forest areas designation of West Java Province included the functions of Gunung Ciremai Forest Areas of 15,518.23 ha as protection forest, fixed-production forest, limited-production forest, and areas for other purposes (as cited by Harjadi *et al.*, 2003). These functions then changed into protection forest by Ministerial Decree No. 195/Kpts-II/2003 along with the re-designation of West Java Provincial Forest Areas due to the establishment of Banten Province on the western part of West Java Province. In order to guarantee the protection, preservation, and sustainable utilization of the area for the prosperity of local communities, a year later, the function of 15,500 ha of this protection forest was changed and designated as Gunung Ciremai NP by Ministerial Decree No. 424/Menhut-II/2004 issued on October 19, 2004. Information in detail on the management of each NP, its significant values, and problems is available in the Appendix 4.

From the above explanation, it is revealed that the status of study sites before the designation as NPs were protection forests, limited-production forest, strict nature reserves, and nature recreation park. Conflicts were recorded even before the NPs were designated. In the proposed Gunung Merapi NP, sand mining was legally conducted (Yogyakarta NRCO & Faculty of Forestry Gadjah Mada University, 2003), which can only be terminated by a court order or expiration of the licenses. In Gunung Merbabu, there are several enclaves inside the area and the inhabitants as well as peripheral communities have practiced minor subsistence activities in the forest areas outside the enclaves, such as hunting and collecting fodder and firewood (The Central Java Provincial Forestry Office & PUSPICS Faculty of Geography, Gadjah Mada University, 2003).

In Gunung Ciremai, illegal activities were observed, such as encroachment, logging, and sand mining, but the former managers did nothing, because encroachment activities directly affected the livelihood of local people. Legal activities were also observed in Gunung Ciremai through Community-Based Forest Management that has been implemented since the area was still in the status of production forest that was managed by *Perhutani* (Harjadi *et al.*, 2003).

NGOs that had facilitated rural livelihood activities often provided communities with discouraging information on NP establishment and made people acted against the NP establishment. On the other hand, some NGOs whose concern was prevention of forest degradation have been supporting the NP establishment. Information from the government side to local people was also insufficient². Realizing the situation, responsible NRCOs, some pro-NP NGOs, and local governments then held several meetings with local communities to disseminate information, and then the local

² personal communication with key informants in the Yogyakarta Provincial Forestry Office, Jan. 11, 2006 and the West Java II NRCO, Feb. 2, 2006

communities gradually began to understand the function of NP and their roles when NP is firmly established³.

Through designation of NPs, the areas become *de facto* NPs and ready to be managed as such even though the boundary demarcation activities, which include settlements of rights, have not been finalized yet. Boundary demarcation is part of the management plan⁴. Management plan of Gunung Merapi NP was ready and under review of the Directorate General of Forest Protection and Nature Conservation⁴. Management plans of the other two NPs were not ready yet, because the Central Java NRCO had not yet completed forest resources inventory in Gunung Merbabu NP⁵, and the West Java II NRCO was struggling in accommodating strong enthusiasm of local government, NGOs and people for the implementation of collaborative management in Gunung Ciremai NP⁶. However, the procedures to implement NP affirmation, after designation of NP by the Minister, were in progress (Table 3.8). Reconstruction of boundary was being conducted, and the NP affirmation and stipulation were planned in Gunung Merapi and Gunung Merbabu NPs. Procedures in Gunung Ciremai NP got behind a year, where procedures of boundary demarcation were to be started⁷. To this point, it can be concluded that these NPs are not legal yet.

It was reported expanding the extent of NPs in Indonesia, by designating new NPs or by expanding the area of existing NPs, was the aims of donor agencies and also the necessity of executing the Convention on Biological Diversity (“Indonesia establishes”, 2004; MoF & WWF Indonesia, n.d.). Interviews with key informants revealed that the idea of changing the function of these forests came officially from the local governments,

³ personal communication with key informants in the Yogyakarta NRCO, Jan. 9, 2006, and the Yogyakarta Provincial Forestry Office, Jan. 11, 2006

⁴ personal communication with key informant in the Yogyakarta NRCO, Jan. 9, 2006

⁵ personal communication with key informants in the Central Java NRCO, Feb. 15, 2006

⁶ personal communication with key informants in the West Java II NRCO, Feb. 2, 2006

⁷ personal communication with key informants in the Forest Area Consolidation Office Regional XI Yogyakarta, Feb. 17, 2006

but directed by the central. Other than ecological reasons on the establishment of these parks, it was revealed that: (1) the local governments seemed powerless to combat growing conflicts between local people and previous managers of the areas on usufruct rights and (2) the local governments could not afford to provide sufficient fund for protecting and managing unproductive forest areas. Therefore, the local governments proposed these areas to be designated as NPs, so that they can be managed by the central government under the national budget⁸.

Table 3.8. Actual situation on the implementation of NP establishment procedures in Java

National park	Previous status	Establishment procedures		
		Designation	Demarcation & Mapping	Stipulation
Gunung Merapi	Strict nature reserve	2004	- 2006	2007
	Nature recreation park			
	Protection forest			
Gunung Merbabu	Strict nature reserve	2004	- 2006	2007
	Protection forest			
	Limited production forest			
Gunung Ciremai	Protection forest	2004	2006-2007	2008

Source: Field survey, 2006

3.5. Involvement of local people: a case of Ujung Kulon NP

3.5.1. Implementation process and mechanisms of buffer zones development

Ujung Kulon NP is known as the last habitat of Javan rhino and is threatened by various disturbances that originated from local communities residing on the peripheral areas, for example encroachments, forest fires, illegal logging, illegal mining, poaching, illegal fishing, illegal settlement, illegal NTFP collection, impact of tourism, land and water pollution, and utilization of destructive fishing tools. Peripheral areas of Ujung Kulon

⁸ personal communication with key informant in Yogyakarta Provincial Forestry Office, Jan. 11, 2006

NP consist of 19 villages administered within Cimanggu and Sumur sub-districts.

In order to reduce the disturbance, there have been three ways of organizing local people to be involved in Ujung Kulon NP management: 1) patrolling systems, 2) buffer zones development programs, and 3) zoning the disturbed areas into one or more appropriate zones.

Patrolling systems have been established to support the regular activities of NP staffs and forest police (*jagawana*). There are three types of patrolling systems: 1) RMPU concentrates on monitoring and protecting rhinos and others supplementary, 2) Terrestrial Conservation Unit concentrates on monitoring and protecting primates, and others supplementary, and 3) Marine Conservation Unit concentrates on monitoring and protecting marine areas and resources (Table 3.9). Eighteen persons from peripheral areas have been recruited in daily basis wage to join patrolling systems, either Rhino Monitoring and Protection Unit (RMPU), Terrestrial Conservation Unit (*Unit Konservasi Darat*), or Marine Conservation Unit (*Unit Konservasi Laut*). This recruitment was made possible under cooperation with donor agencies that providing facilities and wages.

Buffer zones development programs have been established to reduce the dependencies of local communities. There has not been any integrated project similar to ICDP approach in Ujung Kulon NP. However, the buffer zones development programs that have been implemented in Ujung Kulon NP can be considered as one example of ICDPs. For examples, a clean-water and sanitation program that aimed at generating community support for forest conservation (Wells *et al.*, 1999), resettlement of encroachers, training packages and income generating activities, including household-based chicken farming, timber trees and multi-purposes tree species planting, medicinal plants cultivation, *emping* (a kind of snack made from *Gnetum gnemon*)

production, wood carving, and butterflies captive breeding for butterflies souvenirs, and sustainable tourism supporting activities, such as guides, porters, and homestay business (Ujung Kulon NP, 2003).

Table 3.9. Organization of patrolling systems in Ujung Kulon NP

Name	Number of unit	Members of each unit	Patrolling period
Park staffs and forest police	Based on sections in Ujung Kulon NP		15 days/shift
RMPU	3	1 chief (a park staff) 2 forest police 1 NGO staff 1 local people	15 days/shift
Local people involved		3 persons	
Terrestrial Conservation Unit	5	1 chief (a park staff) 4 forest police 1 local people	10 days/shift
Local people involved		5 persons	
Marine Conservation Unit	5	1 chief (a park staff) 5 forest police 2 local people	5 days/shift
Local people involved		10 persons	

Sources: Field survey, 2005; Ujung Kulon NP, 2003; 2005

Organizing local people in buffer zones development programs has been conducted firstly by Ujung Kulon NP authority itself when the budget was originated from MoF. However, this often turned to become distribution of donation for local people, such as distribution of chicks and other livestock as revolving assets among villagers, distribution of trees seedlings, clean-water, irrigation, and sanitation programs (Ujung Kulon NP, 2005). Various sources for financing management of Ujung Kulon NP (Table 3.10), including patrolling and buffer zones development programs, come from routine budget of MoF, national budget (*Anggaran Pendapatan dan Belanja Negara*), reforestation fund (*Dana Reboisasi*), forest product levies (*Iuran Hasil Hutan*), and labor intensive works program (*Program Padat Karya*) (Ujung Kulon NP, 2005).

Other sources have been originated from cooperation of Ujung Kulon NP with various institutions. However, from the available reports (Ujung Kulon NP, 2003; 2005; UNESCO *et al.*, 2002), it could not be identified how many percent of budget has been spent for patrolling systems and buffer zones development programs.

Table 3.10. Financial sources of Ujung Kulon NP and amount of budget (x Rp. 1,000)

Sources	1994/1995	1995/1996	1996/1997	1997/1998	1998/1999	1999/2000	2000	2001	2002	2003
Government										
Routine budget	304,199	349,819	418,645	451,357	506,955	700,000	555,518	822,436	896,971	1,033,194
National budget	248,884	420,494	459,040	428,229	297,217	270,000	133,741	101,219	183,015	360,000
Reforestation fund	474,647	277,405	216,496	140,000	264,688	490,930	529,111	734,907	874,005	1,733,118
Forest product levies	128,925	214,738	325,865	316,944	288,864	291,250	209,574	385,585	485,560	195,400
Other budget					410,946					222,520
Subtotal	1,156,655	1,262,456	1,420,046	1,336,530	1,768,670	1,752,180	1,427,944	2,044,147	2,439,551	3,544,232
Other sources										
WWF-IRF (international)					409,197	409,196	437,424	290,941	n.a	n.a
WWF-IP (domestic)						88,756	16,766	315,000	n.a	n.a
Subtotal					409,197	497,952	454,190	605,941	n.a	n.a
Total	1,156,655	1,262,456	1,420,046	1,336,530	2,177,867	2,250,132	1,882,134	2,650,088		

Note: n.a. = data is not available

Sources: Ujung Kulon NP, 2003; 2005; UNESCO, UNEP, Ujung Kulon NP, WWF Ujung Kulon, & RARE, 2002

Secondly, buffer zones development programs have been implemented in cooperation with donor agencies when the budget was shared with or completely originated from them. The latter often well-organized into grouping local people and contributing not less to participants, such as training packages and credit union for wood carving, *batik* paintings, *emping* production, and ecotourism supporting activities (homestays, guides, porters) (WWF, 2005). Table 3.11 shows the cooperation between Ujung Kulon NP and various institutions that aimed at conserving the flagship species while improving the livelihood of local people.

Among these cooperation, WWF Indonesia Program (hereafter is called

WWF-IP), concerned for the rhino, has been active in Ujung Kulon since 1964 and in 1991 expanded its activities to include community participation component and conservation education and awareness program for all users of the park (Wells *et al.*, 1999). Since 1997 up to present, WWF-IP has been supporting Ujung Kulon NP through community empowerment activities (support of capital, trainings, wood carving, homestay, etc.), establishment and management of Rhino Monitoring Protection Unit (since 1998) and Marine Conservation Unit, and contribution of tools and training for wildlife photo trap and rhino DNA analysis (since 1999) (Ujung Kulon NP, 2005).

Table 3.11. Cooperation between Ujung Kulon NP with various institutions

Institution	Period	Activities
Minnesota Zoo	1990-1992	Equipment & vehicles for park protection
New Zealand Government	1990-1996	Renovation of stations, equipment, tools, radio communication system
LATIN (<i>Lembaga Alam Tropika Indonesia</i>)	1994-1995	Social assessment of communities along eastern boundaries and designation of community-based activities ¹
UNESCO	1994-1995	Facilities
Wetlands International	1997	Training
WWF	1997 ~ ...	Buffer zones development ¹
	1998 ~ ...	Rhino Monitoring Protection Unit (RMPU) ^{1,2}
	1999 ~ ...	Photo trap equipment & training
	1999 ~ ...	Rhino DNA analysis
	2000 ~ ...	Marine conservation unit (patrolling system) ¹
International Rhino Fund	1998 ~ ...	Rhino Monitoring Protection Unit (RMPU) ^{1,2}
<i>Yayasan Mitra Rhino</i>	1999 ~ ...	Rhino Monitoring Protection Unit (RMPU) ^{1,2}
UNESCO-RARE	2002 ~ ...	Stakeholders' approach
	2004 ~ ...	Campaign on sustainable tourism and conservation education
<i>Yayasan Alumbio Lestari</i>	2003 ~ ...	Facilities & infrastructure, training, promotion
Association of Hotels & Restaurant Indonesia	2004 ~ ...	Ecotourism marketing network
Organization of Amateur Radio Republic of Indonesia	2004 ~ ...	Communication network

Notes: 1 = activities that involve local people, 2 = through Indonesian Rhino Conservation Program
 ~... = the activities are in progress when field survey was conducted in 2005

Sources: Wells *et al.*, 1999; Ujung Kulon NP, 2005

Based on the decree of the Directorate General of Forest Protection and Nature Conservation No. 115/Kpts/DJ-IV/1997, Ujung Kulon NP was divided into several zones, namely core zone, wilderness zone, intensive utilization zone, and traditional utilization zone. The areas, where illegal extractions of marine resources and illegal collection of seaweed have been occurred, have been incorporated into traditional utilization zone within the park. In this zone, with facilitation of WWF, the seaweed collectors were grouped and collecting system was regulated. In return to the permission for collecting seaweed, these groups have been assigned to support the monitoring and patrolling in the traditional use zone, and must report to Ujung Kulon NP authority periodically.

3.5.2. Effects of buffer zones development on Ujung Kulon NP and beneficiaries

3.5.2.1. Increase in forest offences

Buffer zones development has been implemented to reduced problems in Ujung Kulon NP that originated from local people. Table 3.12 shows the offences that have occurred in Ujung Kulon NP from 1997 to 2001. Resettlement program that aimed to control the illegal settlers seemed difficult to be implemented, while illegal plantation could not be controlled. By establishment of Ujung Kulon NP, local people in peripheral areas become restricted to use forest and marine resources within the boundary of NP for subsistence. The central government seems did not want to release forest areas to local people who have been cultivating parts of the NP by *taungya* system in the areas that previously managed by *Perhutani* as well as to exclude the location of seaweed collection in marine areas. Therefore, after establishment of the NP, these people have been regarded as illegal, despite their history dwelling the forest and marine areas.

On the other hand, people who had been practicing *taungya* system resisted to abandon their allotment area to participate the resettlement program. In-availability of cultivation land in villages may be one of the reasons. Despite the provision of income generating activities, the economic crisis in 1997 was said to be the cause of the increase of offences, such as illegal logging, NTFP collection, poaching, extraction of marine resources, and grazing inside the park, which absolutely threat the biodiversity of Ujung Kulon NP (UNESCO *et al.*, 2002). Therefore, the buffer zones development programs seemed ineffective in controlling the problems.

Table 3.12. Changes in forest and wildlife offences in Ujung Kulon NP

Disturbance	Unit	1997	1998	1999	2000	2001
Illegal settlers	Household	204	181	185	158	162
Illegal plantation	Household	919	919	919	919	919
Poaching (mainly bird)	Case	0	2	4	3	18
Illegal NTFP collection	Case	2	0	0	1	2
Illegal extraction of marine resources	Case	3	0	12	3	321
Illegal logging	Log	0	19	77	50	427
Illegal grazing	Number of livestock	0	19	85	96	30
Forest fire	Ha	0	0	1.5	0	0

Source: Data of Ujung Kulon NP as cited by UNESCO *et al.*, 2002

3.5.2.2. Sampling method and profile of respondents

Preliminary studies to Indonesia (in 2005) included Ujung Kulon NP and were conducted after research in PTR (in 2004). It was revealed from the studies that in 2002, a similar study to that in PTR (available in section 4.5) had been conducted by the UNESCO in cooperation with UNEP, Ujung Kulon NP, WWF Ujung Kulon, and RARE Center for Tropical Conservation. The UNESCO study was part of Participatory Needs Assessment and Planning Process (hereafter is called site assessment), which was

the first implementation of a four-year project started in 2001 entitled “Linking biodiversity conservation and sustainable tourism in the World Heritage Sites”. This project was implemented in six sites: El Vizcaíno (Mexico), Komodo (Indonesia), Río Plátano (Honduras), Sian Ka'an (Mexico), Tikal (Guatemala), and Ujung Kulon (Indonesia).

The objective of the site assessment was to identify the threats to biodiversity, conditions of local communities, and their perceptions on Ujung Kulon NP. The results were analyzed and planned to be used for designing integrated ecotourism and awareness strategies that aimed to reduce the threats. However, based on the results will be explained in the following sub-sections, integrated ecotourism program was postponed, due to lack of conservation awareness on biodiversity of Ujung Kulon NP, and vulnerability of the park to future threats, such as uncontrolled tourism and population growth. Integrated ecotourism program was postponed until there are stronger mechanisms, such as capacity for tourism management planning and strong awareness and support of local people. Conservation education campaigns and public use planning programs were taken as the strategies toward the goal (UNESCO *et al.*, 2002).

Although data explanation presented in the draft of site assessment report (2002) were limited and it was not clearly intended to evaluate buffer zones development programs, it inventoried the threats to biodiversity in Ujung Kulon NP and perception of local people on the condition of Ujung Kulon NP and their livelihood for the past 10 years. The necessary information for the proposed study in Ujung Kulon NP to be compared to PTR were available, namely financial mechanism and implementation process as presented in the previous section and effects of the programs to park and local people. Therefore the proposed study in Ujung Kulon was modified to refer to

the result of the study by UNESCO and the site assessment was regarded as evaluation to buffer zones development programs. Moreover, other protected areas in Java that meet the similar characteristics of PTR and Ujung Kulon NP were not available.

The site assessment in Ujung Kulon was conducted from July to August 2002 involving 266 respondents at nine villages in the peripheral areas: Cibadak, Cigarondong, Kertajaya, Kertamukti, Sumberjaya, Tamanjaya, Tangkilsari, Tunggaljaya and Ujungjaya (UNESCO, UNEP, Ujung Kulon NP, WWF Ujung Kulon, & RARE, 2002). Interviews with key informants were conducted to formal and informal leaders, men and women, farmers, landless peasants, youth groups, religious leaders, teachers, shop owners, government employees, and local guides. The interviews followed a structured format in which the respondents were asked a pre-determined set of questions regarding the attitudes, behavior, and perceptions on the threats to biodiversity inside the park (UNESCO *et al.*, 2002). Despite various backgrounds of respondents mentioned above, their main sources of income are agriculture (74.8%) and fishing (25.2%). Almost 50% have been living in the villages since before Ujung Kulon area becoming a NP (UNESCO *et al.*, 2002).

3.5.2.3. Changes in the livelihood of respondents

Along with the fact that offences could not be addressed, quality of the livelihood of respondents was improving (54%) or unchanged (15%) compare to 10 years before (Figure 3.6). Quality improvement could be a result of income generating activities from buffer zones development programs. This was indicated in the result of interview with a villager who participated in wood carving activities, that there has been a change in his community since 1995 when they started to join the program. Wood carving had made at least 19 men and some women and children to work in the villages to fulfill

domestic and international orders on rhino wooden statues. This activity made them gave up their previous subsistence activities in the forest (personal communication, March 11, 2005). Improvement in the quality of life could also as a result of selling the products from illegal logging, NTFP collection, marine resources extraction or bird hunting. It is presumable from the increase of illegal activities in Table 3.12.

Approximately 28.6% of respondents answered that their livelihoods have been worsen, by decreasing of harvest, declining of fish yield, and other external factors, such as high market prices, and political or economic crises. The presences of outsider fishermen, practicing destructive fishing, usage of inappropriate fishing gears, and lack of skill have been regarded as the causes of declining fish yield. This did not imply that income generating activities did not reach them, possibly it reached them but less efficient, and this also did not guarantee that they did not and will not conduct any illegal activities for subsistence.

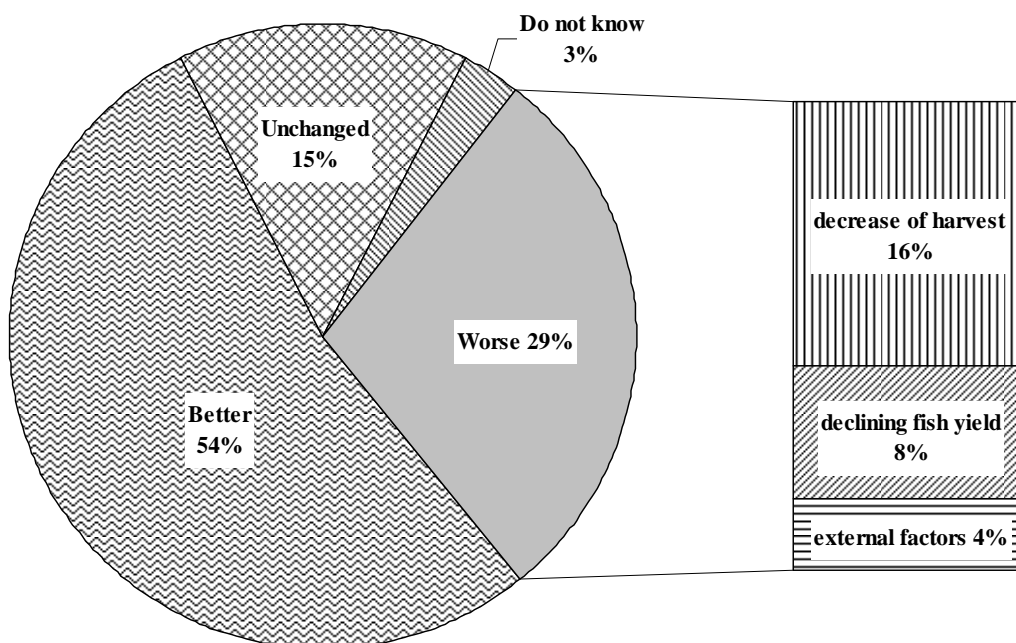


Figure 3.6. Change in the quality of livelihood compared to 10 years before (n=266)

Source: UNESCO *et al.*, 2002

3.5.2.4. Perceptions of respondents on Ujung Kulon NP

Respondents (87%) regarded Ujung Kulon NP to benefit them (Figure 3.7) and their communities for water sources, irrigation, clean air, firewood, etc. About 33.6% of respondents believed that Ujung Kulon NP is threatened and 62% of them mentioned that hunting was the cause. When all respondents were asked, by allowing multiply answers, about which activities threat the biodiversity in Ujung Kulon NP, the first rank was encroachment (70.5%), followed by poaching and illegal extraction (62.1%), destructive fishing (32.2%), pollution (30.5%), erosion (24.2%), and the last was forest fire (7.4%).

Encroachment was done because of the necessity of agricultural land (83.8% of respondents) and to obtain timber for house construction (52.9%). About 45.7 % of respondents, who answered that poaching birds, turtles, wild oxen, etc. was done by people from their communities, argued that poaching was done for economic purposes, while hunting wild boars was to control their population and not destroying their crops.

Despite Ujung Kulon NP was regarded as healthy by almost half of respondents, conservation education was needed most within community (85%), while others, such as park staff, law enforcement official, and students, needed it less. Trainings packages have been provided, but local people demand a conservation education program to be conducted in their communities. It seems local people did not understand that the trainings or donation they received were part of conservation education to control threats or destructive activities. Here, transparency of program objectives as well as agreements before receiving means of buffer zones development are required to ensure illegal activities will not be done by beneficiaries in the future.

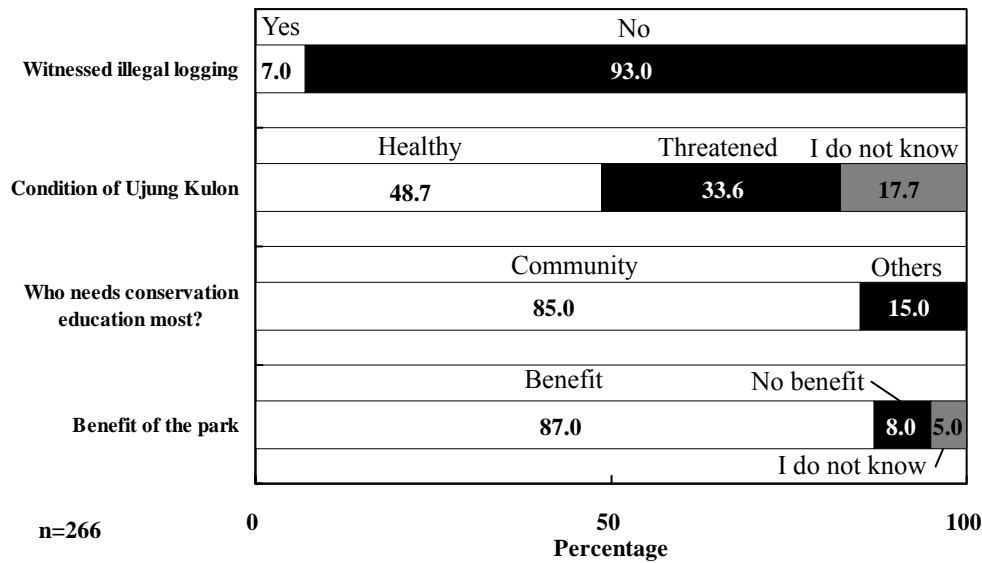


Figure 3.7. Respondents' knowledge and perception on Ujung Kulon NP

Source: UNESCO *et al.*, 2002

Seven percent of respondents witnessed illegal logging, which means they were in the forest, for unknown reason. It can be said that patrols and buffer zones development programs that have been implemented in Ujung Kulon NP are less effective to control illegal activities. Illegal activities might be reduced by an integrated project/program, started with conservation education campaign that has been initiated by UNESCO *et al.*, (2002) and followed by village/community-based income generating activities. However, law enforcement by the park staffs must also be strengthened.

3.6. Characteristics of forest resources administration in Java

In order to simplify further analysis, I categorized legislation, decrees and regulations at the central level into three groups, namely legislation, regulation, and subordinate regulation (Table 3.13). Legislation that is examined and approved by the House of Representatives, enacted in the National Gazettes, and published in the National News

has strong legality. Such legislation can only be abolished by legislation at higher or the same level. Details of an institutional arrangement are described not in legislation level but regulations in lower levels, which are weak in legality, not published, and can be easily changed. Nowadays, Acts and regulations are available on the websites of governmental departments, but it is still limited. Abolished legislation, newest legislation, and most of subordinate regulations are not available on the websites and difficult to be obtained even if in each office.

From legislation, it is revealed that the nation is the owner of all natural resources in Indonesia, including forest and protected areas. Since the decentralization policy was introduced to Indonesia in 1999, management of protection forests have been delegated to the local governments but administration of all forest areas is still under the control of the central government. Production activities in forest areas are still conducted by *Perhutani* in Java and the private sector in outside Java. Administration and management of protected areas other than the Grand Forest Parks are under the control of the central government, while Grand Forest Parks are delegated to the local governments.

The legal procedures to establish a NP are arranged in various levels of legislation, regulations, and subordinate decrees, regulations, and circulations under the Forestry Act. One would experience difficulties to know the whole, because related regulations are not available in the governmental departments, technical implementation units of the departments, or even in research/academic institutions. To understand a particular process that is mentioned in an article of an act, we must search every subordinate level of regulations where creation, amendment, and abolishment are easily take place. These changes are shared only by certain related staff in governmental offices.

Table 3.13. Hierarchy and characteristics of legislation, decrees, and regulations at the central level

	Hierarchy in Act No. 10, 2004		Subordinate regulations
	Legislation	Regulations	
Categories	1. Acts 2. Government regulations substituting the acts 3. Government regulations	4. Presidential regulations	5. Presidential decrees 6. Presidential instructions 7. Ministerial decrees 8. Ministerial regulations 9. Circulars
Contents	Not in detail	More detailed	Most detailed
Examination and approval	House of Representatives	Governmental bodies concerned and the president	Governmental bodies; signatories
Publication	National Gazzete	National News	Within the governmental bodies concerned

Source: Act of the Republic of Indonesia No. 10, 2004; Field survey, 2004; 2005; 2006

The main components of establishing a NP in Indonesia mentioned in the Government Regulation No. 68, 1998 are designation of the area and its function, boundary demarcation, and stipulation. However, the Forestry Act and its lower regulations providing detailed procedures of the establishment add ‘mapping of forest areas’ as the third step, and stipulation as the last.

‘Inventory and settlement of the third party rights’ mentioned in the subordinate regulation is considered as one of the most important steps in the boundary demarcation activities. If this step is implemented properly, conflicts between NP and local people may not occur, because the rights of the local people are settled and the location of the boundary is agreed. Moreover, Official Reports on the Announcement of Temporary-border Marking are signed by the head of the village, the head of sub-district, the head of the district, Forest Area Consolidation Office, and NRCO. Therefore, I concluded the major steps of establishing a NP in Indonesia are designation, demarcation including settlement of rights, mapping, and stipulation. However,

‘inventory and settlement of the third party rights’ is instructed in the subordinate regulation, which suggests this step has weak legality, and there is a possibility it is not properly implemented or even not implemented in the field.

From the study sites in Java, it is revealed that all of the designated NPs had been suffering from the conflicts since before. Before designations as NPs, there were various activities, either legal or illegal, by people inside forest areas. Examples of legal activities were licensed-sand mining in Gunung Merapi, minor subsistence activities by enclave inhabitants and peripheral communities in Gunung Merbabu, and Community-Based Forest Management in Gunung Ciremai. These types of activities can be sanctioned in protection forest areas. It became illegal, when a sand mining area is expanded outside the licensed area or mechanized-equipment that was not mentioned in the license is utilized. Likewise minor subsistence activities are allowed but not commercial extractions.

When a forest area is designated as NPs, all activities that are not supporting nature conservation are automatically considered as illegal. Only when the concerned locations are designated and stipulated as intensive or traditional utilization zones, those activities can be legally continued. Community-Based Forest Management in previously production forest area of Gunung Ciremai had to be abolished when the status was changed into protection forest. However, designation as NP was too quick and abolishment of the program was still negotiated.

In regard to the implementation of legal procedures to establish NPs in the study sites, the key person interviewed in the Yogyakarta NRCO stated that boundary demarcation is a part of management plan. This statement has been proven for Gunung Merapi NP from the Yogyakarta NRCO and Faculty of Forestry Gadjah Mada University (2003), while it was not possible to prove in the other two NPs because the

management plans were not finalized yet. However, the key person in the Forest Area Consolidation Office Regional XI Yogyakarta provided information in detail on the establishment procedures of all NPs as in Table 3.8. This raises a contradiction to the previous statement, but both have resulted in one conclusion that all of study sites have not acquired their legality.

Based on legal procedures, establishment of NPs involves at least Directorate General of Forest Protection and Nature Conservation and Forest Planning Agency of the MoF, which are represented by NRCO and Forest Area Consolidation Office respectively at the field level. However, it was obvious that the NRCO and the Forest Area Consolidation Office did not communicate each other in implementing the legal procedures to establish NPs. The possible reason is that each office interpreted ministerial decree on the designation of NPs in different ways.

Ujung Kulon NP was purposively selected as an example of legal NP. However, it is revealed that the legal status was not from the ministerial decree on the stipulation as a NP, but from the completion of the boundary demarcation activities in 1999. When the study in Ujung Kulon NP was conducted, the stipulation decree had not yet been issued. It is possible that the political crises that made the MoF changed its form of organization several times have made the delay in the issuance of the stipulation decree. From the point of legality, the fact that local people were still cultivating inside the NP indicated that the process of boundary demarcation, particularly on the settlement of rights, had been conducted improperly.

From Table 3.9 and 3.11, buffer zones development programs started in 1997 and the patrolling systems started in 1998. Zoning procedures were completed in 1997 and traditional utilization zone for extraction of marine resources were created. However, Table 3.12 indicates drastic increase of illegal logging and illegal extraction of marine

resources in 2001. This result can be interpreted in two different ways. One is to show the failure in coping with increasing human pressure on the resources. The other is, by contraries, to indicate the positive result of patrolling systems. For example, in return to the permission for collecting seaweed and extracting marine resources, marine extractor groups were assigned to patrol the traditional use zone and report to Ujung Kulon NP authority periodically. Extraction of marine resources by non-members was considered illegal and possibly rounded up.

4. FOREST AND WILDLIFE ADMINISTRATION AND MANAGEMENT IN KERALA

India is the seventh largest country in the world. It stretches from 8°4' to 37°6' N and 68° 7' to 97° 25' E with an extent of 3,287,263 km² (Technical and Policy Core Group [TPCG] & Kalpavriksh, 2005). With the 2.4% coverage of the world's area and has over 8% of the world's total biodiversity, India ranks as one of the 12 megadiversity countries in the world. This status is based on the species richness and levels of endemism recorded in a wide range of taxa of both plants and animals (Table 4.1).

Table 4.1. State of biodiversity potentials in India

Category	Number of species	Endemic species (% to (2))	Percentage of (2) to the total species in the world (%)
(1)	(2)	(3)	(4)
Amphibian	216	25	2
Aves	1,225	145	14
Insects	59,353	35	7
Mammal	390	95	8
Primates	15		
Pisces	2,546	9	12
Reptiles	495	37	9
Plants	17,672	32	7

Source: TPCG & Kalpavriksh, 2005

It is estimated that there are 45,000 to 47,000 plant species that representing 11% of the world's flora and approximately 90,000 species of fauna that represents 7% of the world's animal diversity. India's ecosystems are classified into 10 biogeographic zones, namely the Trans Himalaya, the Himalaya, Desert, Semi-Arid, Western Ghats, Deccan Peninsula, Gangetic Plain, Coasts, North-east, and the Islands, which further sub-divided

into 26 biotic provinces (TPCG & Kalpavriksh, 2005). Within this broad classification, Champion and Seth (1968) classified 5 major forest types: a) tropical forests, b) montane sub-tropical forests, c) montane temperate forests, d) sub-alpine forests, and, e) alpine scrub.

4.1. Legislative bodies in India and forest-related legislation

In the Constitution of the Republic of India, provisions on natural resources, such as environment, land, forest, and wildlife, are stated in many articles under various categories, namely fundamental rights (part III), directive principles of state policy (part IV), fundamental duties (part IVA), finance, property, contracts, and suits (Part XII), municipalities (part IXA), in the Sixth, Seventh, Eleventh, and Twelfth Schedules, and also in Appendix I and II specified provisions for the state of Jammu and Kashmir. Provisions on forest and wildlife are specifically mentioned in the Directive Principles of State Policy article 48A that “the State shall endeavor to protect and improve the environment and to safeguard the forests and wild life of the country”, and in the Fundamental Duties article 51A (g) that “it shall be the duty of every citizen of India to protect and improve the natural environment, including forests, lakes, rivers and wild life, and to have compassion for living creatures (Ministry of Law and Justice, 2004).

Below the Constitution, there are Acts that are issued to regulate particular matters in detail, Rules that are issued to regulate specific section of an act, and Government Orders that are issued to show the decisions made by the government on particular matter. Since India is a federal government, there are central acts, which are valid throughout the country, except to the State of Jammu and Kashmir, and state acts, which are valid for particular state. Similar arrangements are also valid to the Rules and

Government Orders. Acts, Rules, and Government Orders are enacted and published in the gazettes, depending on the level, whether the central or the state gazettes.

Administrative division in India is as follow: country/union, states/union territories/other territories, districts, and villages. India also has local self-governments, which in the districts are district *panchayat*, block *panchayat*, and village *panchayat*, or in municipality are *nagar panchayat*, municipal council, and municipal corporation. Powers of the government are devolved from the central to the states, but powers to make laws are divided between the Parliament and the Legislatures of the States (The Constitution, Part XI article 246). This refers to Seventh Schedule of the Constitution: List I: Union List, List II: State List, and List III: Concurrent List (the details are available in Appendix 3). Parliament consists of the President and two Houses, namely Council of States and House of People. State Legislature consists of the Governor and two Houses for the States of Bihar, Karnataka, Maharashtra, and Uttar Pradesh, namely Legislative Council and Legislative Assembly; and one Houses for other States, which also known as Legislative Assembly. Therefore, whether the legislation must be examined by the Parliament or the Legislatures of the States is depend on the topics. Administration and management of forest and protection of wild animals and birds are subject to the Concurrent List, controlled by the MoEF, and managed by each state government through their Forest and Wildlife Departments.

There are three sets of legal framework for forestry sector. The first set regulates access and use of forest products, such as the Indian Forest Act (1927), an act to consolidate the law relating to forests, the transit of forest produce and the duty leviable on timber and other forest produce. The second set regulates the conservation of forest resources, such as: (1) Elephant Preservation Act (1879), an act for the preservation of wild elephants; (2) Wildlife (Protection) Act (1972) (hereafter is called WLPA) with its

amendments, an act to provide the protection of wild animals, birds, and plants and for matters connected with a view to ensuring the ecological and environmental security of the country; and (3) Forest (Conservation) Act (1980), an act to provide for the conservation of forests. The third set regulates the laws that encourage/discourage private investment, such as land ceiling, tree felling, transit passes, marketing, etc. (Indian Institute of Forest Management, 2003). Each state establishes its own state acts without discrepancies from the central acts or ratifies the central acts. However, only the State of Jammu and Kashmir has its own: the Jammu and Kashmir Wildlife Protection Act (1978) and Forest (Conservation) Act.

4.2. Zoning system and involvement of local people

4.2.1. Zoning system of forest and nature conservation areas

FSI (2005) reported that 774,740 km² of India's geographical area (23.57%) is recorded as forest areas (Table 4.2). It is comprising 399,919 km² of reserved forest (51.6% of total forest area), 238,434 km² of protected forest (30.8%) and 136,187 km² of unclassified forest (17.6%).

Table 4.2. Extent of recorded forest areas in India

Category	Areas in km ²
Reserved forest	399,919
Protected forest	238,434
Unclassed forest	136,187
Total recorded forest area	774,740

Source: FSI, 2005

Eventhough there is no universally-accepted technical definition of 'forest' in India; the State of Forest Report 2003 (FSI, 2005) mentioned the definitions of forests are as follow. Forest is a tract of land having plant community that largely consisting of trees and woody vegetation. Forest area or recorded forest area is a tract of land, which is legally proclaimed as forest under forest law (Indian Forest Act of 1927 or the relevant State Forest Act) and it is recorded/notified as forest in government records. Recorded forest area is further categorized into reserved forest, protected forest and unclassed forest. Unclassed forest is an area recorded as forest but not included in reserved or protected forest category. Ownership status of such forest varies from state to state.

The Indian Forest Act (1927) is a replacement of Forest Act (1878) with the amendments. It consolidates the legal status of forests, the duty leviable on forest produce, rules on the transit of forest produce, and the authority of foresters. In this Act, forest area is categorized to reserved forest, protected forest, and village forest. Of the total 86 articles, 25 articles are shared for the procedures to create a forest reserve, while six being prepared for protected forests and only one article referring to village forests. It should be noted here that protected forests in the Indian Forest Act do not mean protected areas as per in the guidelines of IUCN (1994) or in the CBD. It is a tentative legal status of a forest which should be upgraded to a reserved forest when the procedure is completed (Ribbentrop, 1900/1989; Stebbing, 1922). Village forest is a category of forest derives from community or private forest that the owner wanted protected, and then it is first declared as reserved forest, before being transferred back to a local community (Ribbentrop, 1900/1989). In 2003, 98.5% of forests in Kerala had been demarcated as reserved forests, 1.5% as protected, and no village forests (Forest Survey of India, 2005).

Nature conservation in India is represented by establishment of protected areas, which legally regulated in WLPA. There are four categories of protected area, namely wildlife sanctuaries (hereafter is called sanctuaries, for explanation on India), NPs, conservation reserves, and community reserves. Sanctuaries are established from reserved forest or other areas, such as territorial waters, other government land, or private land. Conservation reserves are declared on government lands that are located adjacent to sanctuaries and NPs, while community reserves are established on private or community lands, which have not yet been comprised in other categories of protected area and the owners concerned have to conserve the wildlife and its habitat voluntarily. While the government owns sanctuaries, NPs, and conservation reserves, designation of a community reserve does not affect the land tenure and land use patterns within the reserve concerned. Only activities that may disturb wildlife and the habitats are terminated. Details of NPs are explained in the following section.

MoEF (2005b) reported that in 1988, India has 54 NPs and 372 sanctuaries. In 2005, this network has grown to 94 NPs and 501 sanctuaries that covering 4.74% of the total geographical area of the country. The goal of the government is to establish 163 NPs and 707 sanctuaries that will cover 5.74% of the total geographical area of the country. This will ensure appropriate representation of the range of biological values to spread across the 10 biogeographic zones and 26 biogeographic provinces in the country.

Besides those categories, there are three other categories of areas based on projects that are set up within, surrounding or overlaying protected areas. These are declared in order to conserve particular object designed by the projects, namely tiger reserve, elephant reserve, and biosphere reserve (Table 4.3). If a protected area also bears one/more status of these project-based reserves, it will obtain necessary fund for implementing the projects and must implement the obligations came with. Project Tiger

in 1973 designated nine protected areas, with a potential of tiger habitats that have minimum core area of 300 km², as the first tiger reserves. The objectives of Project Tiger are to ensure maintenance of viable population of tigers in India for scientific, economic, aesthetic, and cultural and ecological values, and to preserve for all times, areas of such biological importance as national heritage for the benefit, education, and employment of the people. Starting with nine, currently the Project Tiger manages 28 tiger reserves which spread in 17 states (MoEF, 2005a; Project Tiger, 2005).

Table 4.3. Extent of protected areas and project-based reserves in India

Category	Units	Areas (in km ²)	Notes
Protected areas			
National Parks	92	156,700	Data on conservation reserves and community reserves is not available yet.
Sanctuaries	501		
Project-based reserves			
Tiger Reserves	28	37,761	In 17 states/union territories
Elephant Reserves	30	65,696	In 13 states/union territories, overlaying 17,199 km ² of protected areas
Biosphere Reserves	14	101,465	In 13 states/union territories

Sources: MoEF, 2005a; 2006; Project Elephant Data, 2005 (unpublished)

Elephant reserves, under the Project Elephant that launched in 1992, have been created to ensure long term survival of identified viable population of elephants in their natural habitat. Therefore, an elephant reserve consists of a compact block of forests regardless the status, whether it is a protected area, a reserved or a protected forest area, to accommodate the homerange of elephants. There have been 30 elephant reserves over 13 states in 2005 (MoEF, 2006).

Biosphere reserves contain NPs and/or sanctuaries and in many cases have committees which advise on their management. Kutty and Kothari (2001) reported only

one from 14 biosphere reserves in India is registered to the UNESCO Man and Biosphere Programme. Now the number of reserves registered to the UNESCO World Network of Biosphere Reserves increased to four (MoEF, 2006). The aim of establishing biosphere reserves is to facilitate conservation of representative landscapes and their immense biological diversity and cultural heritage, foster economic and human development, which is culturally and ecologically sustainable and to provide support for research, monitoring education and information exchange.

4.2.2. Involvement of local people in forest management and nature conservation

Since immemorial time, Indian people have been living in rural village and traditionally utilizing surrounding natural resources for their livelihood. During the colonial period, the British Rule drew up a regulation that all forests were national forest and in 1894 the Forest Policy was issued. After independence, the central government revised the old National Forest Policy: first revision in 1952 and for the second time in 1988. One of the policies was that the rights and concessions enjoyed by tribals and other poor living within and near forests should be fully protected and forest management should associate to them in the protection, regeneration, and development of forest as well as to provide gainful employment to people living in and around the forest.

The National Forest Policy 1988 also envisages involvement of people in the development and protection of forests to fulfill the objectives of providing fuelwood, fodder, and small timber to local communities as well as to develop the forests for improving the environment. In order to implement the policy prescription, the MoEF issued guidelines on June 1, 1990 to involve the village communities in the development and protection of degraded forests on the basis of they are taking a share of the usufructs from such areas. The concept of Joint Forest Management (hereafter is called JFM) is

the program that involving local communities in forest management. It is implemented by each state government through its own resolutions and guidelines based on their ecological and social conditions, in order to achieve the goal of national JFM. Soon it was accordingly initiated and endorsed to all states and union territories for implementation by developing appropriate mechanisms (MoEF, 1997a). JFM guidelines were revised in 2000 and 2002 for greater scoop of forests areas and involvement of stakeholders.

JFM activities in different states have been funded by existing programs of the forest departments, inter-departmental linkages, and donor/externally aided project, and from substantial village/community fund, which have been generated from voluntarily contributions. Since the initiation, there has been increment in size of forest areas managed by JFM and numbers of JFM committees (Figure 4.1).

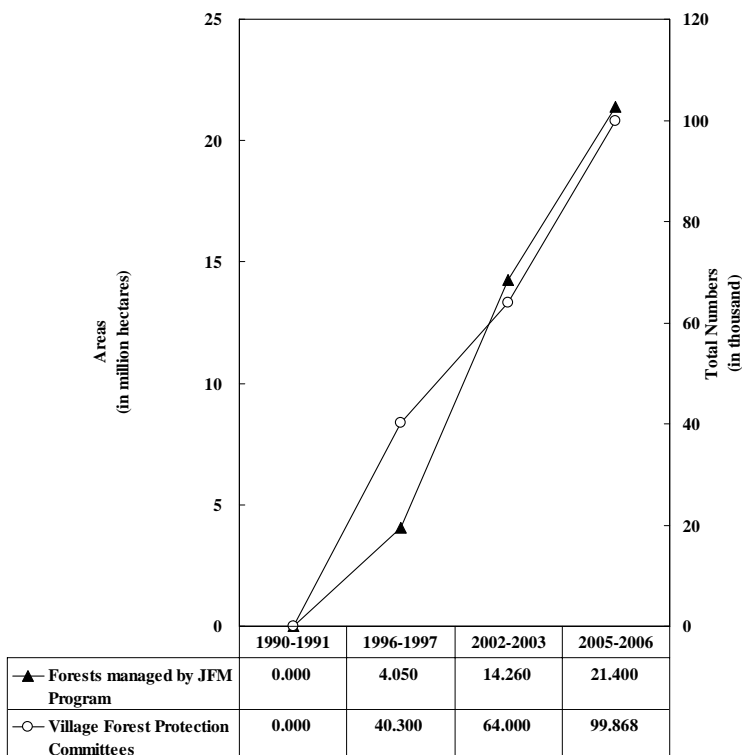


Figure 4.1. Progress of Joint Forest Management

Sources: MoEF, 1991; 1997a; 2003; 2006

As mentioned before, India has implemented a devolution policy from the central government to the state, but the power to make laws has been divided. The implication of such assignment of powers, in which forest and wildlife issues are included, is found in the share of expenditure between the center and the states (Singh & Vasishtha, 2004). In the Indian budget system, a part of the central budget consists of Central Sector Schemes and Centrally Sponsored Schemes (CSS). The former are wholly funded by the center, while the latter require the states to share a proportion of the project cost. Both are transferred by various central ministries to their counterparts in the state for specified projects. For the state governments, CSS is a grant from the central budget that becomes a part of the state budget (Garg, 2006; Singh & Vasishtha, 2004).

Most wildlife projects have been coming from the central government's initiatives and budgeted through CSS. As one of the centrally instigated projects, the idea of ecodevelopment began at the end of the 1980s. Many conservationists and social activists demanded the JFM in the forestry sector to be extended to protected areas. Unfortunately, JFM could not directly be applied to protected areas, where no timber or any other forest products could be extracted (Singh, 1996). To cope with this, the central government launched the first Ecodevelopment Program under CSS Project Tiger at Ranthambore Tiger Reserve from 1989 to 1991. Ecodevelopment is a strategy that attempts to conserve ecologically valuable areas, especially protected areas, in a manner that: (1) ensures minimalization of negative impacts of such a conservation effort on people living in and around the protected areas, (2) empowers local communities to have an increasing say in the management of protected area, (3) creates a sense of ownership towards the protected area among the local populations, and (4) strengthens protected area management capabilities (Singh, 1997). Learning from successful implementation of this program, the central government codified and launched CSS Ecodevelopment In

and Around National Parks and Sanctuaries in 1991 and expanded this program to 11 NPs, 44 wildlife sanctuaries, and 23 tiger reserves in 1994.

Funds from donor agencies were also incorporated into these CSS mechanisms. At the beginning of 1994, through the support of the World Bank (WB), Forestry Research Education and Extension Project (FREE Project) conducted a try-out on ecodevelopment components at two protected areas, namely Great Himalayan National Park (Himachal Pradesh) and Kalakad Mundanthurai Tiger Reserve (Tamil Nadu). Meanwhile, MoEF submitted India Ecodevelopment Project (IEP) proposal to the WB for Global Environment Facility (GEF) funding. In 1995, Ecodevelopment Program under Project Tiger was merged with CSS Ecodevelopment In and Around National Parks and Sanctuaries with a new name of CSS Ecodevelopment In and Around Protected areas (“Officially bankrupt”, 2004; MoEF, 1990; MoEF, 1991; MoEF, 1992; Singh, 1996). In 1996, the IEP proposal was approved by the WB and the central government started the IEP as a five-year project at seven protected areas, with a total budget of US\$ 67 million, of which US\$ 28 million (42% of the total budget) was from WB loan, US\$ 19 million (28%) was from national budget, and the remaining US\$ 20 million (30%) could be granted by GEF (Figure 4.2).

However, the central government alone could not provide the whole national budget, and it was divided among the central government, state governments, and beneficiaries (local communities) concerned (WB, 1996). This kind of share of the budget between the central government and the states may have resulted in the sharing of responsibilities. This is one of the common factors among seven protected areas where IEP were implemented. Kerala State Government was obliged to share 12 percent of the total project budget of Rs. 305.9 millions for PTR and encouraged local people to donate 6 percent of the project budget, either in the form of funds, time,

materials, or workforces. What we can assume from these processes (Figure 4.3) are initiatives of the central government in protected area management and IEP was one of various projects that have been implemented under the central government's initiative.

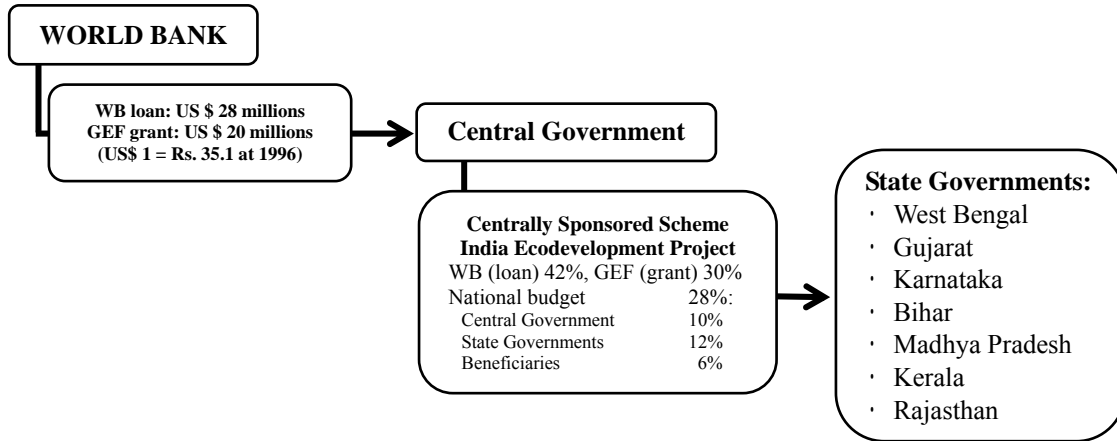


Figure 4.2. IEP financial mechanism

Sources: Field survey, 2004; World Bank, 1996a

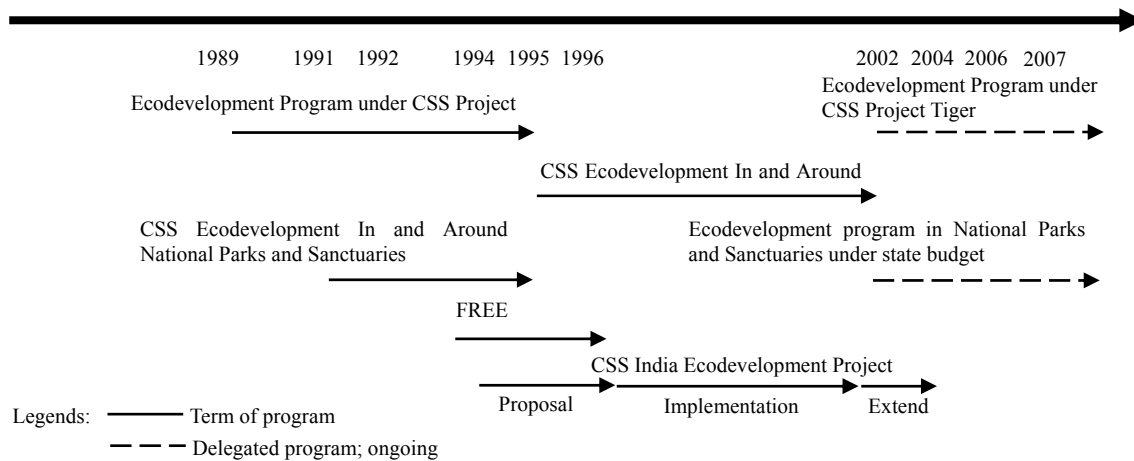


Figure 4.3. Chronology of Ecodevelopment Program in India

Sources: "Officially bankrupt", 2004; MoEF, 1990; 1991; 1992; 2002; Singh, 1996

4.3. Administration and management of forests

4.3.1. Forest areas under the direct control of Central or State Government

According to the Seventh Schedule (article 246) of the Constitution of India, forests and protection of wild animals and birds are subject to the Concurrent List, which means both central government and state governments control all the matters related to them, but powers of central government supersede powers of state governments. If a state has its own forest act, forest areas are owned, controlled, and managed by the state. This means reserved, protected, or unclassed forests are under the direct control of state government. However, whenever state laws are not available, central laws are being enforced in those forest areas.

Protected areas are established for protecting wild animals and birds. All states and union territories have adopted the WLPA, except for the State of Jammu and Kashmir. According to WLPA, sanctuaries and NPs are declared by the state governments (section 18-35), central government (section 38), or deemed to be declared as sanctuary and NPs (section 66(3) and (4)). The latter means that if there are sanctuaries or NPs that have been established before the issuance of WLPA in 1972, they are acknowledged and remaining to be declared as sanctuaries or NPs as if they are declared by the WLPA. Sanctuaries and NPs, which have been declared by the state governments or deemed to be declared under the provisions of WLPA section 66(3) and (4), are under the direct control of state governments; while sanctuaries and NPs that have been declared by the central government are under the direct control of the central government, but managed by the state. Project-based reserves, namely tiger reserves, elephant reserves, and biosphere reserves are under the control of the project authorities in the central government. However, sanctuaries or NPs that also hold the status of project-based

reserves are monitored by the central government, but managed by the state.

Table 4.4. Administrative organization of forest and protected areas in India

Category	Initiative	Administration	Management
Forest areas			
Reserved, protected, and unclassed forests	State Government	State Government	State Government, and communities (where JFM is applied)
Protected areas			
Sanctuaries,	Central Government	Central Government	State Government
National parks	State Government	State Government	
Conservation reserves	State Government	Conservation Reserve Management Committee consists of State Government, communities (1 member of Village Panchayat and 3 members wildlife conservation-related NGO), and a representative from Department of Agriculture and Animal Husbandry	
Community reserves	State Government	Community Reserve Management Committee consists of communities (five members of Village Panchayat/Gram Sabha) and a representative from State government	
Project-based reserves		Central government (MoEF)	
PAs-Tiger reserves	Central Government (MoEF)	Project Tiger	State Government
PAs-Elephant reserves		Project Elephant	
PAs-Biosphere reserves		Man & Biosphere Program	

Notes: MoEF= Ministry of Environment and Forest; NGO =Non-Governmental Organization; PA = protected area
Sources: Field survey, 2005; Indian Forest Act, 1927; WLPA, 1972

Each state government manages forest resources and protected areas in the state. Under the responsible department, forest divisions manage reserved forests together with local communities, where Joint Forest Management (JFM) committees are available. While wildlife divisions manage the sanctuaries and the NPs, and as members of Conservation/Community Reserve Management Committees, forest/wildlife divisions collaboratively manage adjacent conservation reserves and community reserves (Table 4.4). Forest divisions (headed by Divisional Forest Officer) are further divided to

smaller administration areas: ranges, sections, and beats, which each headed by Range Officer, Forester and Forest Guard.

4.3.2. Forest areas in Kerala

FSI (2005) mentioned that forest area of Kerala is 11,268 km². However, the latest statistic data of KFD recorded the extent of forest areas in Kerala as 11,124 km². This extent, by type of vegetation, consists of tropical wet evergreen and semi evergreen, tropical moist deciduous, tropical dry deciduous, montane sub-tropical temperate sholas, plantations, and grasslands; and by legal status consists of reserved forest, vested forest and proposed reserved forest (KFD, 2004a), as shown in Table 4.5.

Table 4.5. Classification of forest areas in Kerala

Source: KFD, 2004a		Source: FSI, 2005	
Category	Areas in km ²	Category	Areas in km ²
By type of vegetation			
Tropical wet evergreen and semi evergreen	3,299		
Tropical moist deciduous	4,100		
Tropical dry deciduous	100		
Montane sub-tropical temperate sholas	70		
Plantations	1,791		
Grasslands	40		
Total	9,400		
By legal status			
Reserved forest	9,157	Reserved forest	11,098
Vested forest	1,753	Protected forest	170
Proposed reserved forest	214	Unclassed forest	0
Total	11,124	Total	11,268

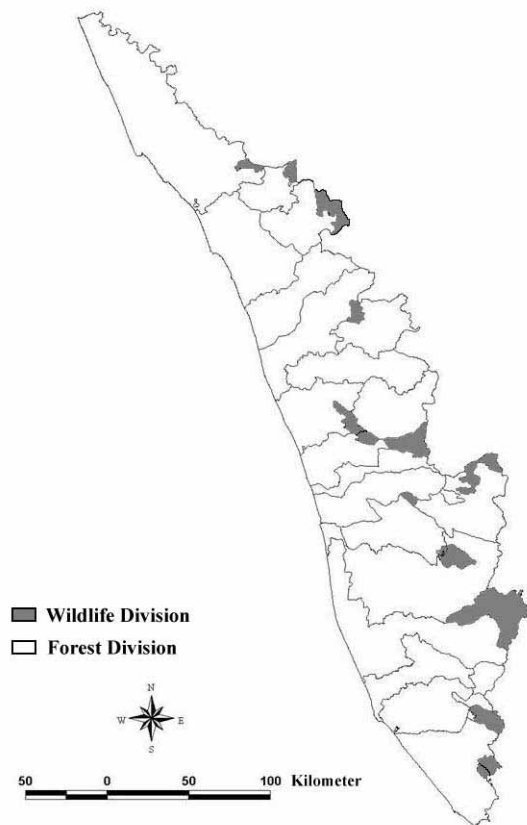


Figure 4.4. Forest and wildlife divisions in Kerala
 Source: Kerala Forest and Wildlife Department [KFD], 2004 (modified)

In order to administer and manage the forest and wildlife in the state, all districts in Kerala, whether there are forest areas or not, are divided into 24 forest divisions and 12 wildlife divisions (Figure 4.4). A wildlife division consists of one or more sanctuaries, one or more NPs, or NPs and sanctuaries, depends on the size of the areas and the distance of a park to others. There are 11 wildlife divisions that manage 12 sanctuaries and 6 NPs, and one special wildlife division manages Agasthyavanam Biological Park (Table 4.6). Some of the parks together with the surrounding reserved forests areas are also holding the status of 1 tiger reserve, 4 elephant reserves, and 2 biosphere reserves. Wildlife divisions are headed by Wildlife Wardens, while sanctuaries and NPs are headed by Assistants Wildlife Warden. As implemented in forest division, whenever necessary

each sanctuary/NP is further divided into smaller administration areas: ranges, sections, and beats. However, relatively small sanctuaries are often divided only to sections and beats.

Table 4.6. Wildlife divisions and administrative arrangement in Kerala Forest and Wildlife Department

Name of wildlife division	Name of protected area	Extent in km ²
Agasthyavanam Biological Park (special)	Agasthyavanam biological park ²	31
Aralam	Aralam wildlife sanctuary	55
Idukki	Idukki wildlife sanctuary ⁴	70
	Thattekkad wildlife sanctuary	25
Munnar	Eravikulam NP	97
	Chinnar wildlife sanctuary	90
	Anamudi shola NP	8
	Mathikettan shola NP	13
	Pambadum shola NP	1
Parambikulam	Parambikulam wildlife sanctuary ⁵	285
Peechi	Peechi-vazhani wildlife sanctuary	125
	Chimmony wildlife sanctuary ⁵	85
Periyar East	Periyar wildlife sanctuary ^{1, 4} (core area as NP)	777
Periyar West		
Shenthuruni	Shenthuruni wildlife sanctuary ²	171
Silent Valley	Silent Valley NP ^{3, 6}	90
Thiruvananthapuram	Peppara wildlife sanctuary ²	53
	Neyyar wildlife sanctuary ²	128
Wayanad	Wayanad wildlife sanctuary ^{3, 7}	344
Total area		2,448

Notes:

1 declared as tiger reserve in 1978

2 together with Achencoil, Thenmala, Konni, Punalur, Thiruvananthapuram Forest Divisions constitutes Agasthyamalai Biosphere Reserve in 2001

3 together with Kozhikode, Mannarkad, Nilambur North, Nilambur South and Palakkad Forest Divisions become Kerala part of Nilgiri Biosphere Reserve in 1986

4 together with Ranni, Konni, Achencoil and Agasthyakoodam forest areas declared as Periyar Elephant Reserve in 2002

5 together with Chalakudy and Vazhachal Forest Divisions declared as Anamudi Elephant Reserve in 2002

6 together with surrounding reserved forests declared as Nilambur Elephant Reserve in 2002

7 together with surrounding reserved forests declared as Wayanad Elephant Reserve in 2002

Sources: Field survey, 2005; KFD, 2006; MoEF, 1987

4.4. National park establishment

The WLPA Section 35 (1) states that “whenever it appears to the State Government that an area, whether within a sanctuary or not, is, by reason of its ecological, faunal, floral, geomorphological association or importance, needed to be constituted as a National Park for the purpose of protecting, propagating or developing wildlife therein or its environment, it may, by notification, declare its intention to constitute such area as a National Park”. Further, the Act mentions that the NP can be declared either by the state government (Section 35) or by the central government (Section 38). NPs that have been declared before the enactment of the Wildlife (Protection) Act in 1972 are deemed to be declared as NP by this Act (Section 66). Based on the definition and sections related to NP, the characteristics of NPs are similar to sanctuaries, but with one difference that no rights can continue in NPs.

At the establishment of a NP, the stakeholders are people who previously owned the area or had any other rights over the area, officers as representatives of institutions that previously managed the area (Divisional Forest Officer for reserved forests, Wildlife Warden for sanctuaries, and Chief Naval Hydrographer of central government for territorial waters), and the Collector (chief officer in-charge of the revenue administration of a district) or any other officer not below the rank of a Deputy Collector as may be appointed by the state government in behalf of the Collector.

4.4.1. Procedures

Procedures of establishing a NP are stated in Section 35 and 38 of WLPA. The procedures start from declaration of intention to constitute an area as a NP or known as the first notification. This notification is published in the state gazette. If the area will

be declared by the central government, the state government leases or transfers the area under its control to the central government before the first notification (Figure 4.5).

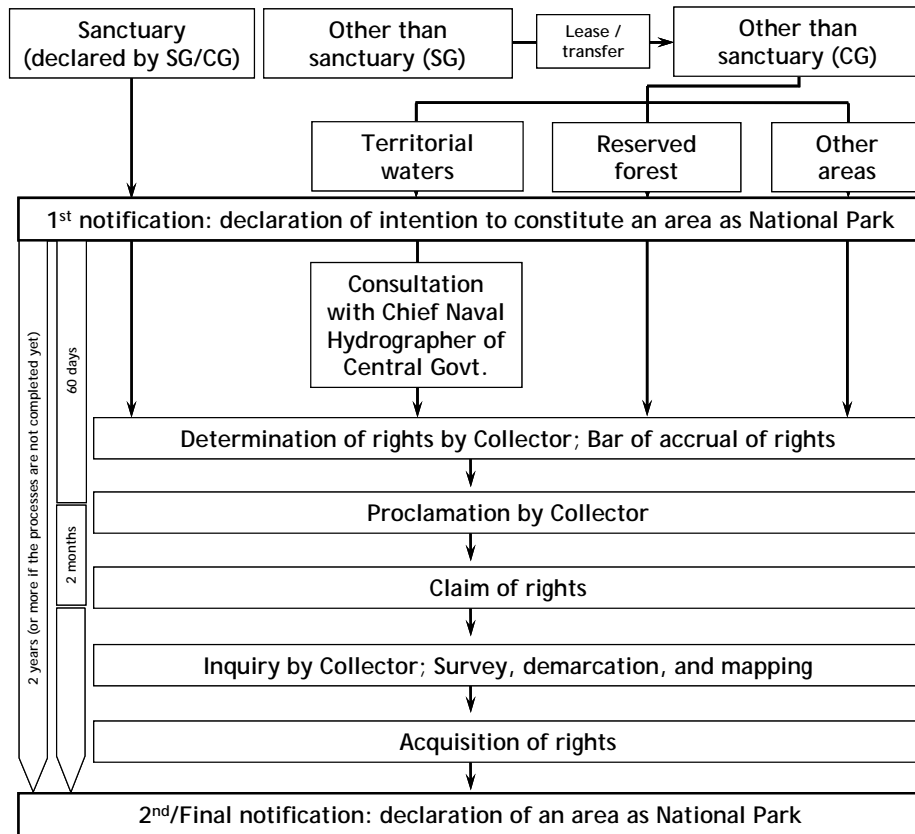


Figure 4.5. Procedures of establishing a NP by the central government

Source: WLPA, 1972

The second step is determining rights of any person in or over the land comprised within the limits of the NP by the Collector and a bar of accrual of rights, which means no right shall be acquired in, on, or over the land specified in the notification, except by succession, testamentary or intestate.

The third step is a proclamation by the Collector within the period of 60 days after the first notification. Proclamation should be published in the regional language, in every town and village or in the neighborhood of the area comprised therein, which specifying the situation and the limits of the NP and requiring any person who is claiming any rights to the Collector within two months after the proclamation.

The fourth step is claim of rights. The claim should be written in the prescribed forms, specifying the nature, extent of such right with necessary details, and the amount and particulars of compensation if wanted. Then the fifth steps are inquiries by the Collector, land survey, demarcation, and mapping. Inquiry by the Collector is a cross-check between the data that derived from the second step (determining rights) and the fourth step (claim of rights). If the inquiry resulted in the same rights between the two data, further step is acquisition of rights, which means the Collector must pass an order admitting or rejecting the rights either in whole or in part. Acquisition of rights is (1) excluding such land from the limits of the proposed NP, or (2) proceeding to acquire such land or rights by an agreement that the owner or holder of such rights has agreed to surrender his rights in or over such land to the state government on payment of such compensation, as is provided in the Land Acquisition Act, 1894.

The time limit for completion of acquisition proceedings is two years from the date of the first notification. However, if the proceedings are not completed within two years, the first notification is still being enforced. If all claims have been disposed off, “State Government issues a notification specifying the limits of the area that shall be comprised within the NP and declares that the said area shall be a NP on and from such date”. This notification is widely known as the second or the final notification of a NP and again published in the state gazette. From the procedures mentioned above, it is indicated that first notification and procedures subsequent to it automatically define that the proposed area have become a protected area, where bar of accrual of rights are implemented.

The explanation of Section 35 of WLPA mentions that in case of an area, whether within a sanctuary or not, where the rights have been extinguished and the land has become vested in the State Government under any Act or otherwise, such area may be notified by the State Government, by a notification, as a NP and all of the procedures

after the first notification shall not be implemented.

Figure 4.6 showed the progress of legalization of NPs in India. The declaration of NPs was started in 1936. Currently, there are 92 NPs declared and among them only 21 NPs have completed the establishment process and finally notified as NPs, either by the state governments or by the central government. Six NPs among the 21 notified NPs are not clear when they were declared, because the data are not available. As a conclusion, 77% of NPs in India have not completed their establishment process, which means those NPs do not have legality yet.

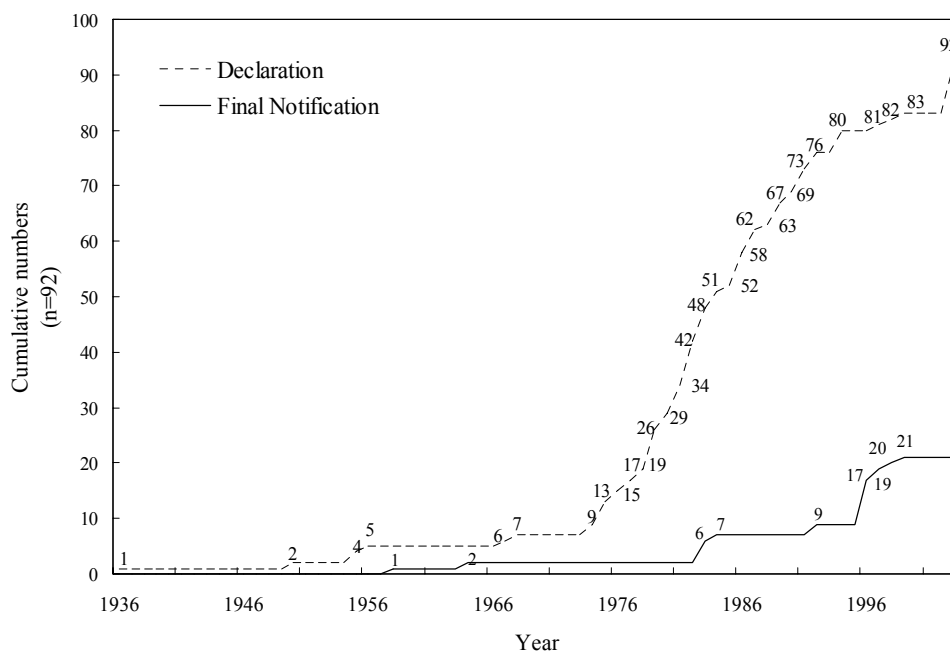


Figure 4.6. Progress of legalization of national parks in India (1936-2003)

Sources: Kutty & Kothary, 2001; KFD, 2004b

4.4.2. Implementation of NP establishment procedures: cases of three NPs

Mathikettan area is part of Cardamom Hill Reserve (CHR), notified in the Travancore Government Gazette dated on August 24, 1897, wherein the area was constituted as a reserve forest under section 18 of Regulation II of 1068. Subsequently, various

government orders/rules were issued for assigning the CHR area for cardamom cultivation as well as regarding the control over the land and trees. The provisions contained in G.O. (Ms.) 804/58/Rev on dated August 9, 1958 that the control over the land rest with the Revenue Department and the control over the tree growth with the Forest and Wildlife Department have made a dual control over the CHR areas (Government of Kerala [GoK], 2003a). Severe encroachments occurred and reached a climax in 2001. Karunakaran (2003) stated that “the Government claimed unauthorized encroachments over an extent of about 1,265 ha of forest land at Mathikettan, evicted the encroachers, and transferred the forests from Revenue Department to Forest Department”. According to GoK (2003a), by G.O. (Ms.) No. 328/2002/RD dated on October 17, 2002, the government transferred 1,281.7 ha of Mathikettan areas to the administrative control of Forest Department. Considering the unique nature of the shola forests and its importance as an elephant corridor, the State Wildlife Advisory Board recommended declaration of the area as a NP. This recommendation was followed by the first notification of Mathikettan Shola NP that was published in the Kerala Gazette Extraordinary G.O. (Ms.) No. 50/2003/F&WLD dated on October 10, 2003.

Pambadum Shola NP was Reserved Forests No. 55 that was notified under section 18 of Regulation II of 1068 dated on October 22, 1908. The shola is a rich repository of floral and faunal diversity and is perennial source of water for the surrounding villages (“Management plan”, n.d.c). Further, GoK (2003b) stated that this area was needed to be constituted as a NP for ensuring long protection of majestic vegetal stretch, which contains many botanical rarities and novelties to science. The first notification of Pambadum Shola NP was published in the Kerala Gazette Extraordinary G.O. (Ms.) No. 12875/F2/2003/F&WLD dated on December 14, 2003.

Anamudi Shola NP is constituted by combining three reserved forests, namely Idivara Shola Reserve No. 56, Pullardi Shola Reserve No. 57, and Mannavan Shola Reserve No. 58 (GoK, 2003c). All of these reserved forests were notified on October 22, 1908 under section 18 of Regulation II of 1068 and managed by Munnar Forest Division (“Management plan”, n.d.a; “Management plan”, n.d.b; “Management plan”, n.d.d). Then, for the same reason as to Pambadum Shola, intention to constitute the area as a NP was declared by the state government in the Kerala Gazette Extraordinary G.O. (Ms.) No. 12876/F2/2003/F&WLD dated on December 14, 2003.

The three new NPs were proposed as NPs because of their uniqueness as *shola* ecosystems, few of the remaining tropical montane forests in the world. Nair and Khanduri (2001) stated that “it was Schimper (1903) who first incorporated the term ‘*shola*’ into the forest types terminology to categorize the tropical rain forests of the higher altitudes of Nilgiris and Pulneys, where the climate is more of temperate nature“. Further, Nair and Khanduri (2001) characterized the *shola* ecosystem as stunted tree patches associated with vast expanses of grasslands in high altitude mountainous terrain that become basis of sustainability of the water regime of the area and endemism. The other reason of declaring those areas as NPs was encroachment that was particularly serious in Mathikettan Shola area. Information in detail on the management of each NP, its significant values and problems are available in the Appendix 4.

From the above explanation, it is revealed that the status of study sites before notification as NPs was reserved forests. All of them were notified as NPs under the initiative of Kerala State Government. When the field research was conducted in September 2005, the final notifications of these NPs have not yet been issued even after almost two years from the first notification. Interviews with key informants revealed that they considered the procedures would be easily finalized, because the areas of the

three NPs had already been demarcated as reserved forests. Tribal people settled on the fringes of Anamudi Shola and Pambadum Shola NPs, but their usufruct rights were abolished at the establishment of the reserved forests. Cardamom lease rights on Mathikettan Shola areas were also terminated by cancellation, when the state government decided to hand over the full management of Mathikettan Shola to the Forest and Wildlife Department.

Meanwhile, since the Collector is a busy person with more important cases, the procedures that must be done by the Collector in the NP establishment, namely determining rights, proclamation, inquiry, survey, demarcation, mapping, and acquisition of rights, are rarely executed (Table 4.7). Even these procedures were not implemented, it was *de facto* considered to be completed and activities of positioning forest officers in the parks were in progress.

Table 4.7. Actual situation on the implementation of NP establishment procedures in Kerala

National park	Previous status	Establishment procedures			
		First notification	Settlement of rights	Demarcation & acquisition	Final notification
Mathikettan Shola	Mathikettan Shola Reserve	2003	X	X	?
Pambadum Shola	Pambadum Shola Reserve	2003	X	X	?
Anamudi Shola	Idivara Shola Reserve Pullardi Shola Reserve Mannavan Shola Reserve	2003	X	X	?

Notes: X = activity was not conducted, ? = final notification was not issued yet

Source: Field survey, 2005

Interview with Munnar Wildlife Warden revealed that construction of management plans for three new NPs were also in progress and includes activities for strengthening people's livelihood through ecodevelopment initiatives, ecologically friendly developments in the village, in the form of village-based ecotourism and home-industry (personal communication, September 7, 2005).

4.5. Involvement of local people: a case of PTR

4.5.1. Implementation process and mechanisms of IEP

In the Constitution of India, ethnic minorities are categorized as ‘tribal people’ so as to be given special assistance by the government. Their livelihood is more closely related to forest resources and the tribal population in Kerala, 1.1% of the total in 2001 (Census of India, 2001), is mainly distributed to forested areas. PTR contains natural resources that directly and indirectly benefit local people in the peripheral areas. Tribal people had led a simple life depending on forest resources even before the area became a ruler’s and then national property. Relocation of tribal people from inside the forests to the fringes took place when the area was declared as a sanctuary by Travancore Princely State; more restrictions were imposed when it was declared as a wildlife sanctuary after the independence; and more as a tiger reserve; and again as a NP. Such upgrading of the status resulted in disadvantages to tribal people who depended on the forests for subsistence. These disadvantages could be accommodated by affirmative consideration to the tribal people under IEP.

At the time of local-level implementation of IEP, a baseline survey was first conducted by the KFD and intermediaries. Only forest-dependent people residing in the outer zones of PTR within a two kilometer width from the boundary (hereafter is called peripheral areas) were selected and organized to a proper Ecodevelopment Committee (EDC). Because of a high population density surrounding the park, it was impossible for PTR managers and staffs to include more people in broader areas.

Based on the characteristics of forest-dependent people, three types of EDC were established: 1) Neighborhood EDC for self-income generating and protection activities, 2) Usergroup EDC for reduction of NTFPs collection, and 3) Professional EDC for

protection, ecotourism, and monitoring activities. All of these three types can basically consist of tribal only, non-tribal only, or mixed (Figure 4.7). Through not small undertakings to organize all the forest-dependent population in the peripheral areas into EDCs that was introduced under a top-down line of administrative order, PTR managers were obliged to change their attitudes from antagonism to collaboration. They have been involved in EDCs as ex-officio members and had to work with the local people in the process of microplan preparation.

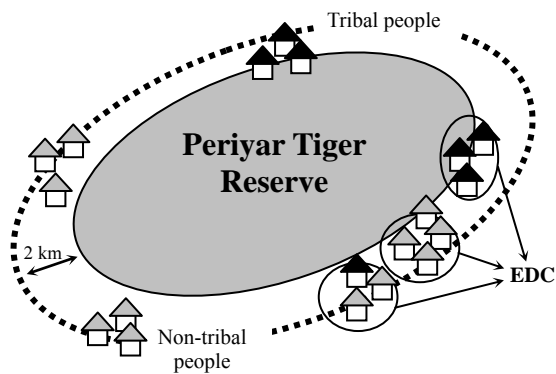


Figure 4.7. Involvement of the peripheral dwellers in IEP at PTR

Source: Field survey, 2004

However, there was no tribal Usergroup EDC (Table 4.8). This is because tribal members are allowed to collect NTFPs under regulations on the microplan, while members of Usergroup EDCs are provided alternative sources of income with loans provided by IEP and expected to reduce the pressures on NTFPs inside PTR. The members of Professional EDCs are rather selective, which include former forest offenders, such as poachers and sandalwood smugglers. They are expected to change their livelihood through trainings provided by IEP (Field Survey, 2004; PTR, 2003a; PTR, 2003b; WB, 1996). Local communities were also supporting IEP, such as local NGOs that acted as facilitators in the initiation of EDC (WB, 1996) and Kerala Tourism Development Cooperation, which runs a hotel inside the park and other hotels

surrounding the park that preferentially employed local people as security guards through EDC activities (Field survey, 2004).

Membership of Usergroup EDC or Professional EDC is given to individuals, while the membership of Neighborhood EDC is given to each household, from which a male and a female adult are registered as representatives of the household. The size of each EDC varies from 20 persons to 130 households. Each EDC elects seven members to become the executive committee, and one of whom becomes the chairperson. Three of the executive committee members should be female and three from tribal people if there are tribal members. Every executive committee is obliged to involve a Forester of the Range Office concerned as an ex-officio secretary and a Forest Guard of the Beat as an assistant ex-officio secretary. Both the secretary and the assistant secretary do not have voting right in any executive committee meetings or general body meetings. Each EDC has its own bank account, which is operated jointly by the chairperson, the secretary, and a nominated female member of the executive committee. This bank account functions as Community Development Fund of Neighborhood EDC and Usergroup EDC or as the treasury of Professional EDC.

Table 4.8. Number of EDCs by the category of tribal and non-tribal

Type of EDC	Status	Number	
		EDCs	Original members
Neighborhood	Tribal	10	805
	Mix	4	321
	Non-tribal	44	3,579
Usergroup	Tribal	0	0
	Mix	0	0
	Non-tribal	10	699
Professional	Tribal	1	20
	Mix	0	0
	Non-tribal	3	116
Total		72	5,540

Source: KFD, 2001

Each EDC must prepare a microplan, which consists of project description, objectives, indicator of success, inputs and activities, benefit distribution and access to resources, mutual obligation and responsibilities, working schedule, public dissemination activity, and conflict resolution mechanisms. This microplan is prepared by the executive committee and discussed in the general body meeting to have participatory ideas from EDC members. For the first time, the microplan was made based on the Protected Area Mutual Interaction Assessment, a similar method to Participatory Rural Appraisal, which was conducted during preparation of IEP. After a microplan is approved by the general body, it is reviewed by the protected area authority, in PTR by PTR Field Director, for the further approval particularly on the allowable activities inside PTR. When a microplan is approved after some adjustment, it is submitted by the PTR Field Director to the KFD to be sanctioned. After finalization, PTR starts to disburse for the EDC activities (Field Survey, 2004; PTR, 2003; WB, 1996a).

One of EDC activities imposed by the project is environmental awareness activities. They are given in the form of nature camps, folklore theatre programs, extension programs and trainings on ecodevelopment, workshops, seminars, and wildlife week celebrations. In the actual implementation of these activities, the target was EDC members at first, but later was expanded to students, professionals, staff of other protected areas, and stakeholders around PTR during the last two years of IEP (PTR, 2003).

The total budget for PTR was 305.9 million Indian rupees (Rs. 1 = US\$ 0.028). Even though the total budget for IEP involved a 30 percent grant by GEF, PTR decided that funding mechanism to support EDCs was not in the form of grant but loan. The concept was to encourage the activities in the microplan, whose contents were mainly related to income generation, and to ensure the sustainability of the activities when the

IEP finished. Each member of an EDC received a loan of Rs. 12,500 from PTR at the beginning, and the conditions to pay the loan back were as follows (Figure 4.8):

- Members of Neighborhood EDC and Usergroup EDC paid the loan back to Community Development Fund established at each EDC.
- Members of Professional EDC paid 10 percent to Park Welfare Fund and another 10 percent to the PTR, and the remaining 80 percent could be used for income generating activities by the EDC.
- The Community Development Fund and Park Welfare Fund formed revolving funds to ensure sustainability of EDCs after IEP ends.

Besides the initial loan, EDC can also collect other sources, such as membership fees and incorporate them in the Community Development Fund.

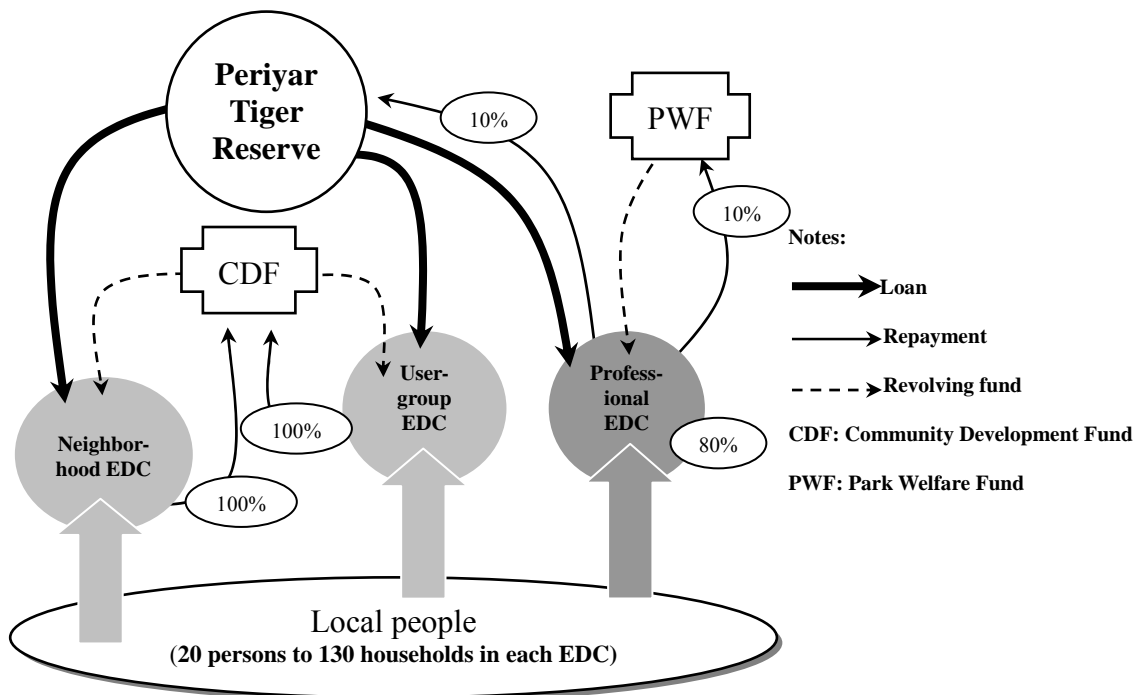


Figure 4.8. EDC funding mechanism at PTR

Source: Field survey, 2004

With the revolving mechanisms (Figure 4.8), sustainability of funds beyond the project period of IEP was secured. In addition, a semi-autonomous body named Periyar

Foundation was established in 2004 after long consultation between local communities, state government, and KFD. It raised funds for nature conservation in PTR from individuals/organizations and aimed at supporting EDC activities.

4.5.2. Effects of IEP on PTR and EDC members

4.5.2.1. Reduction of forest offences in PTR

Implementation of IEP succeeded in controlling the problems, particularly those previously caused by local people. Those once concerned as *vayana* bark and sandalwood smugglers were organized to Ex-Vayana Bark Collector EDC in early 1998, and had conducted collaborative patrols with PTR officers. The members became engaged in ecotour guides while patrolling and by rotation, some of them were hired by hotels inside and surrounding the park as security guards. The forest offences drastically decreased (Figure 4.9): from 8 cases in 1997 to 1 case in 2003 (marijuana/ganja [*Cannabis sativa*] cultivation), from 113 to 3 cases (sandalwood smuggling), and from 6 to none (poaching). In September 2004 when this study was conducted, 30 sandalwood smugglers from Tamil Nadu, one of the neighboring states, came up to PTR to surrender, promised that they would not do any smuggling, and showed their interest to establish an EDC.

Organizing the population in peripheral areas into EDCs and implementation of protection activities may have resulted in controlling illegal activities by local people and the revolving mechanism has supported protection activities. Though the recorded offences themselves were not many, ganja cultivation and poaching could be reduced. Drastic decrease in forest offences can be an indicator to show the success of IEP.

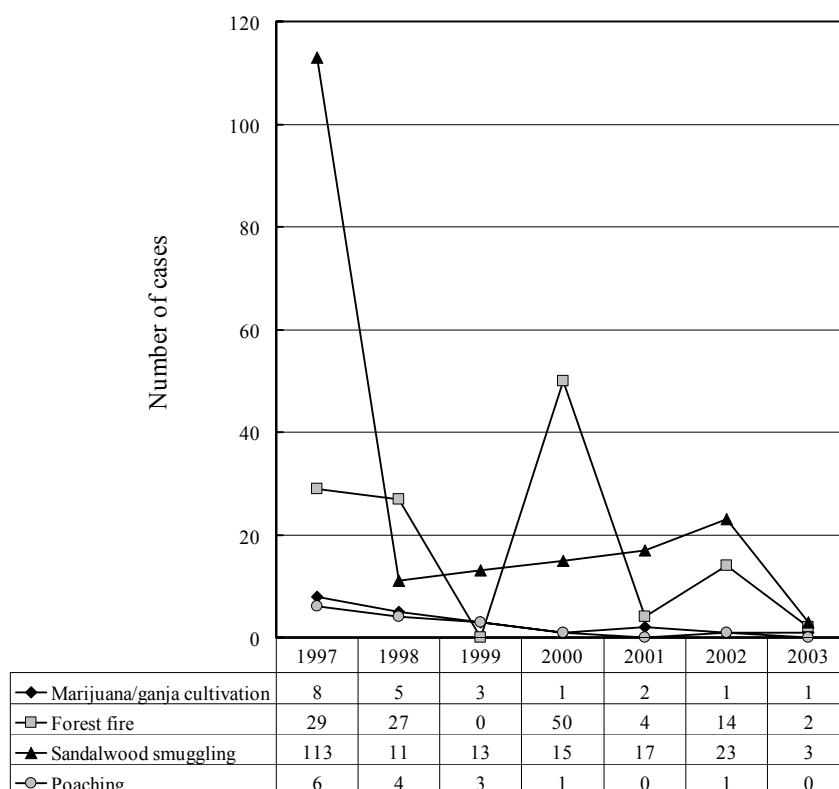


Figure 4.9. Changes of forest and wildlife offences in PTR

Source: PTR, 2003

4.5.2.2. Sampling method and profile of respondent

The peripheral areas of PTR consist of eight *panchayats*, institutions of self government for rural areas (Ministry of Law and Justice, 2004), and 72 EDCs have already been established (KFD, 2001b). The number of EDCs for each *panchayat* is given in brackets: Kumily (23), Vandiperiyar (12), Seethathodu (3), Mundakayam (5), Peruvanthanam (5), Erumeli (7), Ranni Perinadu (10), and Ranni (7). Among eight *panchayats* in the peripheral areas, Kumily was purposively selected, because it has the largest EDC numbers and all types of EDC. Totally 23 EDCs in Kumily *panchayat* consist of 16 Neighborhood EDCs, 4 Usergroup EDCs, and 3 Professional EDCs. To conduct direct interviews using uniform questionnaires, firstly 2 Neighborhood EDCs, 1 Usergroup EDC, and 1 Professional EDC were randomly selected, and then

approximately 10 percent of the members of each EDC, totally 29 respondents, were randomly selected again for interview. In addition, two respondents from a remaining Neighborhood EDC and Professional EDC were added to have an idea of the condition of other EDCs (Table 4.9).

Table 4.9. Number of respondents by EDC

Name of EDC	Type	Established year	Total member		Respondent (individual)	% (from original members)
			Original	2004		
Kollampattada	N	Mar. 2001	101	101	10	10
Mannakuddy III	N	Mar. 1998	101	137	10	10
Kollampattada Vanitha	U	Mar. 2001	27	26	3	11
PETS Thekkady	P	Aug. 2000	58	68	6	10
Subtotal					29	
Mannakuddy II	N	Mar. 1998	89	89	1	
Tribal Trekker	P	Mar. 2001	20	21	1	
Total					31	

Notes: N = Neighborhood, U = Usergroup, P = Professional

Differences were found in the average number of household members and land tenure size between tribal and non-tribal respondents (Table 4.10). From the field survey (2004), tribal people were settled adjacent to PTR or even inside the boundaries, with special permission. While non-tribal people live outside of PTR. Average land area, which usually consists of house, homegarden, and farmland, was 2,102 m² for tribal and 997 m² for non-tribal. The larger size in the tribal respondents was because all respondents have land tenure, with 1 respondent owning 4,000 m² of farmland. While non-tribal respondents usually own a limited size of land for their houses, there is 1 respondent with 8,000 m² of farmland. Except these respondents, the average land holding size per household member becomes 1,629 m² for tribal and 527 m² for non-tribal.

In Kerala, formal education consists of Lower Primary School (1st to 4th grade), Upper Primary School (5th to 7th grade), High School (8th to 10th grade), and High Secondary School (11th and 12th grade), and then College or University. The first seven years are compulsory. The Social Standard Living Certificate (SSLC), which is minimum requirement to apply for the governmental works, is given to the 10th grade graduates. Among 29 respondents, tribal respondents were less educated compared to non-tribal and there were no tribal respondents who reached SSLC level.

Table 4.10. Profile of respondents

Details	Unit	Condition	
		Tribal	Non-tribal
Number of respondents		11	18
Average age of respondents	Years old	44.0	43.6
Average number of household members	Person	5	4
Average of land tenure size	m ² /household	2,102	997
Main sources of income (2004)	Household		
Agriculture		3	1
Fishing		3	0
Tour guide		3	1
Shop		1	3
Home industry		0	1
Labor		0	5
Governmental works		1	6
Remittance		0	1

Source: Field survey, 2004

4.5.2.3. Changes in sources of income of EDC members

Effect of IEP on PTR resources directly and indirectly related to the change in sources of income after IEP. One of the tendencies was increasing number of “off-forest” sources of income, such as farming, home industry, shop keeping, and wage labor. “On-forest” sources can be sub-divided into traditional resources utilization consisting of fishing and NTFP collection, and reduced-impact activities consisting of watchers and tour guides.

The former decreased (tribal) or disappeared (non-tribal) and changed to “off-forest” or reduced-impact sources (Figure 4.10). The results showed that EDC activities have minimized the impacts of subsistence activities on the resources of PTR.

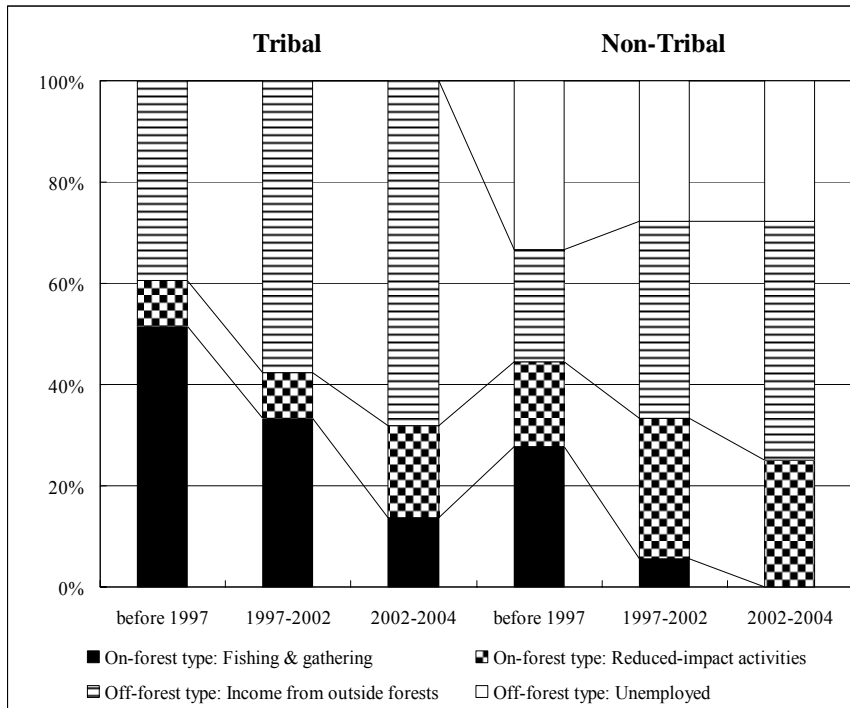


Figure 4.10. Changes in sources of income (N=29)

Source: Field survey, 2004

Change in the livelihood of peripheral people, from forest-based/”on-forest” type to village-based/”off-forest” type activities, is one of the most positive factors to ensure the conservation of PTR. Successful results particularly in protection of fauna may raise the reputation of PTR and consequently tourism, which may expand income opportunities for the people in peripheral areas. Among the sources of income, wages from being a PTR watcher can be regarded as a stable source. Even though this job is located on the lowest level in the stratified organization of KFD, it ensures a fixed wage and has relatively better reputation than other daily works, such as physical labor or servant. Others, except fishing, are village-based activities, which show that livelihood of the respondents changed from forest-dependent to independent.

4.5.2.4. *Difference in knowledge and perceptions on PTR between tribal and non-tribal people*

In order to understand the impact of the environmental awareness program provided by IEP, we made questions on the knowledge about PTR. To our semi-structured questionnaires, various answers referring to protected area, tiger reserve, tourism area, and biodiversity were given to the question on what PTR is. Two non-tribal respondents answered they did not know what PTR was. Some of the tribal respondents answered based on their traditional knowledge, such as the homeland of their ancestors. The ratio of those who could not explain about PTR was higher in the non-tribal group, totally 8 respondents of 18 (44.4 %), compared to 3 of 11 (27.3 %) in the tribal group. The same tendencies could also be found on the questions on the boundary and functions of PTR. The ratio of those who had not witnessed illegal activities and tigers was also slightly higher in the non-tribal group (Figure 4.11).

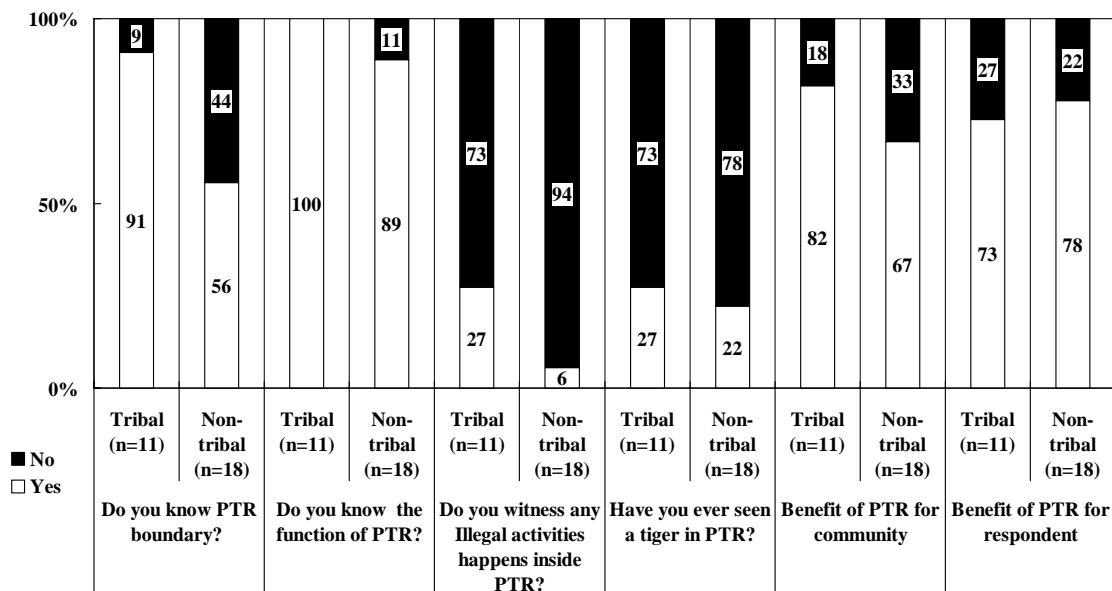


Figure 4.11. Respondents' knowledge on PTR condition

Source: Field survey, 2004

Those who answered that PTR provided no benefits, either for them (7 respondents) or for their communities (8), were totally 14 (24.1 %, because one respondent answered “no” to both questions) despite the loan provided to every member. They consisted of those whose economic activities have less or no relation with PTR resources, such as home industry (4 respondents), farmers (3), shop owners (2), housewives (2), wage laborers (1), and unemployed (1). Another respondent who answered PTR provided no benefits for herself despite her permanent job as a PTR watcher had an abominable experience that her late husband was a victim of poachers.

When the respondents were asked “The government support for your EDC activities has just ended in July, what do you want to do next, whether to stop your EDC activities or continue?” and “If you continue, from where will you finance the activities?”, only two respondents answered “stop”, and one answered “do not know”, and all were non-tribal respondents. The remaining respondents seemed eager to continue their activities. Financial sources they expected were: profit from EDC activities (2 tribal; 4 non-tribal), revolving fund (4; 2), Periyar Foundation (1; 3), and other government agencies (1; 2). Six respondents (2; 4) did not have ideas from where they could finance their activities, but one tribal respondent answered from the revolving fund and Periyar Foundation.

As Chape (2001) who studied Lao PDR pointed out, the low level of literacy and education can be obstacles in implementation of ICDP, and Janzen (2001) also suggested education has been one of seven priorities in the institutional arrangements of ICDP Costa Rica, which is known for successive implementation of ICDP. In this study, the high literacy rate in Kerala can be assumed as one of the key factors. However, here high literacy rate does not always mean high level of formal education. The tribal respondents were less educated than the non-tribal, but their knowledge on the PTR and

IEP was higher (Figure 4.11). Perhaps environmental training programs provided by PTR were better assimilated by the tribal people, and an emphasis that they were not backward anymore was reflected in their answers.

Most of the respondents were eager to continue their EDC activities. This showed that they actually felt the benefit of EDC for themselves and also showed the commitment to continue their activities, even though only 12 respondents seemed to understand the real situation by answering that the source of funds to finance their activities would be from the revolving fund and profit from EDC activities.

4.6. Characteristics of forest and wildlife administration and management in Kerala

Legislation under the Constitution consists of three levels, namely Acts, Rules, and Government Orders. The Acts are enough in detail; the Rules are provided to regulate a specific section of an act, moreover the Government Orders. Based on the Seventh Schedule of the Constitution, it is determined who makes and examines the Acts, the Rules, and the Government Orders and where they must be enacted and published, whether the Parliament/Central Government and the Central Gazzete for Union List and Concurrent List or the Legislatures of the States/State Government and State Gazzetes for the State List and Concurrent List. It seems there is no room for misinterpretation of legislation or even for an excuse that government official did not know the existence or amendment of legislation.

The legal procedures to establish a NP is explained in detail within the WLPA. Details on who must declare, the process after declaration until legalization, job description of each institution in the process, the period to implement each step, what

steps must be done when there are problems, etc. are explained. The procedures of settlement of rights are also explained in detail and the process of inventory claims and then inquiries on the claims become the most important steps to make decision in the acquisition of rights.

From the study sites in Kerala, it was revealed that all of the areas declared under the first notification were originated from the status of reserved forest. It was also revealed that the reason behind establishment of Mathikettan Shola NP was to prevent further encroachment on the areas that had been severely occurred and reached the climax in 2001. In 2002, the Kerala State Government evicted the encroachers, and terminated the cardamom lease rights in Mathikettan Shola. Control over the land of Mathikettan Shola by the Revenue Department was transferred to the Forest Division under the KFD. Within a year after the transfer, Mathikettan Shola was declared as a NP and the administration and management of the area was transferred to the Wildlife Division within the KFD. It is possible that the establishment of the other two NPs is not only because of the uniqueness of the *shola* ecosystem, but it was also to prevent encroachment into the areas.

The legal procedures to establish NPs had not been implemented in the study sites. The NPs were *de facto* considered to be established and the management activities were started. This fact is unexpected, particularly for the Mathikettan Shola NP. Without legal procedures, how the Wildlife Division could be convinced of evicting encroachers and no objections against it? It is supposed that the previous status as a reserved forest provided the firm basis to establish the areas *de jure* as NPs, following the provision in the Explanation of Section 35 of the WLPA, and the procedures to establish the NPs were regarded as nominal.

The legal status of the area that has been called as PTR since 1978 is actually a

wildlife sanctuary that was established in 1950. In 1982, the core area was declared as NP. Legality as a sanctuary and NP may have been acquired through Section 66 of the WLPA and its amendment. The Section mentions that any sanctuary and NP have been declared before the enactment of WLPA and its amendment in 1991 are deemed to be declared as sanctuary and NP. Therefore, the IEP, as one of ICDPs that requiring the project areas to have legal status as protected areas, has included PTR as one of its project areas.

IEP had been implemented in PTR in order to conserve biodiversity by addressing both the impact of local people on the park and the impact of the park to local people. Organizing local people as well as former smugglers and poachers into EDCs and providing them with alternative income generating activities in return to termination of illegal activities inside the park and protection of the park under the IEP has reduced the offences within PTR. The drastic decrease in the number of forest offences has shown that IEP is successful.

5. DISCUSSION AND CONCLUSION

5.1. Differences in legislation and administration systems of forest and protected areas between Indonesia and India

The higher legislation in Indonesia (acts and government regulations) has different characteristics from that of India, in term of details, examination, enactment and publication (Table 5.1). The Indonesian higher legislation is not described in detail and need many strata of lower legislation and subordinate regulation to form the details. The higher legislation should be examined and approved by the House of Representatives before being signed by the President and then will be enacted in the National Gazettes of the Republic of Indonesia. However, the lower legislation and subordinate regulations do not need approval from the House of Representatives and also will not be enacted in the National Gazettes but will be published in the National News of the Republic of Indonesia. Therefore, the formal process to establish a NP in Indonesia has relatively weak legality and publicity comparing to that in India. At the same time, it implies a possibility that the details determined by lower legislation and subordinate regulation are easily changed, not properly implemented, or even not implemented. On the contrary, Indian legislation is made in detail and only needs two lower strata as lower legislation. All kinds of legislation are examined either by the Parliament or the Legislatures of the States, then enacted and published in the Central or State Gazettes.

By the difference in the legislation, especially in how forest areas are established,

India gradually gains reserved forest through demarcation process, from unclassified to protected, and at last to reserved forest. This process eventually aims at transferring all protected and unclassified forest areas into reserved forest. While in Indonesia, the Constitution states that all natural resources including forest resources are owned by the country, which means forest areas are automatically becoming the national property unless existence of possession rights are proven. In the Forestry Act, the forest areas are categorized based on the ownership and the status. The extent of the national forest areas is determined based on the status by the Minister. Under subordinate regulations of the Forestry Act, there is a category of convertible production forest. It can be de-designated for non-forestry purposes, such as transmigration projects, mining, and agricultural plantations. Therefore, the area of reserved forests in India has ever been increasing, while nominal forest areas in Indonesia are eventually decreasing under various pressures.

Table 5.1. Differences of legislation between Indonesia and India

Difference	Indonesia	India
Higher legislation	Not in detail and gazetted	Detailed and gazetted
Subordinate regulations	Detailed but not gazetted	Detailed and gazetted

As already mentioned in section 3.3.3, forest areas have not yet been established as land with boundaries in most parts of outside Java. On the contrary, forest land demarcation has been implemented since the colonial period in Java and direct management has been applied (Masuda, 1998). Despite the similarity in the sense of infrastructure, some differences in the status of protected areas are found between Indonesia and India (Table 5.2).

Regarding the access of local people to protected areas, especially in NPs, both countries also have differences. In India, NP is restricted to people, while in Indonesia, people could continue their rights in the particular area of NP after the said area is set up as intensive utilization or traditional utilization zones by the Directorate General of Forest Protection and Nature Conservation decrees (Government Regulation No. 68, 1998).

Table 5.2. Differences of forest and protected areas administration system between Indonesia and India

Difference	Indonesia	India
Forest areas		
Ownership	Mostly national property	Mostly national property
Administration	Central Government	State Government
Management	Local Government	State Government and communities (where JFM is applied)
Production	<i>Perhutani</i> (Java); Private sectors (outside Java)	State Government
Process of establishment	Designation, demarcation including settlement of rights, mapping, and stipulation	Demarcation, settlement of rights, and gazettelement
Protected areas		
Ownership	National property	National and private properties
Land use category	Forest*	Forest*
Administration	Central Government, or the local government (in Grand Forest Parks)	State Government or Central Government**
Management	Central Government or the local government (in Grand Forest Park)	State Government, and communities (in Community Reserves)
Process of establishment	Designation, demarcation including settlement of rights, mapping, and stipulation	First notification, settlement of rights, demarcation, acquisition of rights, and final notification

Notes: * = Marine/aquatic areas are not included; ** = applied to NPs and sanctuaries, depending who declared the areas.

5.2. Legal procedures to establish a NP

The first assumption of the framework of this study is: “the procedures under the law in force do not request settlement of rights when the previous status of the area concerned is national forest”. In the legal procedures to establish NPs, it is revealed that both Indonesia and India require settlement of rights to all of the previous status of the area. Therefore the first assumption is denied. The reasons behind the inclusion of settlement of rights in the legal procedures are because in Indonesia, protection forests, production forests, and other status of protected areas, or non-forest areas can be converted to a NP and become the national property. The settlement of rights must be implemented to include or exclude a particular area into the NP and to apply zoning system. In India, NPs can be established by changing already existing forest reserves and sanctuaries or other areas, and the settlement of rights must also be implemented, because when an area is proposed as a NP, it becomes restricted to people.

The legal procedures to establish a NP in Indonesia are arranged in various level of legislation, and the most important parts are available in the ministerial decrees. It is difficult and time consuming to collect them. It is also not easy to understand a particular process, unless all of the decrees have been collected.

5.3. Actual situation in establishment of national parks

Generally, the discrepancy between the systems and realities are relatively small in industrialized countries, however it is not necessary to be the same in the developing countries. Such discrepancy is not only derived from the deficit of financial supports but also from various defects that lie in the implementation process.

Following the notion of NP establishment for environmental reasons, change of land and forest resource ownership usually triggers conflicts between the government and the people. Even though a NP is established on already established forest land, it is not just as simple as a level-up of control over the land concerned so that the government can ignore the legal procedures to change the status or functions or transfer the administration from one to another within government institutions. It is common in developing countries that local people utilize forest resources for subsistence, and changes in control affects their livelihood if such dependency on forest resources exists.

From the cases in Java and Kerala, all NPs originated from forest areas. Therefore, NPs in both areas could have firm basis where forest areas have already been established with distinct boundaries. However, in Java as well as outside Java, the procedures to establish NPs, particularly demarcation of boundaries, are a part of the management plan. It raises a contradiction that a NP can not be established unless the management plan is prepared and implemented. These situations may create conflicts in the future, when people become aware that those NPs have not acquired legal status yet. While in Kerala, the NPs were *de facto* considered to be established and management activities were started without completion of legislatively determined procedures. It was derived from a firm basis of the previous status, namely reserved forest, and the procedures to establish the NPs were regarded as nominal. From this explanation, the second assumptions: “eventhough there are provisions on settlement of rights, the procedure is neglected in actual situation or management as a protected area precedes completion of legal framework” are accepted.

At the NP establishment stage, conflicts in Java were immediately compromised by dissemination of NP information to local communities, about the zoning system and the roles of communities when NPs are established. While in Kerala, conflicts were

merely detected, because NPs were established in order to mitigate and prevent further encroachment. Even though resources of NPs in India in general are restricted to people, adoption of ecodevelopment initiatives in the management plan become the gateway for good-relationship between the NPs and people.

5.4. Involvement of local people

The third assumption of the framework of this study is: “deficiencies in legality as in assumption (1) and (2) form common backgrounds of conflicts between protected area administration and local people”. From the cases of involvement of local people in Ujung Kulon NP and PTR, involvement activities in Ujung Kulon NP reflected the ICDP approach as prescribed by Wells *et al.* (1992), while IEP in PTR was already regarded as one of ICDPs (Sanjayan *et al.*, 1997; Badola, 2000). One of the factors for the success of ICDPs has been suggested by MacKinnon and Wardojo (2001) is legality of protected area. Both Ujung Kulon NP and PTR fulfilled this factor; however it is not clear whether the conflicts that have been existed in both parks originated from the deficiencies in the legality.

Ujung Kulon NP and PTR implemented similar efforts to solve the problems that originated from local people, but through different mechanisms. The similar efforts are in the initiatives that came from the governments/donor agencies, involving local people into protection works, and providing alternative income generating activities. The different mechanisms (Table 5.3) are: 1) small-separated versus large-integrated projects, 2) donation without obligation versus revolving fund with obligation in supporting protection of the park, and 3) both independently and using intermediaries versus independently implementing the projects. Those differences led to the different

effects on park resources and local people. In Ujung Kulon NP, illegal activities had increased, and the conservation education within the buffer zones development program was less effective to prevent local people in conducting illegal activities. Therefore, sustainability of activities beyond the programs is doubted. On the contrary, in PTR illegal activities could be reduced, environmental awareness of local people could be identified, and sustainability of activities beyond the project is ensured.

Table 5.3. Differences in involving local people between Ujung Kulon NP and PTR

Difference	Ujung Kulon NP	PTR
Financial mechanisms		
Project form	Separated, many projects	Integrated, one project
Scale of project	Small-scale	Large-scale
Sources of budget	Government, donor agencies	Government, donor agencies, beneficiaries
Mechanism	Distribution of donation	Loan-protection-revolving fund
Implementation process		
Actors	Park authority independently or park authority in cooperation with intermediaries/donor agencies throughout the projects	Park authority independently throughout the project (intermediaries cooperated only in the initiation of the project)
Rights and duties of local people	Rights: receiving donation Duties: refrain from illegal activities	Rights: receiving loan and conducting activities approved in the microplan Duties: paying back the loan, do protection activities, managing revolving fund for sustainability of their activities
Effects of the projects on park resources and local people		
Illegal activities	Could not be reduced	Could be reduced
Environmental awareness/conservation education programs	Less effective	Effective
Sustainability of activities beyond the projects	Doubted	Ensured

Differences in financial mechanisms could gain similar effects as achieved in PTR, if Ujung Kulon NP planned the separated small-scale projects as integrated one. Bargaining position of Ujung Kulon NP as the manager of the park must be expressed, by strongly requiring interested donor agencies to take part the integrated project, rather than only receiving and distributing donation. Another strategy is balancing the rights and obligations, responsibilities, and commitments to local people through agreements, reward, and punishment (law enforcement), as well as in sharing the project budget rather than distributing-receiving donation. Donation without obligation so far has failed to generate alternative income sources for local people.

On the other hand, PTR can learn that openness of Ujung Kulon NP to cooperate with intermediaries/donor agencies reflects the idea that Ujung Kulon NP is public property and that conservation of biodiversity in Ujung Kulon NP is the responsibility of the public, not solely the park authority or the central government. Therefore, problems occurred in the park must be solved together by the central and local governments, park authority, local people, other stakeholders, and interested institutions, including donor agencies.

5.5. Advantages and disadvantages of establishing national parks

Despite the reality that both countries did not finalize the NP establishment procedures, there are advantages from establishing NPs even only in the first notification/at designation stages. At least, by the status of NP, forest areas including resources therein are relatively mitigated from degradation and deforestation, moreover from extinction. Both countries are also acknowledged as implementing their commitments to the Convention on Biological Diversity. Having NPs in a developing country attracts donor

agencies and developed countries that want to conduct nature conservation in return of their less environmentally friendly developments. Financial mechanisms, such as “incremental cost” when a developing country proposes grant to GEF or loan from the WB and “debt for nature swap”, are benefiting developing countries. Many developed countries and international agencies are interested to conduct researches on various aspects within NP.

However, disadvantages would come from local, when local people find out that an area is legally become a NP only after the final notification/stipulation decree is issued. More people would have been continuing their usufruct rights within the park until the settlement of rights are conducted, and even more people will accuse that the country illegally managed forest areas. This condition will possibly lead to fast destruction, degradation of forest, and deforestation.

Disadvantages will be experienced also by local people who have been dependent on natural resources within NPs since before the establishment. Ethnic groups/local people in Indonesia or tribal people in India, who have been utilizing forest areas for subsistence, will be limited in fulfilling their needs or will have no more access to the forest areas as soon as notified as NP. Even resettlement program of ethnic groups to outside NPs were conducted in Indonesia and eviction of people has been implemented in India. As possible impact, NTFPs will disappear from the market or if they are available in market, they could be regarded as a result of illegal collection.

5.6. Conclusion

The concept of modern NP that was born in the USA can not be adopted completely by developing countries without adjustment to local condition. This refers to the

institutional arrangements on the land use and resource utilization that have been existed before the NPs establishment. Local people might have been using the land and the resources and their existence was necessary to be considered in establishing NPs or other forms of protected areas.

Legality of protected area is a pre-requisite for proper management. A series of establishment procedures must be conducted in order to achieve the legality. Within these procedures, protected area as a territory is communicated and degrees of access are determined. Then, it is legal for the authority to control access through enforcement.

This study revealed that differences between Indonesia and India could be found in the legislation and administration systems of forest and protected areas. The characteristics of legislation in Indonesia have made the legal procedures to establish NPs become weak in legality, easily amended, not properly implemented or even not implemented. Procedures to establish a NP in detail are different in two countries, but both have same major components, namely declaration, settlement of rights, demarcation, and legalization. The legal procedures to establish NPs require settlement of rights, even when the previous status of the area concerned is national forest. However, the actual situations in the study sites are similar, that all NPs have not finalized the procedures of establishment. In Java, the procedures are parts of the management plan and need certain period to implement them. In Kerala, the procedures are *de facto* to be completed.

Buffer zones development programs in Ujung Kulon NP and India Ecodevelopment Project in PTR have been implemented to protect the areas while reducing dependencies of local people by provision of alternative income generating activities. The points to the success and sustainability of involvement of local people

in the management of protected area are demarcated areas, integrated project plan, sharing roles, defining rights, obligations and responsibilities, and building commitments between protected area authorities, local people, and other stakeholders. Involvement of stakeholders other than local people reflects the idea that the protected area is public property and conservation of biodiversity is the responsibility of the public, not solely the park authority or the central government.

Conditions surrounding NPs are worse in outside Java and Kerala. Therefore, settlement of rights and establishment of legal basis of NPs in the early stage are pre-requisites to the effectiveness of administration and management of NPs. Further studies are necessary for outside Java and Kerala, either on NPs, other types of protected area, or on forest areas.

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Appendix 1: Glossary

Indonesian	English
<i>Anggaran Pendapatan dan Belanja Negara (APBN)</i>	National budget
<i>Badan Penelitian dan Pengembangan Kehutanan</i>	Forestry Research and Development Agency
<i>Badan Planologi Kehutanan (Baplan)</i>	Forestry Planning Agency
<i>Balai Konservasi Sumberdaya Alam (BKSDA)</i>	Natural Resources Conservation Office
<i>Balai Pemantapan Kawasan Hutan (BPKH)</i>	Forest Area Consolidation Office
<i>Balai Taman Nasional</i>	National Park Office
<i>Berita Acara Pemeriksaan Tata Batas</i>	Official Report on Boundary Inspection
<i>Berita Acara Pengumuman Pemancangan Trayek Batas</i>	Official Report on Temporary-border Marking Announcement
<i>Berita Acara Tata Batas</i>	Official Report on Boundary Demarcation
<i>Berita Acara Tata Batas Sementara</i>	Official Report on Temporary-boundary Demarcation
<i>Cagar Alam</i>	Strict nature reserve
<i>Cagar biosfir</i>	Biosphere reserve
<i>Daerah Istimewa (DI)</i>	Special region
<i>Daerah Khusus Ibu Kota (DKI) Jakarta</i>	Special capital city district
<i>Daerah Penyangga</i>	Buffer zones
<i>Dana Reboisasi (DR)</i>	Reforestation fund
<i>Dewan Perwakilan Rakyat (DPR)</i>	House of Representative
<i>Direktorat Jenderal</i>	Directorate General
<i>Direktorat Jenderal Bina Produksi Kehutanan</i>	Directorate General of Forestry Production Development
<i>Direktorat Jenderal Perlindungan Hutan dan Konservasi Alam</i>	Directorate General of Forest Protection and Nature Conservation
<i>Direktorat Jenderal Rehabilitasi Lahan dan Perhutanan Sosial</i>	Directorate General of Land Rehabilitation and Social Forestry
<i>Emping</i>	A kind of snack made from <i>melinjo</i> (<i>Gnetum gnemon</i>)
<i>Gunung</i>	Mount/mountain
<i>Hutan hak, hutan rakyat</i>	Right forest
<i>Hutan konservasi</i>	Conservation forest
<i>Hutan lindung</i>	Protection forest
<i>Hutan negara</i>	State forest
<i>Hutan produksi</i>	Production forest
<i>Instruksi menteri</i>	Ministerial instruction
<i>Instruksi presiden</i>	Presidential instruction
<i>Inventarisasi dan penyelesaian hak-hak pihak ketiga</i>	Inventory and settlement of rights
<i>Iuran Hasil Hutan (IHH), now called Provisi Sumberdaya Hutan (PSDH)</i>	Forest product levies
<i>Jagawana</i>	Forest police
<i>Kabupaten</i>	District
<i>Kawasan hutan pelestarian alam</i>	Nature conservation forest area

Indonesian	English
<i>Kawasan hutan suaka alam</i>	Nature reserve forest area
<i>Kawasan pelestarian alam (KPA)</i>	Nature conservation areas
<i>Kawasan suaka alam (KSA)</i>	Sanctuary reserves
<i>Kelurahan/Desa</i>	Village
<i>Keputusan Menteri</i>	Ministerial Decree
<i>Keputusan Presiden</i>	Presidential decree
<i>Ketetapan MPR</i>	Resolution of People Consultative Assembly
<i>Kotamadya</i>	City
<i>Lembaran daerah</i>	Regional gazettes
<i>Lembaran negara</i>	National gazettes
<i>Musyawarah Perwakilan Rakyat (MPR)</i>	People Consultative Assembly
<i>Negara</i>	State/Country
<i>Paduserasi</i>	Integrated and harmonization
<i>Pemancangan pal batas</i>	Definite-boundary marking
<i>Pemancangan patok batas</i>	Temporary-border marking
<i>Pembinaan daerah penyangga</i>	Buffer zones development
<i>Pemetaan kawasan hutan</i>	Forest area mapping*
<i>Penataan batas kawasan hutan</i>	Forest area boundary demarcation*
<i>Penetapan kawasan hutan</i>	Forest area stipulation*
<i>Pengukuhan kawasan hutan</i>	Forest area affirmation*
<i>Penunjukkan kawasan hutan</i>	Forest area designation*
<i>Peraturan Daerah</i>	Regional regulation
<i>Peraturan Menteri</i>	Ministerial Regulation
<i>Peraturan Pemerintah</i>	Government Regulation
<i>Peraturan Pemerintah Pengganti Undang-undang (PERPU)</i>	Government Regulation substituting act
<i>Peraturan Presiden</i>	Presidential Regulation
<i>Propinsi</i>	Province
<i>Rencana Tata Ruang Wilayah Propinsi</i>	Provincial Spatial Planning
<i>Suaka Margasatwa</i>	Wildlife sanctuary
<i>Surat Edaran</i>	Circular
<i>Taman Buru</i>	Hunting park
<i>Taman Hutan Raya</i>	Grand forest park
<i>Taman Nasional</i>	National park
<i>Taman Rekreasi Alam</i>	Nature recreation park
<i>Tata Guna Hutan Kesepakatan (TGHK)</i>	Forest Land Use by Consensus
<i>Undang-undang</i>	Act
<i>Undang-Undang Dasar (UUD)</i>	Constitution
<i>Unit Konservasi Darat</i>	Terrestrial Conservation Unit
<i>Unit Konservasi Laut</i>	Marine Conservation Unit
<i>Unit Pelaksana Teknis (UPT)</i>	Technical Implementation Unit

Notes: * apply to all functions and status of forest as well as aquatic ecosystems, e.g. production forest, protection forest, strict nature reserve, wildlife sanctuary, national park, grand forest park, nature recreation park, and hunting park

Hindi/Malayalam

English

Panchayat

An institution (by whatever name called) of self-government constituted under article 243B of the Constitution of India, for the rural areas

Ramacham

Vetiver (*Vetiveria sp.*)

Vayana

Cinnamon (*Cinnamomum sp.*)

Appendix 2: Legislations in Indonesia related to the study

Constitution of the Republic of Indonesia, 1945 (37 articles, 2 provisions)

As amended by the First Amendment (19 October 1999), the Second Amendment (18 August 2000), the Third Amendment (9 November 2001) and the Fourth Amendment (11 August 2002).

Section XIV. National Economy and Social Welfare

Article 33

- (1) The economy is to be structured as a common endeavor based on familial principles
- (2) Production sectors that are vital to the state and that affect the livelihood of a considerable part of the population are to be controlled by the state
- (3) The land and the waters as well as the natural riches therein are to be controlled by the state to be exploited to the greatest benefit of the people
- (4) The organization of the national economy shall be based on economic democracy that upholds the principles of solidarity, efficiency along with fairness, sustainability, keeping the environment in perspective, self-sufficiency, and that is concerned as well with balanced progress and with the unity of the national economy
- (5) Further provisions regarding the implementation of this article are to be regulated by law.

Act of the Republic of Indonesia No. 5/1990 on conservation of living resources and their ecosystem (Conservation Act; 45 articles)

(Articles related to National Park)

Article 1

As define under this Act:

1. Living resources shall be elements in nature consisting of living plant and animal resources which together with surrounding non-living elements constitutes an ecosystem.
2. Conservation of living resources shall mean the management of living resources whose wise utilization will ensure their maintaining and improving their value and variety.
3. An ecosystem shall be the interdependencies relationship of all interacting natural elements of both living and non-living resources.
4. A plant refers to any species of the plant kingdom either living in a terrestrial or aquatic environment.
5. An animal is any species of animal kingdom either living in a terrestrial, and/or aquatic, and/or aerial environment.
6. A wild plant is a plant living either in the wild environment or under cultivation, which is still possesses the genuine-characteristics of its species.
7. A wild animal is an animal, living either in the wild environment or in captivity, which still possesses wild features.
8. A habitat is an environment in which plants and animals are able to live and develop naturally
9. A sanctuary reserve shall be a specific terrestrial or aquatic area having sanctuary as its main function preserving biodiversity plant and animal as well as an ecosystem which also acts as a life support system.
10. A strict nature reserve shall be a sanctuary reserve area having a characteristic set of plants, animals and ecosystems, which must be protected and allowed to develop naturally.
11. A wildlife sanctuary shall be a sanctuary reserve area having high value of species diversity and/or a

unique animal species, in which habitat management may be conducted, in order to assure their continue and existence.

12. A biosphere reserve shall be an area of native, unique, and/or degraded ecosystems, where all natural components need to be protected and sustained for its importance research and education.
13. A nature conservation area shall be a specific terrestrial or aquatic area whose main function are to preserve diversity of plant and animal species, as well as to provide a sustainable utilization of living resources and their ecosystems.
14. A national park shall be a nature conservation area which possesses native ecosystems, and which is managed through a zoning system utilized which facilitates research, science, education, breeding enhancement, recreation, and tourism purposes.
15. A grand forest park shall be a nature conservation area intended to provide a variety of indigenous and/or introduced plants and animals for research, science, education, breeding enhancement, culture, recreation and tourism purposes.
16. A nature recreation park shall be a nature conservation area mainly intended for recreation and tourism purposes.

Notes: Forestry Act is using 'nature reserve forest area' and 'nature conservation forest area' for the terms 'sanctuary reserves' and 'nature conservation areas', despite the same categories under each group. This could be understood if it is assumed that Forestry Act only deal with terrestrial forest areas.

Article 5

Conservation of living resources and their ecosystems shall be brought about through the following activities:

- a. Protection of life support systems;
- b. Preservation of plant and animal species diversity and their ecosystems;
- c. Sustainable utilization of living resources and their ecosystems.

Article 7

The protection of life support systems is intended to maintain ecological processes which support continued existence of living organisms for enhancing human welfare and the quality of human life.

Article 8

- (1) To realize the objective pertaining to article 7, the government shall enact:
 - a. certain areas as a life support system protection area
 - b. basic guidelines for regulating a life support system protection area
 - c. procedures for utilization of life support system protection areas
- (2) Further provisions pertaining paragraph (1) shall be regulated by a Government Regulation.

Article 9

- (1) Every holder of land rights or rights over aquatic areas within life support system area shall be responsible for maintaining and obliged to ensure the continuity of the protected function of the area.
- (2) In undertaking protection of life support system areas, the Government shall regulate and conduct law enforcement of land management and utilization, and concession right to aquatic areas within life support system areas, pertaining to article 8.
- (3) Law enforcement pertaining to paragraph (2) shall be conducted based on legislative regulation in effect.

Article 10

Degradation within life support system area due to natural processes or unwise utilization or other cause, shall be followed by planned and continuous rehabilitation efforts.

Article 12

The preservation of plant and animal diversity and their ecosystems shall be implemented by maintaining the integrity of natural sanctuary reserves in their original condition.

Article 14

Sanctuary reserves, pertaining to article 12, shall consist of:

1. Strict nature reserve
2. Wildlife sanctuaries.

Article 15

Besides having their main role as areas for preservation of plant and animal species diversity, sanctuary reserves shall also act as life support system protection areas pertaining to paragraph (1) of article 8.

Article 16

- (1) The management of sanctuary reserves shall be implemented by the Government as an effort to preserve plant and animal diversity and their ecosystems.
- (2) Subsequent Government Regulation shall regulate the provisions for gazetting and utilization of a sanctuary reserve and its adjacent area as a buffer zone.

Article 17

- (1) Activities for research and development, science, education, and other activities supporting enhanced breeding are permitted within the strict nature reserves.
- (2) Activities research and development, science, education, limited recreation, and other activities supporting enhanced breeding are permitted within the wildlife sanctuary.
- (3) Further provisions pertaining to paragraph (1) and (2) of this article shall be regulated by a Government Regulation.

Article 18

- (1) Sanctuary reserves as well as other areas can be established as biosphere reserves in the framework of international conservation activities especially or activities defined in article 17.
- (2) Further provisions for establishing a biosphere reserve shall be regulated by a subsequent Government Regulation.

Article 19

- (1) Any and all persons are prohibited from doing any activity which leads to a change of natural integrity of sanctuary reserves.
- (2) The provision defined in paragraph (1) of this article shall not include prohibition of habitat management activities conducted for maintaining wildlife populations within wildlife sanctuaries.
- (3) A change of nature, integrity of a sanctuary reserve as defined in paragraph (1) shall include decreasing or deteriorating of function and area of a sanctuary reserve, as well as introduction of exotic plant and animal species.

Article 29

- (1) Nature Conservation Areas as defined as in article 1 recital 13 consist of the following areas:
 - a. National Park
 - b. Grand Forest Park
 - c. Natural Recreation Park
- (2) Further provisions regarding the designation procedure for Nature Conservation Areas and their buffer zones shall be regulated by a subsequent Government Regulations.

Article 30

The functions of Nature Conservation Areas are the protection of life support system, preservation of species diversity, and sustainable utilization of living resources and their ecosystems.

Article 31

- (1) Activities relating to research, education, breeding enhancement, culture and nature recreation are allowed in a National Park, Grand Forest Park, and Natural Recreation Park.
- (2) Activities pertaining to paragraph (1) must be carried out without diminishing the specified function for each area.

Article 32

A National Park is managed through a zoning system which may consist of Core Zone, Utilization Zone, and other zones depending on necessity.

Article 33

- (1) Any and all persons are prohibited to do activities which may modify the natural integrity of the National Park's Core Zone.
- (2) Activities considered a modifying the natural integrity of the Core Zone pertaining to paragraph (1) include to diminish or to degrade, the function and area of Core Zone, as well as introduce exotic species of plants and animals.
- (3) Any and all persons are prohibited to do activities which are inconsistent with the function of utilization and other zones of the National Park, Grand Forest Park, and Natural Recreation Park.

Article 34

- (1) Management of the National Park, Grand Forest Park and Natural Recreation Park is carried out by the Government.
- (2) Tourism facilities may be developed in the Utilization Zone of the National Park, Grand Forest Park and Natural Recreation Park, based on management plan.
- (3) For tourism and recreation activities, the Government may grant concession rights in Utilization Zone of National Park, Grand Forest Park, and Natural Recreation Park. The rights holder should promote public participation.
- (4) Further provisions pertaining to paragraph (1), paragraph (2), and paragraph (3) shall be regulated by a Government Regulation.

Article 35

Under certain conditions and when clearly necessary for the purposes of maintaining or rehabilitating natural resource and their ecosystem, the Government may halt utilization activities and shut off National Park, Grand Forest Park and Natural Recreation Park.

Article 37

- (1) The Government will lead and mobilize its citizen to participate in conservation of living resources and their ecosystems through an efficient and effective manner.
- (2) In pursuing the matter pertaining to paragraph (1) the Government will encourage and develop conservation awareness, in living resources and their ecosystems, through education and extension programs.
- (3) Further provisions pertaining to paragraph (1) and paragraph (2) shall be regulated by a Government Regulation.

Article 38

- (1) In accordance with Act Number 5 of 1974 concerning Local Government, the Government, in implementation of conservation of living resources and their ecosystems, may delegate part of the duties and tasks to the local government.
- (2) Further provisions pertaining to paragraph (1) shall be regulated by a Government Regulation.

Article 41

Forest Sanctuary Reserves and Natural Recreation Areas which have been designated and established at the time this Act takes effect shall remain in effect.

Article 42

All other legislation pertaining to the conservation of living resources and their ecosystems shall remain in effect, insofar as they do not conflict with this Act.

Government Regulation of the Republic of Indonesia No. 68/1998 on Sanctuary Reserves and Nature Conservation Areas (60 articles)

(Articles related to National Park)

Article 4

Sanctuary Reserves and Nature Conservation Areas are managed based on the function of the areas:

- a. As an area for protection of life support systems;
- b. As an area for preservation of plant and animal species diversity and their ecosystems;
- c. For sustainable utilization of living resources and their ecosystems.

Article 7

An area established as Sanctuary Reserve or Nature Conservation Area after conducting these procedures:

- a. designation of the area and its function;
- b. boundary demarcation of the area, and
- c. stipulation of the area

Article 8

An area designated as a Strict Nature Reserve, if these criteria have been fulfilled:

- a. Having diversity in plant and animal species and types of ecosystems;
- b. Representing certain biotic formation and or its elements;
- c. Having indigenous condition of nature, either biotic or physic; and free from or have not influence by human interventions;

- d. Large enough and having certain shape that support effective management and ensures natural ecological processes;
- e. Having special characteristic of potential, and could become an example of ecosystems that their existence are necessary to be conserved; and or
- f. Having endangered or threatened plant and or animal communities and their ecosystems.

Article 9

An area designated as a Wildlife Sanctuary, if these criteria have been fulfilled:

- a. As a habitat and breeding place for animal species that necessary to be conserved;
- b. Having high diversity and population of animal;
- c. As a habitat of endangered and or threatened animal species;
- d. As habitat of certain migrant animal species; and or
- e. Large enough as habitat of respected animal species.

Article 10

- (1) The Minister designated a certain area as a Strict Nature Reserve or a Wildlife Sanctuary based on the criteria in article 8 and article 9, and after hearing with the Governor of respected area.
- (2) Boundary demarcation is implemented in the area pertaining to paragraph (1) by a Boundary Demarcation Committee, which members and job descriptions determined by the Minister.
- (3) The Minister stipulates a Strict Nature Reserve or Wildlife Sanctuary based on Official Reports on Boundary Demarcation recommended by the Boundary Demarcation Committee

Article 12

Each Strict Nature Reserve or Wildlife Sanctuary is managed based on a management plan.

Article 13

- (1) Due to the necessity to perform intact ecosystems, management of one or more Strict Nature Reserve or Wildlife Sanctuary could be integrated into one management area with a management plan.
- (2) In order to manage one or more Strict Nature Reserve and or Wildlife Sanctuary under one management area, the provisions pertaining to article 12 become inseparable part of the management plan in paragraph (1).

Article 14

- (1) Management plan of a Strict Nature Reserve and Wildlife Sanctuary is constructed based on ecological, technical, economic and socio-cultural studies.
- (2) Management plan of a Strict Nature Reserve and Wildlife Sanctuary at least contains management objectives, and guidelines for activities that support protection, preservation and utilization of the area.
- (3) Further provisions on management plan shall be regulated by Minister Decree.

Article 16

Preservation of Strict Nature Reserves and Wildlife Sanctuaries shall be brought about through the following activities:

- a. protection and safeguarding the area
- b. inventory of areas' potential
- c. research and development to support preservation

Article 17

- (1) In Wildlife Sanctuary, other than activities pertaining to article 16, activities to manage animal habitat and population also conducted.
- (2) Management of animal habitat and population pertaining to paragraph (1) are:
 - a. management of grassland for grazing;
 - b. construction of drinking water facility and or mud hole for animal;
 - c. planting and maintenance of shade trees and food source trees
 - d. animal population management
 - e. introduction of indigenous plant or animal; and or
 - f. weed and pests management

Article 19

- (1) Preservation efforts pertaining to article 16 and article 17 shall be accomplished with restriction of doing activities which lead to changes of the integrity of Strict Nature Reserve and Wildlife Sanctuary.
- (2) Changes of the areas integrity include following activities:
 - a. animal hunting within the areas;
 - b. introduction of exotic plant and animal species into the areas;
 - c. cutting, destructing, collecting, felling, and destroying plant and animal within and from the areas;
 - d. dig a hole within the areas that disturb plant and animal life;
 - e. changing landscape of the areas that annoy and disturb plant and animal life
- (3) An activity is regarded as an initial intention pertaining to paragraph (2), when the following activities are recognized:
 - a. cut, transfer, destruct or eliminate boundary markers; or
 - b. carrying tools or equipments for taking, transferring, felling, splitting, destructing, hunting, destroying plant and animal to and from the areas
- (4) Activities within habitat management pertaining to article 17 shall not be included in the definitions pertaining to paragraph (2) and (3).

Article 20

Strict Nature Reserves could be utilized for the following purposes:

- a. research and development;
- b. sciences;
- c. education; and
- d. breeding enhancement activities

Article 21

- (1) Research activities pertaining article 20 point (a) include:
 - a. basic researches; and
 - b. researches to support utilization and breeding
- (2) Provisions on research activities pertaining to paragraph (1) shall be regulated further under Ministerial Decrees, and in accordance with prevailing laws and regulations.

Article 22

Sciences and education activities pertaining to article 20 point (b) and c shall be in the form of introduction and exhibition of Strict Nature Reserves' ecosystems.

Article 23

- (1) Breeding enhancement activities pertaining to article 20 point (d) shall be in the form of collection, transportation, and or utilization of plant and animal germ plasm within Strict Nature Reserves.
- (2) Provisions on collection, transportation, and or utilization of germ plasm pertaining to paragraph (1) shall be regulated by the Minister, and in accordance with prevailing laws and regulations.

Article 24

Wildlife Sanctuaries could be utilized for the following purposes:

- a. research and development;
- b. sciences;
- c. education;
- d. limited nature tourism; and
- e. breeding enhancement activities

Article 25

- (1) Research activities pertaining article 24 point (a), include:
 - a. basic researches; and
 - b. researches to support utilization and breeding
- (2) Research activities pertaining to paragraph (1) shall be regulated further under Ministerial Decrees, and in accordance with prevailing laws and regulations.

Article 26

Science and education activities pertaining to article 24 letter b and c shall be in the form of introduction and exhibition of Wildlife Sanctuaries' ecosystems.

Article 27

- (1) Limited nature tourism pertaining to article 24 point (d) shall be limited to visit, observe, and enjoy scenery and animal behavior within Wildlife Sanctuaries with certain restrictions.
- (2) Restriction pertaining to paragraph (1) shall be regulated by Ministerial Decree.

Article 28

Breeding enhancement activities pertaining to article 24 point (e) shall be accomplished as pertaining to article 23.

Article 30

- (1) Nature Conservation Areas consist of:
 - a. National Park
 - b. Grand Forest Park
 - c. Nature Recreation Park.
- (2) Based on zoning system management, a National Park could be divided into:
 - a. core zone;

- b. utilization zone;
- c. wilderness zone; and or other zones stipulated by the Minister according to the necessity in the preservation of living resources and their ecosystems

Article 31

- (1) An area designated as a National Park, when these criteria are fulfilled:
 - a. Large enough to ensure natural ecological processes
 - b. Having special and unique natural resources, either plants or animals and their ecosystems as well as natural-intact symptoms of nature
 - c. Having one or more intact ecosystems
 - d. Having indigenous and natural condition of nature for the promotion of tourism, and
 - e. An area which could be divided into core zone, utilization zone, wilderness zone and other zones that in consideration of rehabilitation purposes, dependency of local people, and in order to support living resources and their ecosystems conservation efforts, could be stipulated as an individual zone.
- (2) Stipulated as core zone, when these criteria are fulfilled:
 - a. Having diversity in plant and animal species and their ecosystems
 - b. Representing certain biotic formation and or its elements;
 - c. Having indigenous condition of nature, either biotic or physic; and free from or have not influence by human interventions;
 - d. Large enough and having certain shape that support effective management and ensures natural ecological processes;
 - e. Having special characteristic of potential, and could become an example of ecosystems that their existence are necessary to be conserved; and or
 - f. Having endangered or threatened plant and or animal communities and their ecosystems.
- (3) Stipulated as utilization zone, when these criteria are fulfilled:
 - a. Having nature attractions, such as plant, animal or certain ecosystem formation and beautiful unique geological formation;
 - b. Large enough to ensure sustainability of the potential and attractions for the purposes of tourism and nature recreation;
 - c. Surrounding environment condition support nature tourism development.
- (4) Stipulated as wilderness zone, when these criteria are fulfilled:
 - a. the proposed area enable to support breeding enhancement of animal species that necessary to be conserved;
 - b. Having species diversity that able to support preservation of core zone and utilization zone;
 - c. Place and habitat of certain migrant species.

Article 34

National Park, Grand Forest Park, and Nature Recreation Park shall be stipulated in accordance with the provisions pertaining to article 7 and article 10.

Article 35

Management of the National Park, Grand Forest Park and Natural Recreation Park is carried out by the Government.

Article 36

Provisions on management of Strict Nature Reserves and Wildlife Sanctuaries pertaining to article 12, article 13, and article 14 shall be enforced to the management of National Park, Grand Forest Park and Natural Recreation Park.

Article 37

National Park, Grand Forest Park and Natural Recreation Park shall be managed through preservation of plant and animal diversity and their ecosystems.

Article 38

Preservation of National Park shall be accomplished in accordance with management of zoning system.

Article 39

Preservation efforts within core zone shall be in the form of following activities:

- a. protection and safeguarding the area
- b. inventory of areas' potential
- c. research and development to support management

Article 40

Preservation efforts within utilization zone shall be in the form of following activities:

- a. protection and safeguarding the area
- b. inventory of areas' potential
- c. research and development to support nature tourism

Article 41

(1) Preservation efforts within wilderness zone shall be in the form of following activities:

- a. protection and safeguarding the area
- b. inventory of areas' potential
- c. research and development to support management
- d. management of animal habitat and population

(2) Management of animal habitat and population pertaining to paragraph (1) point (d) shall be accomplished in the form of activities pertaining to article 17 paragraph (2)

Article 48

National Park shall be utilized in accordance with management of zoning system.

Article 49

(1) Core zone shall be utilized for the following purposes:

- a. research and development to support utilization;
- b. sciences;
- c. education; and or
- d. breeding enhancement activities

(2) Activities pertaining to paragraph (1) shall be accomplished in accordance with provisions pertaining to article 21, article 22, and article 23.

Article 50

- (1) Utilization zone shall be utilized for the following purposes:
 - a. nature tourism and recreation;
 - b. research and development to support utilization;
 - c. education; and or
 - d. breeding enhancement activities
- (2) Nature tourism and recreation activities as pertaining to paragraph (1) point (a) shall be accomplished in accordance with prevailing laws and regulations.
- (3) Activities pertaining to paragraph (1) point (b) and point (d) shall be accomplished in accordance with provisions pertaining to article 25 and article 28.
- (4) Education activities pertaining to paragraph (1) point (c) shall be in the form of tourism, study tour, and utilization of research results and documentary exhibition of the respected area potential.

Article 51

- (1) Wilderness zone shall be utilized for the following purposes:
 - a. research and development to support utilization;
 - b. sciences;
 - c. education; and or
 - d. breeding enhancement activities
 - e. limited nature tourism
- (2) Activities pertaining to paragraph (1) shall be accomplished in accordance with the provisions pertaining to article 25, article 26, article 26, and article 28.

Article 55

- (1) Under certain conditions and when clearly necessary for the purposes of maintaining or rehabilitating natural resource and their ecosystem, the Government may halt certain activities and or shut off Strict Nature Reserve, Wildlife Sanctuary, National Park, Grand Forest Park and Natural Recreation Park either partly or fully for a certain period of time.
- (2) Criteria and methods of halting and or shutting off the areas pertaining to paragraph (1) shall be regulated by Ministerial Decrees.

Article 56

- (1) Buffer zones shall have a function to protect Sanctuary Reserves and or Nature Conservation Areas from any threats and disturbances, originated from outside and or inside the areas, which lead to the change of integrity and or function of the areas.
- (2) Buffer zones pertaining to paragraph (1) shall be stipulated based on the following criteria:
 - a. geographically bordered the Sanctuary Reserves and or Nature Conservation Areas;
 - b. influenced ecologically from inside as well as from outside Sanctuary Reserves and or Nature Conservation Areas;
 - c. able to resist disturbances from inside as well as from outside Sanctuary Reserves and or Nature Conservation Areas
- (3) Authority to legalize a national land or private land as buffer zones lies to the Minister after hearing with the Governor of the respective areas, as well as respecting the rights of the land owners.
- (4) Stipulation of buffer zones shall be accomplished with respects to the rights of land owners.
- (5) Management of buffer zones which are non-forest areas lies to the land owners with regard to provisions pertaining to paragraph (2) point (b).

- (6) Criteria and methods to stipulate forest areas as buffer zones shall be regulated by Ministerial Decree.

Article 57

In order to develop the functions of buffer zones, the Government shall conduct the following activities:

- a. improvement of local citizens' awareness on conservation of living resources and their ecosystems;
- b. improvement of knowledge and skills to improve citizens' welfare;
- c. land rehabilitation;
- d. improvement of land productivity;
- e. other activities that support improvement of citizens' welfare

Act of the Republic of Indonesia No. 41/1999 on forestry (Forestry Act; 84 articles)

(Selected articles)

Article 1

As defined under this Act:

1. Forestry means a system of management pertaining to forests, forest area, and forest products to be undertaken in an integrated way.
2. Forest means a unit of ecosystem in the form of lands comprising biological resources, dominated by trees in their natural forms and environment, which can not be separated each other.
3. Forest area means a certain area which is designated and or stipulated by government to be retained as permanent forest.
4. State forest means a forest located on lands bearing no ownership rights.
5. Right forest means a forest located on lands bearing ownership rights.
6. "Adat" forest means state forests located in the traditional jurisdiction areas
7. Production forest means a forest area having the main function of producing forest products.
8. Protection forest means a forest area having the main function of protecting life supporting systems for hydrology, preventing floods, controlling erosion, preventing sea water intrusion and maintaining soil fertility.
9. Conservation forest means a forest area with specific characteristics, having the main function of preserving plant and animal diversity and its ecosystem.
10. Nature reserve forest area means a forest with specific characteristics, having the main function of preserving plant and animal diversity and its ecosystem, and also as the place for life-supporting system
11. Nature conservation forest area means a forest with specific characteristics, having the main function of protecting life-supporting system, preserving species diversity of plants and animals, and sustainable use of biological resources and its ecosystem.
12. Hunting park means a forest area determined as a park area for hunting.
13. Forest product means biological, non-biological elements and their derivatives and also services provided by the forest.
14. Government means the central government
15. Minister means the minister who is charged and responsible for forestry affairs.

Article 2

Forestry administration shall be based on benefit and sustainability, democracy, equity, togetherness, transparency and integration.

Article 3

Forest administration shall be oriented for people's maximum welfare based on equity and sustainability principles, through:

- a. ensuring that forests are sufficient in area and evenly distributed;
- b. optimizing the variety of forest functions which cover conservation, protection and production functions in order to gain balance and sustainable benefits of environment, social, culture and economy; improving the carrying capacity of watershed;
- c. improving the capacity to develop community potentials and empowerment through participatory, equal and environmental-friendly ways so as to establish an endurance against the external change; and
- d. securing equal and sustainable distribution of benefits

Article 4

- (1) All forests within the territory of the Republic of Indonesia including all the richness contained therein are under the state's control for people's maximum welfare.
- (2) Forest control by the state as referred to in paragraph (1), gives the authority to the government to:
 - a. regulate and organize all aspects related to forest, forest area and forest products;
 - b. assign the status of certain area as a forest area or a non-forest area; and
 - c. regulate and determine legal relations between man and forest, and regulate legal actions concerning forestry
- (3) Forest control by the state shall respect customary laws, as long as it exists and its existence is recognized and not contradicting national interests.

Article 5

- (1) According to its status, two forests are determined:
 - a. state forest, and
 - b. right forest

Notes: To differentiate the term 'state' that means 'country' and 'state' that means 'state as part of a federal country', this study use term 'national forest' for the above mentioned 'state forest'

- (2) State forest as referred to in paragraph (1) point a, can be in the form of "adat" forest.
- (3) Government shall determine the status of forest as referred to in paragraph (1) and paragraph (2); and adat forest shall be determined as long as it exists in reality and its existence is recognized.
- (4) If during its development, concerned customary communities are no longer existing, the management right of those "adat" forests shall be returned to government.

Article 6

- (1) Forest has three functions, i.e.:
 - a. conservation function
 - b. protection function, and
 - c. production function
- (2) Government determines forests according to its main function as follows:

- a. conservation forest,
- b. protection forest, and
- c. production forest

Article 7

Conservation forest as referred to in Article 6 paragraph (2) point a, consists of:

- a. nature reserve forest area
- b. nature conservation forest area, and
- c. hunting park

Article 8

- (1) Government can designate special purposes to a certain forest area.
- (2) Designation of forest area with special purpose, as referred to in paragraph (1), is required to pursuit such public interests as:
 - a. research and development
 - b. education and training, and
 - c. religion and culture
- (3) Forest area with special purposes as referred to in paragraph (1), shall not change the main function of forest area as defined under Article 6.

Article 9

- (1) For the purposes of micro-climate regulation, aesthetic value and water absorption, certain area shall be designated as urban forest.
- (2) Further provisions as referred to in paragraph (1), shall be regulated under a Government Regulation.

Article 10

- (1) Forest administration as referred to in Article 4 paragraph (2) point (a), shall be aimed at obtaining the greatest, multiple and sustained benefits for people's welfare.
- (2) Forest administration as referred to in paragraph (1), covers the implementation of the following activities:
 - a. forestry planning;
 - b. forest management;
 - c. forestry research and development, education and training, and extension, and
 - d. supervision

Article 11

- (1) Forestry planning is intended to provide a guideline and orientation in ensuring the achievement of objectives of forestry administration as referred to in Article 3.
- (2) Forestry planning shall be prepared in a transparent, accountable, participatory, integrated way and taking local specifics and aspirations into account.

Article 12

Forestry planning as referred to in Article 10 paragraph (2) point (a) shall cover:

- a. forest inventory,
- b. forest area gazettment,

- c. forest area land use,
- d. establishment of forest management area, and
- e. preparation of forestry plans

Notes: Certified English translation of this Act uses 'forest area gazettment' as in Article 12 above. However this study revealed that forest areas in Indonesia legalized through Ministerial Decree on stipulation of forest areas and was not recorded in the national gazette. Therefore, this study uses term 'forest area affirmation' for the above mentioned 'forest area gazettment'.

Article 13

- (1) Forest inventory shall be implemented to know and obtain data and information on resources, forest natural richness and its environment in a comprehensive way.
- (2) Forest inventory as referred to in paragraph (1) shall be implemented through a survey on status and physical conditions of forests, flora and fauna, human resources, and social condition of communities living within and around the forest.
- (3) Forest inventory as referred to in paragraph (2) shall consist of:
 - a. forest inventory at national level,
 - b. forest inventory at regional level,
 - c. forest inventory at watershed level, and
 - d. forest inventory at management unit level
- (4) Results of forest inventory as referred to in paragraph (1), paragraph (2) and paragraph (3) shall be used among others as a basis for forest area gazettment, preparation of forest resources' balance, preparation of forestry plans and forestry information systems
- (5) Further provisions as referred to in paragraph (1), paragraph (2) and paragraph (3) shall be regulated under a Government Regulation.

Article 14

- (1) Based on forest inventory as referred to in Article 13, government shall undertake forest area gazettment.
- (2) Activities of forest area gazettment as referred to in paragraph (1), shall be conducted to provide the legality of a forest area.

Article 15

- (1) Forest area gazettment as referred to in Article 14, shall be implemented through the following procedures:
 - a. Forest area designation,
 - b. Forest area boundary demarcation;
 - c. Forest area mapping, and
 - d. Forest area stipulation
- (2) Forest area gazettment as referred to in paragraph (1), shall be undertaken by taking into account the provincial spatial planning.

Article 16

- (1) Based on the results of forest area gazettment as referred to in Article 14 and Article 15, government shall implement forest area land use.
- (2) Forest area land use shall cover activities of determination of the function and use of the forest area
- (3) Further provisions as referred to in paragraph (1), and paragraph (2), shall be regulated by a Government Regulation.

Article 17

- (1) Forest management area shall be established for the level of:
 - a. Province
 - b. district/municipality, and
 - c. management unit
- (2) Establishment of forest management area at management unit level shall be implemented by taking into account: land characteristics, forest types, forest functions, conditions of watershed, social and culture, economy and local community institutions, including customary laws and administrative boundaries.
- (3) Establishment of forest management unit that crosses administrative boundaries due to forest conditions, characteristics and types shall be stipulated specifically by the Minister.

Article 18

- (1) Government shall stipulate and maintain the adequacy of forest area and forest cover for each watershed and or island in order to optimise the environmental, social and economic benefits of local communities.
- (2) The extent of forest area to be retained as referred to in paragraph (1), is at minimum 30% (thirty percent) of the total area of watershed and or island which should be evenly (or proportionally) distributed.

Article 19

- (1) Changes to allocation and function of forest area shall be stipulated by Government in accordance with the results of an integrated research.
- (2) Changes in allocation of forest area as referred to in paragraph (1), which have significant, wide and strategic impacts, shall be stipulated by Government with the approval of the House of Representatives.
- (3) Provisions on the procedures of changing the allocation and function on forest area as referred to in paragraph (1) and paragraph (2), shall be regulated by a Government Regulation.

Article 24

Use of forest area can be implemented in all types of forest areas except in nature reserve forests and core and preservation zones of national parks.

Note: Certified English translation of Conservation Act uses term 'wilderness zone' for the above mentioned 'preservation zone'

Article 25

Use of nature conservation and nature preserve forest areas and hunting park shall be regulated in accordance with prevailing laws and regulations.

Article 34

Management of forest area for special purposes as referred to in Article 8 can be given to:

- a. customary community
- b. education agencies
- c. research agencies
- d. social and religious agencies

Article 36

- (1) Utilization of right forest shall be undertaken by the concerned holders of the land, in accordance with the forest's function.
- (2) Utilization of right forest with protection and conservation functions shall be undertaken as long as it does not disturb those functions.

Article 37

- (1) Utilization of "adat" forest shall be undertaken by concerned customary communities, in accordance with the forest's function.
- (2) Utilization of "adat" forest with protection and conservation functions shall be undertaken as long as it does not disturb those functions.

Article 38

- (1) Use of forest area for development needs for non-forestry purposes can only be made in production and protection forest areas.
- (2) Use of forest area as referred to in paragraph (1) can be made without changing the main function of forest area.
- (3) Use of forest area for mining activities shall be based on a license of land-use issued by the Minister, taking area limitations, timeframe and environmental sustainability into account.
- (4) Open-cast mining is prohibited in protection forest.
- (5) Land-use license as referred to in paragraph (3), which have significant, wide and strategic impacts, shall be granted by the Minister upon approval of the House of Representation.

Article 39

Provisions on the implementation of forest utilization and use of forest area as referred to in Article 27, Article 29, Article 34, Article 36, Article 37 and Article 38 shall be further regulated in a Government Regulation.

Article 40

Forest and land rehabilitation shall be intended to recover, maintain and improve the forest and land functions so that its carrying capacity, productivity and role as the supporting life system can be maintained.

Article 41

- (1) Forest and land rehabilitation shall be implemented through the following activities:
 - a. reforestation,
 - b. greening
 - c. tending,
 - d. enrichment planting, or
 - e. application of soil conservation through vegetative and mechanical means on critical and non-productive lands
- (2) Rehabilitation activities as referred to in paragraph (1) shall be undertaken in all forests and forest areas except in nature reserve and core zone of national park.

Article 67

- (1) Customary law community, as long as it exist and recognized shall have the rights to:

- a. collect forest products for daily needs of concerned communities;
 - b. undertake forest management in accordance with prevailing customary laws which is not contradicting the laws; and
 - c. be empowered for improving their welfare
- (2) Confirmation of existence and abolishment of customary law community as referred to in paragraph (1) shall be stipulated in Local Regulation.
- (3) Further provisions as referred to in paragraph (1) and paragraph (2), shall be regulated by a Government Regulation.

Article 68

- (1) Community has the right to enjoy a healthy forest environment produced by forests
- (2) Apart from the right as referred to in paragraph (1), community can:
- a. utilize forest and forest products in accordance with prevailing laws and regulations;
 - b. be informed about plans of forest allocation, forest product utilisation and forestry information;
 - c. provide information, suggestions and considerations for forest development; and
 - d. undertake supervision regarding the implementation of forest development, either directly or indirectly
- (3) Communities within and around the forests shall have the right to receive a compensation for losing access to their surrounding forests due to its designation as forest area, in accordance with prevailing laws and regulations.
- (4) Every one has the right to get compensation for losing their ownership of land due to its designation as forest area, in accordance with prevailing laws and regulations.

Article 69

- (1) Communities shall be obliged to participate in maintaining and preventing forest areas from disturbance and damage.
- (2) In implementing forest rehabilitation, community can request assistance, guidance and support from non-governmental organizations, other parties or government.

Article 70

- (1) Community shall take part in the forestry development.
- (2) Government shall be obliged to encourage people participation through various effective and efficient forestry activities.
- (3) To encourage people's participation, government and local government can be assisted by forestry stakeholders' forum.
- (4) Further provisions as referred to in paragraph (1) and paragraph (2) shall be regulated by a Government Regulation.

Article 81

The designated and/or stipulated forest area based on prevailing Laws and Regulations prior to the issuance of this Act shall remain effective based on this Act.

Article 82

All existing rules of implementation pertaining to forestry shall remain in effect; insofar they do not conflict with this Act, until the issuance of the rules of implementation based on this Act.

Government Regulation of the Republic of Indonesia No. 44/2004 on forestry planning (50 articles)

(Articles related to forest area affirmation)

Article 1

As defined under this Government Regulation:

1. Forestry planning means processes to determine objectives, activities and necessary infrastructures in sustainable forest management in order to give guidance and direction to assure that the objective of forestry implementation for the greatest of fairness and sustainable prosperity of people is achieved.
2. Forestry means a system of management pertaining to forests, forest area, and forest products to be undertaken in an integrated way.
3. Forest means a unit of ecosystem in the form of lands comprising biological resources, dominated by trees in their natural forms and environment, which can not be separated each other.
4. State forest means a forest located on lands bearing no ownership rights.
5. Right forest means a forest located on lands bearing ownership rights.
6. "Adat" forest means state forests located in the traditional jurisdiction areas
7. Forest area means a certain area which is designated and or stipulated by government to be retained as permanent forest.
8. Forest area affirmation means a series of activities on forest area designation, boundary demarcation, mapping and stipulation in order to provide legal certainty on the status, position, limits and extent of forest area.
9. Forest area designation means initial arrangement of an area as a forest area.
10. Forest area boundary demarcation means activities including border projection, temporary border marking, announcement, inventory and settlement of third party rights, definite-boundary marking, measurement and mapping, and Official Report on Boundary Demarcation.
11. Forest area stipulation means a confirmation on the legal certainty of the status, boundary and extent of a certain forest area to be a permanent forest area.
12. Boundary trajectory means explanation on the directions of boundary demarcation consists of distance and azimuth from point to point and in the field marked by clearing a path and temporary-marker or other markers.
13. Forest area land use means series of activities to determine function and use of forest area.
14. Forest management area at provincial level means all forests in Provincial area, which managed sustainably and efficiently.
15. Forest management area at district/municipality level means all forests in district/municipality area, which managed sustainably and efficiently.
16. Forest management unit means the smallest forest management unit based on its main function and status, which can be managed sustainably and efficiently.
17. Watershed means a terrestrial area that unified with river and its tributary, which limited by topographical separator such as, hill or mountain, that functions to catch, to store, and to flow naturally the rainfall water to the lake or the sea.
18. Minister means the Minister who is in charged and responsible for forestry affairs.

Note: In the English certified translation of Forestry Act, 'forest area affirmation' was translated as 'forest area gazettment', however this study revealed that forest areas in Indonesia legalized through Ministerial Decree on stipulation of forest areas and was not recorded in the national gazette.

Article 15

Forest area affirmation shall be implemented by the Minister to provide the legal certainty on the status, function, position, and extent of forest area.

Article 16

- (1) Based on forest inventory, the Minister implements forest area affirmation with consideration to regional spatial planning.
- (2) Forest area affirmation pertaining to paragraph (1) shall be implemented through the following processes:
 - a. forest are designation,
 - b. Forest area boundary demarcation,
 - c. Forest area mapping, and
 - d. Forest area stipulation.
- (3) Criteria and standard of forest area affirmation shall be stipulated by Ministerial Decree.

Article 17

Forest area designation pertaining to Article 16 paragraph (2) point (a) shall be implemented as an initial process of a certain area to become forest area.

Article 18

- (1) Forest area designation consists of:
 - a. Provincial area, and
 - b. Certain area partially.
- (2) Provincial forest area designation pertaining to paragraph (1) point (a) shall be implemented by the Minister in consideration of Provincial Spatial Planning (PSP) and or synchronization between Forest Land Use by Consensus (FLUC) and PSP.
- (3) Designation of certain area partially to become forest area shall fulfill the following criteria:
 - a. Proposal or recommendation of Governor, and or head of District/Mayor;
 - b. It can be established as forest technically.
- (4) Designation of certain area to become forest area as pertaining to paragraph (3) point (b) shall be implemented by the Minister. Provincial forest area designation and or partially as pertaining to paragraph (1) shall be implemented by the Minister.
- (5) Forest area designation as pertaining to paragraph (2) and (4) shall be enclosed by forest area designation maps.

Article 19

- (1) Based on forest area designation, forest area boundary demarcation shall be implemented.
- (2) Implementation processes of forest area boundary demarcation as pertaining to paragraph (1) including the following activities:
 - a. Temporary-border marking;
 - b. Announcement of temporary-border marking;
 - c. Inventory and settlements of third party rights that available along the border trajectory and in the forest area;
 - d. Arrangement of Official Report on the Acknowledgement of the results of temporary-border marking by the communities that reside in the surrounding border trajectory;
 - e. Arrangement of Official Report on Temporary-Border Marking, enclosed by the temporary-border marking map;
 - f. Definite-boundary marking with border path;
 - g. Mapping of the boundary demarcation results;
 - h. Arrangement and signatory of Official Report on Boundary Demarcation and Maps of

Boundary Demarcation, and

- i. Report to the Minister with cross reference to the Governor.
- (3) Based on forest area affirmation criteria and standards as pertaining to Article 16 paragraph, the Governor shall stipulate boundary demarcation implementation manual.
- (4) Based on boundary demarcation implementation manual as pertaining to paragraph (3), the head of the District/Mayor shall stipulate boundary demarcation instructions.
- (5) The head of the District/Mayor shall be responsible for the implementation of forest area boundary demarcation in his/her jurisdiction.

Article 20

- (1) Implementation of forest area boundary demarcation as pertaining to Article 19 paragraph 3 shall be done by the Forest Area Boundary Demarcation Committee.
- (2) Forest Area Boundary Demarcation Committee as pertaining to paragraph (1) shall be established by the head of the District/Mayor.
- (3) Membership, task and function, procedures and tasks of Forest Area Boundary Demarcation Committee shall be regulated by Ministerial Decree.
- (4) The tasks of Forest Area Boundary Demarcation Committee as pertaining to paragraph (3) such as:
 - a. Prepare and implement the boundary demarcation in the field;
 - b. Solving such problems:
 1. land ownership rights along the border trajectory;
 2. land ownership rights in the forest area
 - c. Monitor and evaluate the works and the results of boundary demarcation in the field;
 - d. Construct and sign the Official Report on Forest Area Boundary Demarcation and the Forest Area Boundary Demarcation Map.
- (5) The results of forest area boundary demarcation as pertaining to paragraph (4) shall be included in the Official Report on Forest Area Boundary Demarcation and Forest Area Boundary Demarcation Map that signed by Forest Area Boundary Demarcation Committee and acknowledged by the head of the District/Mayor.
- (6) The results of forest area boundary demarcation as pertaining to paragraph (5) shall be legalized by the Minister.

Article 21

Mapping within the forest area affirmation activities shall be implemented through the processes of making the following maps:

- a. forest area designation;
- b. border trajectory plan;
- c. temporary-border marking;
- d. forest area boundary demarcation;
- e. forest area stipulation

Article 22

- (1) The Minister stipulates forest area based on Official Report on Forest Area Boundary Demarcation and Forest Area Boundary Demarcation Map as pertaining to Article 20 paragraph (6) that completed the circular marking.
- (2) In regards with circular marking of forest area boundary demarcation but the third party rights have not settled yet, the concerned forest area shall be stipulated by the Minister with explanation on the rights within the area to be settled by the concerned Forest Area Boundary Demarcation Committee.

- (3) The results of forest area stipulation as pertaining to paragraph (1), shall be disseminated to the public.

Article 23

- (1) Based on the forest area affirmation as pertaining to Chapter III part three (Article 15 to 22), the Minister shall implement forest area land use.
- (2) Forest area land use as pertaining to paragraph (1), shall include the following activities:
 - a. stipulation of the forest area functions;
 - b. use of forest area

Article 24

- (1) Forest area functions as pertaining to Article 23 paragraph (2) point (a) consist of:
 - a. Conservation Forest, consists of:
 1. Nature Reserve Forest, consist of strict nature reserve and wildlife sanctuary;
 2. Nature Conservation Forest, consist of national parks, grand forest parks, and nature recreation parks;
 3. Hunting Park;
 - b. Protection Forest;
 - c. Production Forest, consists of:
 1. Limited-production forest;
 2. Fixed-production forest;
 3. Convertible-production forest.
- (2) Criteria to determine the Nature Reserve Forest and Nature Conservation Forest functions as pertaining to paragraph (1) point (a) number 1 and number 2 shall be regulated in other individually Government Regulation.
- (3) Criteria of Hunting Park, Protection Forest, and Production Forest as pertaining to paragraph (1) point (a), point (b), and point (c) shall be regulated as the following:
 - a. Criteria of Hunting Park:

The area designated shall have enough extent and the field must not be dangerous; and/or area that has bred hirable animal, which allow regular hunting that focused on recreational, sports and animal sustainability aspects.
 - b. Criteria of Protection Forest:
 1. Forest area with slope, soil types, and precipitation intensity factors after each multiplied by weighing number has total score of 175 or more;
 2. Forest area with 40% slope or more;
 3. Forest area on the elevation of 2000 meter or more above the mean sea level;
 4. Forest area that soil is sensitive to erosion and the slope is more than 15%;
 5. Forest area that become water catchment area;
 6. Forest area that become the beach protection area.
 - c. Criteria of Production Forest:
 1. Limited-production forest:

Forest area with slope, soil types, and precipitation intensity factors after each multiplied by weighing number has total score of 125-174, outside protected areas, nature reserve forest, nature conservation forest, and hunting park.
 2. Fixed-production forest:

Forest area with slope, soil types, and precipitation intensity factors after each multiplied

by weighing number has total score of less than 125, outside nature reserve forest, nature conservation forest, and hunting park.

3. Convertible-production forest:
 - a. Forest area with slope, soil types, and precipitation intensity factors after each multiplied by weighing number has total score of 124 or less, outside nature reserve forest, and nature conservation forest.
 - b. Forest area that spatially reserved for development of transmigration, rural settlement, agriculture and plantation.
- (4) Further provision on Hunting Park, Protection Forest and Production Forest as pertaining to paragraph (3) shall be regulated by the Minister.
- (5) The Minister shall stipulate the function of forest areas based on the criteria as pertaining to paragraph (2) and (3).

Article 25

- (1) Forest area use for non-forestry development purposes can only be implemented in the production forest area and protection forest area.
- (2) Forest area use for non-forestry development purposes shall be regulated by Presidential Decrees.

Minister of Forestry's decree No. 399/Kpts-II/1990 on forest affirmation guidelines (24 articles)

(Complete version)

Article 1

As defined in this Decree:

- a. Designation means initial arrangement on the function of certain area as forest area by the decree of Minister of Forestry
- b. Forest affirmation means activities related to boundary demarcation of certain area designated as forest area in order to obtain legal certainty of the forest area status and limits.
- c. Boundary demarcation means activities consist of border projections, temporary-border marking, measurement, and mapping, including definite-boundary marking and arrangement of Official Report on Boundary Demarcation.
- d. Border projection means activities of projecting borders on the map, and in the field by clearing a path and sticking markers or other tools, after having consideration and advice from the Boundary Demarcation Committee.
- e. Border trajectory means border line proposal, which in the field in the form of clearing border path and markers or other tools.
- f. Temporary boundary marking means border confirmation of an area will be stipulated as forest area based on border trajectory.
- g. Forest boundary marker means certain fixed border markers with certain size made from concrete, class I/II log durability or other border markers that are placed along the border trajectory replacing the temporary markers.
- h. Wet signature means signing with ink or ballpoint pen.
- i. Official report on border trajectory announcement means official report that explains whether the third party rights existed or not.
- j. Official report on boundary demarcation means official report on the implementation of boundary demarcation activities, arranged by the Boundary Demarcation Committee, enclosed by boundary demarcation map, official report on border trajectory announcement, necessary letters of evidence and their explanation.

- k. Reconstruction of boundary means measurement, border marking and re-projection of boundary, in order to replace markers and border lines to the position as determined on the boundary map.
- l. Preservation of boundary markers means activities to preserve the markers to always in good condition.
- m. Stipulation means confirmation on the legal certainty of forest area status, limits, and extent as a fixed forest area.

Article 2

Affirmation shall be based on the designation of forest area by Minister of Forestry.

Article 3

Forest affirmation shall aim at achieving the legal certainty of forest area status, limits, and extent.

Article 4

Forest affirmation activities shall be implemented through the following processes:

- a. preparation that consist of working map arrangement
- b. arrangement of border trajectory concept
- c. Boundary Demarcation Committee meetings
- d. Temporary border marking
- e. Inventory and settlement of third party rights concerning border trajectory
- f. Border trajectory announcement
- g. Measurement and mapping and definite-boundary marking
- h. Arrangement and signing of Official Report on Boundary Demarcation
- i. Forest area stipulation

Article 5

- (1) Implementation of forest affirmation activities administratively shall under the coordination of the head of Regional Office of the Department of Forestry
- (2) Preparation of affirmation activities and inventory of problems and boundary demarcation activities in the field shall be implemented by Forest Inventory and Mapping Office/Sub-office or Perum Perhutani's Planning Bureau for forest area in Java Island dan Madura.
- (3) Implementation pertaining to paragraph (2) shall be supported by Forestry Offices and or Technical Implementation Unit of the Department of Forestry.
- (4) Establishment and working organization of Boundary Demarcation Committee shall be regulated by certain regulation.
- (5) Problem solving in the field within the forest area will be stipulated shall become the assignment of the head of Regional Office of the Department of Forestry and shall be supported by Forestry Offices, Technical Implementation Unit of the Department of Forestry and Boundary Demarcation Committee and other related institutions.

Article 6

In the process of forest affirmation, area outside the forest area can be included in the border trajectory of fixed forest area.

Article 7

Settlement of third party rights which occurred in the border trajectory shall be implemented based on the consideration of the Minister of Forestry.

Article 8

- (1) In the case of agreement on the border trajectory proposal can not be achieved by the Boundary Demarcation Committee, the head of Regional Office of the Department of Forestry together with the Governor shall make effort to solve it based on the forest area designation.
- (2) In the case that problem solving pertaining to paragraph (1) can not be achieved, the head of Regional Office of the Department of Forestry shall solve it based on the consideration of the Minister of Forestry.

Article 9

When the problem have not solved, the boundary demarcation activities shall be implemented as the following:

- a. border trajectory shall be continued to further trajectory which free from problem
- b. border trajectory shall be moved to other location
- c. boundary demarcation activities shall be temporarily-stopped

Article 10

Boundary demarcation in order to release forest area for non-forestry purposes shall be implemented based on this Decree.

Article 11

Before signing the Official Report on Boundary Demarcation, the following inspection shall be accomplished:

- a. technical aspect by the head of Forest Inventory and Mapping Office or head of Sub-office or the head of Perum Perhutani's Planning Bureau
- b. Significance of border trajectory, etc. by the Boundary Demarcation Committee and head of Regional Office of the Department of Forestry.

Article 12

- (1) Official Report on Border Trajectory Announcement shall be signed by head of the Village, head of Sub-district, head of Forest Compartment or head of District Forestry Office concern, and head of the District.
- (2) Official report on temporary-border trajectory inspection shall be signed by all members of Boundary Demarcation Committee.
- (3) Official Report on Boundary Demarcation shall be made and signed by Boundary Demarcation Committee, approved by the Governor, head of Regional Office of the Department of Forestry, the head of the Unit in Perum Perhutani, and legalized by the Minister of Forestry.
- (4) Official Report on Boundary Demarcation and boundary map shall be made in 5 copies with wet signatures, each distributed to the head of the District, head of Forestry Office/head of the Unit in Perum Perhutani, head of Natural Resources Conservation Office/head of National Park Office, head of Regional Office of the Land Agency, head of Regional Office of the Department of Forestry and Director General of Forest Inventory and Land Use; while to other institution, other copies legalized by the Director General of Forest Inventory and Land Use/ head of Regional Office of the Department of Forestry could be given.

Article 13

Working plan for Forest Affirmation shall be made by Forest Inventory and Mapping Office or head of Sub-office or the head of Perum Perhutani's Planning Bureau, which include:

- a. border trajectory map
- b. human power and equipments
- c. budget
- d. project period
- e. field data inventory and problems

Article 14

- (1) Boundary markers shall be made from concrete or class I/II log durability.
- (2) Whenever boundary markers could not be made from the material pertaining in paragraph (1) of this Article, they shall be made from other material according to the field condition.
- (3) The shape and size of boundary markers as pertaining to paragraph (1) and paragraph (2) of this Article shall be further regulated by the Director General of Forest Inventory and Land Use.

Article 15

Boundary marking or other markers shall be regulated as follow:

- a. for the border trajectory in terrestrial area:
 1. if the trajectory performs a straight line, the boundary markers shall be placed each in 25-50 meters
 2. if the trajectory performs curves, the boundary markers shall be placed in each curve.
- b. for the border trajectory along the river bank, lake, sea and highway, it shall be marked by other markers in prominent places
- c. for the border trajectory that go through the swamp, boundary marker from certain durable log or class I/II log durability or boundary trees.

Article 16

- (1) Stipulation of forest area shall be based on Official Report on Boundary Demarcation and which size should be known from the field measurement results.
- (2) Stipulation of forest area as pertaining to paragraph (1) could be implemented based on Official Report on Boundary Demarcation using combination of outer boundary, natural boundary, functional boundary, logging concession boundary and other supporting borders.

Article 17

- (1) Decree on the stipulation of forest area shall be completed by forest area map based on map enclosed in the Official Report on Boundary Demarcation.
- (2) The scale of the map as pertaining to paragraph (1) shall be determined according to necessities.

Article 18

- (1) Decree on the stipulation of forest area shall be made in 5 copies for the following purposes:
 - a. Director General of Forest Inventory and Land Use
 - b. Regional offices of Department of Forestry
 - c. Regional offices of Land Agency
 - d. Heads of Districts/Mayors

- e. District Forestry Offices/Units of Perum Perhutani.
- (2) Copies of the decree on the stipulation of forest area shall be disseminated to:
- a. Minister of Internal Affairs
 - b. Minister of Agriculture
 - c. Minister of Public Works
 - d. Minister of Environment and Demography
 - e. head of National Land Agency
 - f. Governors
 - g. Secretary General of Ministry of Forestry
 - h. Director General of Forest Protection and Nature Conservation
 - i. Directors of Perum Perhutani/ Forest Inventory and Mapping Office.

Article 19

Technical guidelines for the implementation of forest affirmation shall be regulated by Director General of Forest Inventory and Land Use.

Article 20

Protection and maintenance of forest area boundary agreed by Boundary Demarcation Committee shall be implemented and become responsibility of head of District Forestry Office or head of the Unit in Perum Perhutani, head of Natural Resources Conservation Office and head of National Park Office.

Article 21

- (1) Reconstruction of boundary shall be implemented periodically by the Forest Inventory and Mapping Office/Sub-office, Units of Perum Perhutani based on the recommendation from the manager of forest area.
- (2) Technical guidelines for cases pertaining to paragraph (1) of this Article shall be regulated by Director General of Forest Inventory and Land Use.

Article 22

Results of forest affirmation based on previous regulation shall be deemed to be affirmed and further implementation shall be based on regulation in this Decree.

Article 23

By the issuance of this Decree, Director General of Forestry Decree No. 85/Kpts/DJ/I/1974 issued on June 18, 1974 and Director General of Forestry Decree No. 102/Kpts/DJ/I/1983 issued on May 17, 1983 shall be repealed.

Article 24

This Decree shall be taken into effect since its date of issuance.

Issued in Jakarta

On August 6, 1990

Minister of Forestry

Ir. Hasrul Harahap

Minister of Forestry's decree No. 634/Kpts-II/1996 on amendment of Minister of Forestry's decree No. 399/Kpts-II/1990 on forest affirmation guidelines (2 articles)

(Complete version)

Article I

Minister of Forestry's decree No. 399/Kpts-II/1990 on forest affirmation guidelines shall be amended as following:

1. Article 1 point (l) shall be amended and added with 4 new points, namely point (l), (m), (n), (o) and (p), therefore the complete sentence is as follow:

Article 1

- l. Inspection/maintenance of boundary markers means activities shall be implemented periodically and aimed at preserving the condition of boundary and markers in good condition and the results of these activities shall be reported in the Official Report on Inspection/Preservation of Boundary Markers.
 - m. Inventory and settlement of third party rights means activities of inventory and settlement of third party rights which are existed a long the border or inside the forest area.
 - n. Third party rights means rights which are belong to individual or corporate body, in the form of land ownership or authority, which are gained or owned based on valid legislation.
 - o. Boundary trees means trees planted or grew along the boundary that functionable as boundary markers.
 - p. Forest area boundary markers means fixed border markers such as boundary markers, pile of soil, or other border markers that placed or stucked along the definite boundary.
2. Article 4 point (e) shall be amended to become:

Article 4

- e. Inventory and settlement of third party rights related to border trajectory and within the boundary of forest area that is being affirmed.
3. Article 10 shall be amended to become:

Article 10

Boundary demarcation in order to exchange, boundary demarcation in order to release forest area for non-forestry purposes, and boundary demarcation in forest concession's working area that also become working area boundary of forest concession and outer boundary of forest area shall be implemented based on Minister of Forestry's decree No. 399/Kpts-II/1990 and its amendment as issued in this Decree.

4. Article 12 shall be amended to become:

Article 12

- (1) Official report on Border Trajectory Announcement shall be signed by head of the village, head of sub-district, head of forest compartment or head of Forestry Office Branch or head of District Forest and Soil Conservation Office/head of District Forestry Office concerned and head of the district.
- (2) Official report on Boundary Inspection shall be made and signed by the Boundary Demarcation Committee
- (3) Official report on Boundary Demarcation shall be made and signed by the Boundary Demarcation Committee, approved by head of Provincial Forestry Office/head of Unit in Perum Perhutani, head of Regional Office of the Department of Forestry, Director General of Forest Inventory and Land Use, and legalized by the Minister of Forestry.
- (4) Official report on Boundary Demarcation and enclosing map shall be made in 6 copies with wet signatures and stamped by concerned institutions.
- (5) Copies of Official report on Boundary Demarcation that legalized by Director General of Forest Inventory and Land Use or other official in charge, and shall be disseminated to:

- a. Head of the district/ Mayor
 - b. Head of Regional Office of the National Land Agency in Provincial level
 - c. Head of Regional Office of the Department of Forestry in Provincial level
 - d. Head of Provincial Forestry Office/ head of units in Perum Perhutani/ head of the Natural Resources Conservation Office/ head of National Park Office.
5. Article 18 shall be amended to become:

Article 18

- (1) Decree on Stipulation of Forest Area shall be made in 6 copies and disseminated to:
 - a. Director General of Forest Inventory and Land Use
 - b. Secretary General of Ministry of Forestry
 - c. Head of Regional Office of the Department of Forestry in Provincial level
 - d. Head of Regional Office of the National Land Agency
 - e. Head of Provincial Forestry Office/ head of units in Perum Perhutani
 - f. Head of the districts/Mayors
 - (2) Copies of Decree on Stipulation of Forest Area shall be disseminated to:
 - a. Minister of National Development Planning/ Head of Bappenas
 - b. Minister of Internal Affairs
 - c. Minister of Agriculture
 - d. Minister of Environment
 - e. Minister of Agrarian/Head of National Land Agency
 - f. Director General of Forest Protection and Nature Conservation
 - g. Governors
 - h. Director of Perum Perhutani (as pertaining to forest area managed by Perum Perhutani)
 - i. Head of the units concerned
 - j. Head of the sub-districts
 - (3) Copies of Decree on Stipulation of Forest Area could be disseminated to other institutions other than mentioned in paragraph (2), as follow:
 - a. for dissemination to central institutions, legalized by the Director General of Forest Inventory and Land Use
 - b. for dissemination to local institutions, legalized by Head of Regional Office of the Department of Forestry in Provincial level
 - c. Head of Regional Office of the Department of Forestry in Provincial level
 - d. Head of Regional Office of the National Land Agency
 - e. Head of Provincial Forestry Office/ head of units in Perum Perhutani
 - f. Head of the districts/Mayors
6. Article 20 shall be amended to become:

Article 20

- (1) Protection and maintenance of forest area boundary shall be mandate to and shall be the responsible of Head of Provincial Forestry Office, head of units in Perum Perhutani, head of Natural Resources Conservation Office, and head of National Park Office.
 - (2) Appointment as pertaining to paragraph (1) shall be realize with Official Report on Mandate
7. In between Article 21 and Article 22, it shall be added 1 new article which shall be part of Chapter V, namely Article 21A, that mention:

Article 21A

Arrangement of the Affirmation of Marine Conservation Areas shall be regulated separately through Minister of Forestry Decree.

Article II

This Decree shall be taken on effect since the date of issuance.

Issued in Jakarta

On October 7, 1996

Minister of Forestry

Djamaludin Suryohadikusumo

Minister of Forestry's decree No. 400/Kpts-II/1990 on establishment of Boundary Demarcation Committee (9 articles)

(Complete version)

Article 1

As defined in this Decree:

- a. Official report on Boundary Demarcation means official report in the implementation of boundary demarcation that shall be made by the Boundary Demarcation Committee, and enclosed with boundary demarcation map, Official Report on Border Trajectory Announcement, necessary prove letters and explanations.
- b. Boundary Demarcation Committee means Forest Boundary Demarcation Committee.

Article 2

- (1) Boundary Demarcation Committee shall be established by Minister of Forestry.
- (2) Authority to establish Boundary Demarcation Committee as pertaining to paragraph (1) by Minister of Forestry shall be delegated to the Governor.
- (3) Opinion and administration matters on the establishment of Boundary Demarcation Committee shall be implemented by the head of Regional Office of the Department of Forestry in Provincial level.

Article 3

- (1) Boundary Demarcation Committee shall be established for a district/city.
- (2) Head of district/Mayor shall be acted as the head of the committee and as concurrent member responsibilities, and head of District Forestry Office/Perhutani's Administrator/head of Perhutani's Forest Compartment as secretary and as concurrent member responsibilities.
- (3) Members of Boundary Demarcation Committee shall be the heads of the following institutions:
 - a. District Development and Planning Agency (Bappeda)
 - b. District Land Agency
 - c. District Public Works Office
 - d. District Offices in the line of Ministry of Agriculture
 - e. Sub-district
 - f. Forest Inventory and Mapping Sub-office
 - g. Natural Resources Conservation Sub-office/Sub-section
 - h. Other necessary institutions.

Article 4

- (1) The duties of Boundary Demarcation Committee shall be supporting the implementation of forest affirmation activities, including:
 - a. Providing advices/consideration on the preparation of boundary demarcation and implementation of works in the field.
 - b. Providing help in solving problems concerning border trajectory and border marking, and etc.
 - c. Evaluate works and results of boundary demarcation works in the field.
 - d. Making and signing Official Report on Boundary Demarcation and boundary demarcation map.
- (2) In order to implement their duties as pertaining to paragraph (1), Boundary Demarcation Committee will report to the concerned Governor.

Article 5

In order to implement their duties as pertaining to Article 4, the Boundary Demarcation Committee shall follow regulation in effect.

Article 6

All expenses necessary for the implementation of Boundary Demarcation Committee's duties shall be borne by the budget of Ministry of Forestry and or other sources.

Article 7

- (1) Boundary Demarcation Committees that were established by Minister of Agriculture decree No. 579/Kpts/um/9/1978 on September 18, 1978 shall continue to implement their duties until new Boundary Demarcation Committee is established based on this decree.
- (2) Establishment of Boundary Demarcation Committee as pertaining to paragraph (1) of this Article shall be based on the working progress of current Boundary Demarcation Committee.
- (3) Results of Boundary Demarcation Committees' works before issuance of this decree shall remain eligible.

Article 8

By the issuance of this decree, Minister of Agriculture decree No. 579/Kpts/um/9/1978 on September 18, 1978 shall be repealed.

Article 9

This Decree shall be taken on effect since the date of issuance.

Issued in Jakarta

On August 6, 1990

Minister of Forestry

Hasjrul Harahap

Minister of Forestry's decree No. 635/Kpts-II/1996 on amendment of Minister of Forestry's decree No. 400/Kpts-II/1990 on establishment of Boundary Demarcation Committee (2 articles)

(Complete version)

Article I

Minister of Forestry's decree No. 400/Kpts-II/1990 on establishment of Boundary Demarcation Committee shall be amended as follow:

1. Article 3 shall be amended to become:

Article 3

- (1) Boundary Demarcation Committee shall be established for a district/city.
- (2) Head of district/Mayor shall acted as the head of the committee and as concurrent member responsibilities.
- (3) Head of Forest and Land Conservation Office/District Forestry Office outside Java and Madura or Perhutani's Administrator/Head of Forest Compartment for Perum Perhutani working area shall be acted as Secretary and as concurrent member responsibilities.
- (4) In case Forest and Land Conservation Office/District Forestry Office has not established yet, head of Forestry Branch Office shall be the Secretary and as concurrent member responsibilities.
- (5) Members of Boundary Demarcation Committee consist of:
 - a. Head of District Development and Planning Agency (Bappeda)
 - b. Head of District Land Agency
 - c. Head of District Public Works Office
 - d. District Offices in the line of Ministry of Agriculture
 - e. Head of Sub-district
 - f. Head of concerned Technical Implementation Units of Ministry of Forestry.
- (6) Especially for boundary demarcation in Marine Conservation Areas, head of National Park/head of Natural Resources Conservation Office concerned shall acted as the Secretary and as concurrent member responsibilities, and members of Boundary Demarcation Committee consist of:
 - a. Head of District Development and Planning Agency (Bappeda)
 - b. Head of District Land Agency
 - c. Head of concerned District/Sub-district Navigation
 - d. Head of District Fishery Office
 - e. Head of Regional Office of Ministry of Transportation
 - f. Head of concerned Technical Implementation Units of Ministry of Forestry.

2. Article 4 shall be amended to become:

Article 4

- (1) The duties of Boundary Demarcation Committee shall be supporting the implementation of forest affirmation, including:
 - a. Providing advices/consideration on the preparation of boundary demarcation and implementation of activities in the field.
 - b. Providing help in solving problems concerning border trajectory and border marking.
 - c. Evaluate works and results of boundary demarcation in the field.
 - d. Making and signing Official Report on Boundary Demarcation and boundary demarcation map.

- (2) Signing the Official Report of Boundary Demarcation and enclosing map as pertaining to paragraph (1) point (d) shall be implemented by the head of the Committee, the secretary, head of Sub-district, head of District Land Agency and head of Technical Implementation Units of Ministry of Forestry.
 - (3) The duties of Boundary Demarcation Committee for Marine Conservation Areas shall be supporting the implementation of Marine Conservation Areas affirmation that include:
 - a. Preparation of boundary demarcation
 - b. Evaluate works and results of boundary demarcation in the field
 - c. Making and signing Official Report on Boundary Demarcation and boundary demarcation map.
 - (4) Signing Official Report on Boundary Demarcation and boundary demarcation map as pertaining to paragraph (3) point (c) shall be implemented by the head of the Committee, the secretary, head of Navigation Office, head of Fishery Office, Regional Office of Ministry of Transportation and Head of concerned Technical Implementation Units of Ministry of Forestry
 - (5) In order to implement their duties as pertaining to paragraph (1) and (3), the Boundary Demarcation Committee will report the results to the Governor.
 - (6) Head of Regional Forestry Office shall send the Official Report on Boundary Demarcation including appendixs to the Director General of Forest Inventory and Land Use for approval by the Minister of Forestry.
3. Article 7 shall be amended to become:

Article 7

- (1) Boundary Demarcation Committees that were established based on Minister of Forestry's decree No. 400/Kpts-II/1990 shall continue their duties until new Boundary Demarcation Committee is established based on this decree.
- (2) Results of Boundary Demarcation Committees' works before issuance of this decree shall remain eligible.

Article II

This Decree shall be taken on effect since the date of issuance.

Issued in Jakarta

On October 7, 1996

Minister of Forestry

Djamaludin Suryohadikusumo

Minister of Forestry's decree No. 613/Kpts-II/1997 on marine sanctuary reserves and nature conservation areas affirmation manual (18 articles)

(Complete version)

Article 1

As defined in this decree:

1. Sanctuary reserves in aquatic area shall be a specific area having sanctuary as its main function preserving biodiversity plant and animal as well as an ecosystem which also acts as a life support system. Sanctuary reserves in aquatic area consist of strict nature reserve and wildlife sanctuary.
2. Strict nature reserve in aquatic area shall be sanctuary reserve in aquatic area having a characteristic set of plants, animals and ecosystems, which must be protected and allowed to develop naturally.

3. Wildlife sanctuary in aquatic area shall be a sanctuary reserve in aquatic area having high value of species diversity and/or a unique animal species, in which habitat management may be conducted, in order to assure their continue and existence.
4. Nature conservation areas in aquatic area mean a specific area whose main function are to preserve diversity of plant and animal species, as well as to provide a sustainable utilization of living resources and their ecosystems. Nature conservation areas in aquatic area consist of national park and nature recreation park.
5. National park in aquatic area shall be a nature conservation area in aquatic areas which possesses native ecosystems, and which is managed through a zoning system utilized which facilitates research, science, education, breeding enhancement, recreation, and tourism purposes.
6. Nature recreation park in aquatic area shall be a nature conservation area in aquatic area mainly intended for recreation and tourism purposes.
7. Designation means initial arrangement on the function of certain area located in aquatic area as sanctuary reserves and nature conservation areas by the decree of Minister of Forestry
8. Affirmation of marine sanctuary reserves and nature conservation areas means activities related to boundary demarcation of certain area designated as sanctuary reserves and nature conservation areas in aquatic area to obtain legal certainty of the status, limits and its extent.
9. Boundary demarcation means activities consist of survey and mapping of territorial waters, border projection, and placing boundary markers as well as Official Report on Boundary Demarcation.
10. Border markers of marine sanctuary reserves and nature conservation areas mean fix boundary markers that placed in terrestrial, aquatic area, and on the map. Especially for boundary markers to be placed in aquatic area, it shall refer to the international technical specification that called as IALA Buoy System.
11. IALA Buoy System means a set of navigation support facilities decided by IALA in the Xth Congress in 1980 in Tokyo.
12. IALA (International Association of Light House Authorities) means an international body that dealth with navigation support facilities problems in Indonesia.
13. Wet signature means signing with ink or ballpoint pen.
14. Official Report on Boundary Demarcation means official report on the implementation of boundary demarcation activities, arranged by the Boundary Demarcation Committee, enclosed by boundary demarcation map, necessary letters of evidence and their explanation.
15. Boundary reconstruction means restitution and/ or replacing boundary markers to the positions that have been stipulated.
16. Boundary markers maintenance means activities to maintain the markers to always in good condition.
17. Stipulation means confirmation on the legal certainty of the status, limits, and extent of sanctuary reserves and nature conservation areas in aquatic areas as fixed sanctuary reserves and fixed nature conservation areas.

Article 2

Marine sanctuary reserves and nature conservation areas affirmation aimed at achieving the legal certainty of sanctuary reserves and nature conservation areas in aquatic area with fixed status, limit and extent.

Article 3

Marine sanctuary reserves and nature conservation areas affirmation shall be based on the Minister of Forestry's decree on the designation of certain area located in aquatic area to become sanctuary reserves and nature conservation areas.

Article 4

- (1) In the implementation of marine sanctuary reserves and nature conservation areas affirmation as pertaining to Article 3, it shall be conducted by the Boundary Demarcation Committee.
- (2) Establishment and tasks of Boundary Demarcation Committee as pertaining to paragraph (1) shall be regulated according to Minister of Forestry's decree No. 400/Kpts-II/1990 as amended by No. 635/Kpts-II/1996.

Article 5

- (1) In the implementation of marine sanctuary reserves and nature conservation areas affirmation, Boundary Demarcation Committee shall be supported by Marine Sanctuary Reserves and Nature Conservation Areas Consolidation Team consist of members as pertaining to the appendix of this decree.
- (2) Consolidation Team shall report to the Minister of Forestry.
- (3) The tasks of Consolidation Team are:
 - a. To decide the coordinates or positions of boundary points' plan of sanctuary reserves and nature conservation areas that sources derived from designation map, and then uploaded in the working map.
 - b. To decide the technical specification of boundary markers and mapping.

Article 6

- (1) In implementing their duties, the Consolidation Team shall be supported by Consolidation Preparation Technical Team established by the Director General of Forest Inventory and Land Use.
- (2) Members of Technical Team as pertaining to paragraph (1) shall be chaired by Echelon II official from technical institution concerned and the members from Echelon III officials of concerned institutions.
- (3) Technical Team as pertaining to paragraph (1) has the following tasks:
 - a. making working map
 - b. deciding activities
 - c. arranging technical specification

Article 7

Activities in marine sanctuary reserves and nature conservation areas affirmation shall be implemented through the following processes:

- a. Preparation that consists of making working map, arranging technical specification, and arranging working plan.
- b. Coordination meeting with concerned institutions and discussion meeting with Boundary Demarcation Committee.
- c. Marine survey and mapping as well as placing boundary markers.
- d. Making and signing the Official Report on Boundary Demarcation.
- e. Stipulation on marine sanctuary reserves and nature conservation areas.
- f. Reporting the results of the marine survey and mapping, and boundary markers in official nautical documents.

Article 8

- (1) Working map and technical specification as pertaining to Article 7 point a shall be made and valued by the Technical Team and legalized by Consolidation Team, and used as reference by the Boundary Demarcation Committee in the preparation of boundary demarcation implementation in the field.

- (2) A hydrooceanographical survey shall be conducted to decide the technical specification as pertaining to paragraph (1) when ocean map with proper scale is not available and only limited information available.

Article 9

- (1) Arrangement of working plan as pertaining to Article 7 point a shall be conducted by the Technical Team, valued by the Consolidation Team and legalized by the Director General of Forest Inventory and Land Use by referring the result of the preparation of boundary demarcation implementation by Boundary Demarcation Committee as pertaining to Article 8 paragraph (1).
- (2) Arrangement of working plan as pertaining to paragraph (1) shall refer to working map and technical specification that agreed by the Boundary Demarcation Committee.
- (3) Legalization of working plan as pertaining to paragraph (1) shall be conducted after valuation by Consolidation Team.

Article 10

- (1) Coordination meeting with concerned institutions and discussion meeting with Boundary Demarcation Committee as pertaining to Article 7 point b shall be coordinated by concerned Regional Forestry Office.
- (2) Whenever agreement was not achieved in the discussion as pertaining to paragraph (1), the head of Regional Forestry Office shall report to the Director General of Forest Inventory and Land Use as the chair person of Consolidation Team.
- (3) In the case that problem has not solved as pertaining to paragraph (2), the Director General of Forest Inventory and Land Use shall solve it based on the Minister of Forestry's directions.

Article 11

Survey and boundary demarcation of marine sanctuary reserves and nature conservation areas as pertaining to Article 7 point c could be conducted by eligible partner in marine survey and mapping and/or navigation support facilities, or government institution with the said job description.

Article 12

- (1) Results of boundary demarcation as pertaining to Article 11 shall be discussed first by the Boundary Demarcation Committee to complete the Official Report on Boundary Demarcation and enclosing map.
- (2) Boundary Demarcation Committee can check the results of boundary demarcation in the field.

Article 13

- (1) Official Report on Boundary Demarcation shall be made and signed by the Boundary Demarcation Committee.
- (2) Signing Official Report and Map on Boundary Demarcation as pertaining to paragraph (1) shall be conducted by the chair person, secretary, head of Navigation District/Sub-district, head of Provincial Fishery Office, head of Regional Transportation Office, head of Technical Implementation Unit of Ministry of Forestry, shall be recognized and signed by head of Regional Forestry Office concerned and Director General of Forest Inventory and Land Use, and legalized by the Minister of Forestry.
- (3) Official Report and Map on Boundary Demarcation shall be made in 7 copies with wet signatures and stamped by the concerned institutions, shall be disseminate by the head of Regional Forestry Office concerned to the Director General of Forest Inventory and Land Use c.q. Director of Forest Inventory, Affirmation and Mapping.
- (4) Before legalization by the Minister of Forestry, Official Report on Boundary Demarcation and Boundary Demarcation Map could be copied by the head of Regional Forestry Office concerned to be used by the Boundary Demarcation Committee.

- (5) Official Report on Boundary Demarcation and Boundary Demarcation Map after legalized by the Minister of Forestry shall be disseminated to:
- a. the Governor concerned
 - b. head of Regional Forestry Office
 - c. head of Regional Land Agency
 - d. head of Regional Transportation Office
 - e. head of Hydrooceanography of the Indonesian Navy

Article 14

Results of boundary demarcation activities shall be reported by Boundary Demarcation Committee to the Governor.

Article 15

- (1) Stipulation of marine sanctuary reserves and nature conservation areas shall be based on Official Report on Boundary Demarcation and Boundary Demarcation Map which extent has been known according to the boundary demarcation activities in the field.
- (2) Decision on the marine sanctuary reserves and nature conservation areas stipulation shall be enclosed with marine sanctuary reserves and nature conservation areas map that referred to Boundary Demarcation Map.
- (3) Decision on the marine sanctuary reserves and nature conservation areas stipulation and boundary markers as well as their coordinates shall be written in the official nautical document and immediately announced to the navigation/shipping institutions.

Article 16

- (1) Decree on marine sanctuary reserves and nature conservation areas stipulation shall be made in 9 copies and submitted to:
 - a. General Secretary of Ministry of Forestry
 - b. Director General of Forest Inventory and Land Use
 - c. Director General of Forest Protection and Nature Conservation
 - d. Director General of Sea Transportation
 - e. Governors
 - f. Head of Regional Forestry Office
 - g. Head of Regional Land Agency
 - h. Head of Regional Transportation Office
 - i. Head of Hydrooceanography of the Indonesian Navy
- (2) Copies of the decree on marine sanctuary reserves and nature conservation areas stipulation shall be disseminated to:
 - a. Minister of Internal Affairs
 - b. Minister of Defence and Security
 - c. Minister of Transportation
 - d. Minister of Agrarian Affairs/Head of National Land Agency
 - e. Minister of Agriculture
 - f. Minister of Environment
 - g. Minister of Mining and Energy
 - h. Minister of Tourism, Post and Telecommunication

- i. Head of National Coordinating Agency for Survey and Mapping (Badan Koordinasi Survei dan Pemetaan Nasional)
- (3) Copies of the decree on marine sanctuary reserves and nature conservation areas stipulation could be given to other institution other than mentioned in the paragraph (2), namely:
- a. For central institutions, copy of the decree shall be legalized by Director General of Forest Inventory and Land Use.
 - b. For local institutions, copy of the decree shall be legalized by the head of Regional Forestry Office.

Article 17

- (1) Protection and maintenance of boundary markers of marine sanctuary reserves and nature conservation areas shall be transferred to and become responsibility of the manager, right after Official Report on Boundary Demarcation and Boundary Demarcation Map signed by the Boundary Demarcation Committee.
- (2) Reconstruction of boundary of marine sanctuary reserves and nature conservation areas for outside Java Island and Madura Island could be periodically conducted by Forest Inventory and Mapping Office/Sub-office, while for Java Island and Madura Island shall be conducted by the Directorate of Forest Inventory, Affirmation and Mapping of Directorate General of Forest Inventory and Land Use.

Article 18

- (1) Technical Guideline for Marine Sanctuary Reserves and Nature Conservation Areas Affirmation shall be further regulated by the Director General of Forest Inventory and Land Use.
- (2) This decree shall be taken on effect since the date of issuance.

Issued in Jakarta

On September 27, 1997

Minister of Forestry

Djamaludin Suryohadikusumo

Appendix of Minister of Forestry's decree No. 613/Kpts-II/1997 issued on September 27, 1997

Consolidation Team for Marine Sanctuary Reserves and Nature Conservation Areas

- 1. Chair person and as concurrent member responsibility: Director General of Forest Inventory and Land Use, Ministry of Forestry
- 2. Vice-chair person and as concurrent member responsibility: Director General of Forest Protection and Nature Conservation, Ministry of Forestry
- 3. Secretary and as concurrent member responsibility: Director of Forest Inventory, Affirmation and Mapping, Directorate General of Forest Inventory and Land Use, Ministry of Forestry
- 4. Vice-secretary and as concurrent member responsibility: head of Directorate of Navigation, Directorate General of Sea Transportation, Ministry of Transportation
- 5. Members:
 - 1. Director of Program Building, Directorate General of Forest Protection and Nature Conservation, Ministry of Forestry
 - 2. Head of Law and Organization Bureau, Ministry of Forestry
 - 3. Deputy Assistant I of Minister of Environment
 - 4. Director of Environment Management Establishment, Directorate General of Local Development, Ministry of Internal Affairs
 - 5. Director of Fishery Living Sources Building, Direktorat General of Fishery, Ministry of

Agriculture.

6. Director of Land Use, National Land Agency
7. Head of Hydroceanography of the Indonesian Navy.
8. Head of Center for Sea and Space Dimension Mapping, National Coordinating Agency for Survey and Mapping.
9. Head of Center for Topographical Basic Mapping (Spatial), National Coordinating Agency for Survey and Mapping.
10. Head of Local Development and Planning Agency concerned.
11. Head of Regional Forestry Office concerned.

Minister of Forestry

Djamaludin Suryohadikusumo

Minister of Forestry's decree No. 32/Kpts-II/2001 on criteria and standards for forest area affirmation (25 articles)

(Complete version)

Article 1

As defined in this decree:

18. Forest means Forest means a unit of ecosystem in the form of lands comprising biological resources, dominated by trees in their natural forms and environment, which can not be separated each other.
19. Forest area means a certain area which is designated and or stipulated by government to be retained as permanent forest, including Marine Sanctuary Reserves and Conservation Areas.
20. Forest area affirmation means activities which shall be conducted through the processes of designation, boundary demarcation, mapping, and stipulation of forest area.
21. Forest area designation means initial arrangement of an area as a forest area, in the form of provincial or partial/forest compartment designation
22. Forest area boundary demarcation means activities including border projection, inventory of third party rights, temporary-border marking, definite-boundary marking, and measurement
23. Forest area mapping means mapping activities on the results of forest area boundary demarcation, in the form of boundary map, which become a unity with the Official Report on Boundary Demarcation
24. Forest area stipulation means a confirmation on the legal certainty of the status, position, boundary and extent of a certain area, which has already designated as forest area, to be a permanent forest area by Ministerial Decree
25. Certain area means forest compartment or group of forest compartments either forested or not.
26. Forest area border means border between forest area and non-forest area.
27. Official report on forest area boundary demarcation means official report on the results of forest area boundary demarcation activities, compiled and reported by the Boundary Demarcation Committee, with enclosing such as official report on recognition of boundary demarcation results and other official reports which are produced within boundary demarcation activities, including meeting notes and other letters of evidence related to the said forest area
28. Boundary Demarcation Committee means Forest Area Boundary Demarcation Committee including terrestrial and marine sanctuary reserves, terrestrial and marine conservation areas, and hunting park.
29. Minister means the minister who is charged and responsible for forestry affairs.

Article 2

Issuance of criteria and standards for forest area affirmation aims at formulating technical measurement and specification standardization of the processes in forest area affirmation activities.

Article 3

Issuance of criteria and standards for forest area affirmation is intended to achieve legal certainty of status, position, limit and extent of forest area.

Article 4

The scope of forest area affirmation shall cover:

- c. Forest Area Designation
- d. Forest Area Boundary Demarcation
- e. Forest Area Mapping
- f. Forest Area Stipulation

Article 5

- (1) Criteria of forest area designation shall be detailed into status, condition, position, limit and extent of designated area.
- (2) Criteria for the status of the area designated as forest area as pertaining to Article 5 paragraph (1) shall:
 - a. Never been designated or stipulated by the Minister as forest area (partial designation).
 - b. Not bear land property rights
 - c. Be figured in the provincial forest and water/marine area map that has been stipulated by the Minister or Provincial/District Spatial Planning.
- (3) Criteria for the condition of the area designated as forest area as pertaining to Article 5 paragraph (1) shall:
 - a. Be forested and/or non-forested.
 - b. It can be reforested conventionally.
- (4) Criteria for position, limit and extent of the area designated as forest area as pertaining to Article 5 paragraph (1) are:
 - a. Terrestrial and water/marine
 - b. The limits and extent shall be clear and measurable.

Article 6

Forest function criteria for the area will be designated as forest area, as pertaining to Article 5 paragraph (1), are:

- a. Determined based on Government Regulation No. 47 of 1997 on National Spatial Planning, as long as concerning Hunting Park, Protection Forest, Limited-Production Forest, Fixed-Production Forest, and Convertible-Production Forest.
- b. Determined based on Government Regulation No. 68 of 1998 on Sanctuary Reserves and Nature Conservation Areas, as long as concerning Strict Nature Reserves, Wildlife Sanctuaries, National Park, Grand Forest Park, and Nature Recreation Park.

Article 7

- (1) Criteria of boundary demarcation shall be detailed into status, border trajectory, temporary and definite-border markers, and Forest Area Boundary Demarcation Committee.

- (2) Criteria for the status of the area demarcated as forest area as pertaining to Article 7 paragraph (1) are:
 - a. designated forest area
 - b. free from the third party rights
 - c. Recognized by the parties (communities, law body, government) residing along the boundary demarcation trajectory.
- (3) Criteria for border trajectory of the area demarcated as forest area as pertaining to Article 7 paragraph (1) shall:
 - a. have certain benchmark in the field
 - b. Follow azimuth and measured distance according to natural border (river, coastline, lakeline, etc.)
 - c. Have border path
- (4) Criteria for temporary and definite-border markers of the area demarcated as forest area as pertaining to Article 7 paragraph (1):
 - a. temporary and definite-border markers shall have coordinates
 - b. temporary-border markers shall be used for temporary boundary demarcation
 - c. definite-borders markers shall be used for definite boundary demarcation

Article 8

Criteria for Boundary Demarcation Committee of the area demarcated as forest area as pertaining to Article 7 paragraph (1) are:

- a. established and legalized by head of district/Mayor
- b. Forest Area Boundary Demarcation Committee shall be chaired by the head of the district/Mayor with members consist of the following elements:
 1. District/City Development and Planning Agency
 2. District/City Land Agency
 3. Related District/City Offices
 4. Head of sub-district
 5. Forest Inventory and Mapping Sub-office
 6. Natural Resources Conservation Sub-offices/sub-section
 7. other necessary institutions
 8. Head of the village
 9. Public figure/ local “Adat” chief

For boundary demarcation in marine areas, members of Boundary Demarcation Committee shall be added by:

1. Head of Dictriect/Sub-district Navigation
2. Head of Fishery Office
3. Ministry of Transportation
4. Ministry of Marine Affairs

Article 9

- (1) Criteria of forest area mapping shall be detailed into Boundary Demarcation Map and Official Report on Forest Area Boundary Demarcation that will be mapped.
- (2) Criteria for Boundary Demarcation Map of the area mapped as forest area as pertaining to Article 9

paragraph (1) are:

- a. Base map shall be determined based on the sequence of map availability of the forest area will be mapped, such as thematic map, topography map, and Joint Operation Graphic Map.
 - b. Figured out the result of forest area boundary demarcation in the form of boundary demarcation map.
- (3) Criteria for Official Report on Forest Area Boundary Demarcation as pertaining to Article 9 paragraph (1) are:
- a. Official Report on Temporary-boundary Demarcation shall cover:
 1. Border trajectory that was used in Official Report on Temporary-boundary Demarcation must have been announced to the public
 2. Statement of recognition from the people residing along the forest area boundary demarcation trajectory shall be included.
 - b. Official Report on Boundary Demarcation shall cover:
 1. Approval of Boundary Demarcation Committee which is stated in the form of signatures of all Boundary Demarcation Committee members
 2. Statements of inavailability of land ownership rights, cultivation land, building, etc. shall be included.
 3. Detail implementation route of forest boundary measurement shall be included.

Article 10

- (1) Criteria of forest area stipulation shall be detailed into forest area stipulation map, Official Report on Boundary Demarcation, and decision on the stipulation of the area will be stipulated.
- (2) Criteria for the stipulation map of forest area will be stipulated as forest area as pertaining to Article 10 paragraph (1) are:
 - a. Base map shall be determined based on the sequence of map availability of the forest area will be mapped, such as thematic map, topography map, and Joint Operation Graphic Map.
 - b. Utilizing combination of borders from the result of definite-boundary demarcation with other borders, such as administrative borders (district or province).
- (3) Criteria for Official Report on Boundary Demarcation of the area stipulated as forest area as pertaining to Article 1- paragraph (1) shall be Official Report on Boundary Demarcation that had been legalized by the Minister.
- (4) Criteria for decision on the stipulation of forest area will be stipulated as forest area as pertaining to Article 10 paragraph (1) shall contain decision of forest area stipulation as pertaining to Official Report on Forest Area Boundary Demarcation and mapped in forest area stipulation map.

Article 11

- (1) Standards of forest area designation for area will be designated:
 - a. It shall be proposed by the local government and local houses of representative (DPRD) based on Provincial Forest Area (and marine) Designation Map and or Provincial/District Spatial Planning and name of forest compartment.
 - b. Designation map shall be made with minimum scale of 1:250,000 depend on the extent of the designated area and based on mapping standards.
- (2) Decision of forest area designation by:
 - a. The Minister, for Conservation Areas, Sanctuary Reserves, Hunting Parks, and across provincial Protection Forests and Production Forests.
 - b. The Governors, for Protection Forests and Production Forests within the provinces.

Article 12

- (1) Standards of forest area boundary demarcation shall be detailed into status, border trajectory, temporary and definite-markers (forest area), temporary and definite-markers (marine areas), and Forest Area Boundary Demarcation Committee.
- (2) Standards for the status of area that will be demarcated as forest area as pertaining to Article 12 paragraph (1):
 - a. Official Report on Recognition of the results of border-making, which signed by representatives/public figures/"Adat" chiefs of local communities, head of the villages, local forestry institution, head of sub-district, head of boundary demarcation implementation team, and head of district/Mayor, shall be made.
 - b. Official Report on the Approval of the results of temporary-border making, which signed by the Boundary Demarcation Committee, shall be made.
- (3) Standards for the border trajectory of the area that will be demarcated as forest area as pertaining to Article 12 paragraph (1) are:
 - a. Benchmarks consist of triangulation points, Doppler points, points resulted from GPS calculation, markant point (the existence in the field are exactly the same as in the base map).
 - b. Border clearing shall be made by cleaning 2 meters wide path, so it is similar to a track.
 - c. Border path shall be made 150 cm wide with ditches of (30 x 30 x 30) cm on the left and right side of the border path.

Article 13

- (1) Standards for temporary and definite-markers (forest areas) of the area that will be demarcated as forest area as pertaining to Article 12 paragraph (1) are:
 - a. Temporary-markers shall be placed along the border clearing path with 25 to 150 meters distance to each other, except in Java Island and Madura Island for 25 to 75 meters distance to each other.
 - b. Definite-markers shall be made from:
 - ① Iron-boned concrete of 10 x 10 cm and 130 cm length including the 60-cm part that will be plant into the soil, as in picture of the appendix 2.
 - ② First or second class durable timbers or preserved-timber of 15 x 15 cm with 130 cm length including the 60-cm part which is paint with residu/durable paint, as in the picture of appendix 3.
 - c. Writing method for the letters and numbers in definite-markers shall be as follow:
 - ① Definite-markers which border forest area with non-forest areas (called as forest area's outer borders) shall be written as letter B on the side of markers that face outside of forest area.
 - ② On the side of markers that face inside forest areas, it shall be written the initial/code of abbreviation of the function of the forest areas concerned, based on the pictures in the appendix 4 as follow:
CA= Cagar Alam
SM= Suaka Margasatwa
TN= Taman Nasional
TWA= Taman Wisata Alam
THR= Taman Hutan Raya
TB= Taman Buru
HL= Hutan Lindung
HPT= Hutan Produksi Terbatas
HP= Hutan Produksi Tetap

(2) Standards for temporary and definite-markers (marine areas) of the area that will be demarcated as forest area as pertaining to Article 12 paragraph (1) are:

a. Reference point

① How to locate reference point

1. placed on relatively stable soil
2. the location is spared from erosion or coastal erosion
3. easy to find
4. easy to reach
5. on open area
6. Viewing spaces to the area are vast enough
7. located on clear land-ownership status or government property

② Pillar's shape and dimension shall consist of:

1. Fence of reference point (appendix 6)
2. Building of reference point (appendix 7)
3. Pillar of reference point (appendix 8)
4. Pillar of supporting point (appendix 9)
5. Pillar of reference point and supporting point (appendix 10, view from above)
6. Brass tablet (appendix 11)
7. Signs on the side of pillar (appendix 12)

b. Special signs (light buoy). Technical specification for light buoy consists of:

① Location

② Position (latitude and longitude)

③ Construction: single pole with diameter of 20 to 40 cm, with yellow restroreflecting color

④ Color of light: yellow

⑤ Rhythm/period: CK 4 second; etc.

⑥ Viewable distance: 8 nautical mile

⑦ Elevation: 15 meters

⑧ Source of light: solar energy system

⑨ Peak mark: "X" diagonal form with yellow restroreflecting color

Shape of light buoy is as shown in the appendix 13.

Article 14

Standards of Boundary Demarcation Committee for areas demarcated as forest areas as pertaining to Article 12 paragraph (1) shall be local government officials, forestry department officials who responsible for forest area affirmation in the field, head of village, public figure/head of "adat" communities for foresta areas (terrestrial), for marine conservation areas the committee shall be added with transportation institution, navigation and fishery officials in the field.

Article 15

(1) Standards of forest area mapping shall be detailed into Boundary Demarcation Map and Official Report on Forest Area Boundary Demarcation of the area will be mapped.

(2) Standards for boundary demarcation map of the area mapped as forest area as pertaining to Article 15 paragraph (1) are:

a. Map size is 60 cm x 80 cm (including border information)

- b. Negative film of the map shall be made with title of Boundary Demarcation Map and minimum scale of 1:25,000
 - c. Boundary Demarcation Map must be made following mapping principles.
- (3) Standards for Official Report on Boundary Demarcation of the area mapped as forest area as pertaining to Article 15 paragraph (1) shall include the following information:
- a. name of the area (function of the forest area)/ forest compartment
 - b. Number and date of issue of forest area affirmation
 - c. Position of the location based on administration (sub-district, district/city, province)
 - d. Realization of boundary length and extent of the forest area
 - e. Information notes of the map's border based on cartography principles
 - f. Boundary Demarcation Committee's members' names, official positions, and their institution seals.
 - g. Column of issuance date of Official Report on Boundary Demarcation and Map that approved and signed by Boundary Demarcation Committee (sample of Official Report on Boundary Demarcation is on appendix 5).

Article 16

- (1) Standards of forest area stipulation shall be detailed into forest area stipulation map and decision of forest area stipulation on the forest will be stipulated.
- (2) Standards for forest area stipulation map of the area will be stipulated as forest area as pertaining to Article 16 paragraph (1) are:
 - a. Map of the forest area will be stipulated shall derive from the result of the completion of boundary demarcation, be included in the Official Report on Boundary Demarcation and its map, and have legality.
 - b. Extent of the forest area shall be calculated from the combination of boundaries that signed by Boundary Demarcation Committee and administration borders that included in the base map (districts and provinces).
- (3) Standards of decision of forest area stipulation on the area will be stipulated as forest area as pertaining to Article 16 paragraph (1) shall be made in 8 copies and distributed to:
 - a. Echelon I officials in Ministry of Forestry
 - b. Governor
 - c. Provincial Forestry Office
 - d. Head of district/Mayor
 - e. Technical Implementation Units of Ministry of Forestry
 - f. Forestry institution that responsible for implementation of forest area affirmation in the field.

Article 17

Results of forest area designation activities are:

- a. Minister of Forestry's decree on Forest Area Designation for Sanctuary Reserves, Nature Conservation Areas, and Hunting Park, with across provinces Protection Forest Areas and Production Forests.
- b. Governor's decree on Forest Area Designation for Protection Forest and Production forest within one province.
- c. Forest Area Designation Map as attachment of the Minister of Forestry's or Governor's decree.

Article 18

Results of boundary demarcation activities are:

- a. temporary-boundary marking
- b. definitive-boundary marking

Article 19

Results of forest area mapping are:

- a. Forest Area Boundary Demarcation Map
- b. Official Report on Boundary Demarcation

Article 20

Results of forest area stipulation are:

- a. Forest Area Stipulation Map derived from the result of the completion of boundary demarcation that included in the Official Report on Boundary Demarcation.
- b. Minister's decree on the forest area stipulation.

Article 21

Forest areas that previously designated, demarcated or stipulated by the Minister and in accordance with forest (marine) areas designation map stipulated by the Minister shall still be in valid.

Article 22

Forest areas that have been demarcated but not in accordance with forest (marine) areas designation map stipulated by the Minister shall still be in valid until Official Report on Boundary Demarcation that in accordance with the said forest (marine) areas designation map is issued and with which clearly abolished the previous forest areas.

Article 23

This Criteria and Standards of Forest Area Affirmation shall be the basic reference for:

- a. Governor to establish implementation manual for Protection Forests and Production Forest areas affirmation or forest area boundary demarcation.
- b. Head of district/Mayor to establish implementation guidelines/technical guidance for forest area boundary demarcation.

Article 24

By the issuance of this decree, therefore:

- a. Minister of Forestry's decree No. 399/Kpts-II/1990 issued on August 6, 1990 amended by No. 634/Kpts-II/1996 issued on October 7, 1996;
- b. Minister of Forestry's decree No. 400/Kpts-II/1990 issued on August 6, 1990 amended by No. 635/Kpts-II/1996 issued on October 7, 1996;

that conflicting this decree shall be repealed.

Article 25

This decree shall be taken on effect since the date of issuance.

Issued in Jakarta on February 12, 2001; Minister of Forestry Nur Mahmudi Ismail

Minister of Forestry's decree No. 70/Kpts-II/2001 on forest area stipulation, change of forest area status and function (28 articles)

(Complete version)

Article 1

As defined in this decree:

1. Forest means a unit of ecosystem in the form of lands comprising biological resources, dominated by trees in their natural forms and environment, which can not be separated each other.
2. Forest area means a certain area which is designated and or stipulated by government to be retained as permanent forest.
3. Forest area designation means initial arrangement of an area as a forest area.
4. Forest area stipulation means issuance of legal certainty on the status, position, boundary and extent of a certain area that designated as forest area into permanent forest area by the Minister's decree.
5. Change of forest area function means activities to change a part or whole forest function, within a forest area.
6. Change of forest area status means activities to change the status of a part of forest area into non-forest area.
7. Relocation of forest area function with convertible-production forest are means change of permanent forest area function into convertible-production forest and convertible-production forest into permanent forest area. Forest area that the function shall be relocated is permanent forest area and convertible-production forest based on Forest Area (and Marine) Designation Map issued by the Minister.
8. Substitute land means non-forest area land that converted into forest area as substitution of a part of forest area that changed the status.
9. Limited public purposes means public purposes, including public road, waterworks, dam, and other irrigation infrastructures, public cemeteries, safety facilities, that usages shall not for profit.
10. Commercial public purposes means community members purposes, including telecommunication repeater, radio broadcasting station, television relay station, water installation, electricity, that usages seek profit.
11. Strategical purposes means purposes that have huge effect on the improvement of national economy and people's prosperity, with government's priority, including industrial buildings, seaport or airport.
12. Integrated team means consolidation team stipulated by the Minister, which consist of related central and local government institution that competent and scientifically authorized, independent, and objective in implementing their tasks.
13. Minister means the minister who is charged and responsible for forestry affairs

Article 2

Regulating forest area stipulation, change of forest area status and function is aiming at providing direction in implementing forest area stipulation, change of forest area status, and change of forest area function according to regulations in effect.

Article 3

The objectives of regulating forest area stipulation, change of forest area status and function are:

- a. Watching and protecting the existence and unity of forest area as local, regional and national economy activators, and as local, regional, national and global life supporters.
- b. Achieving the legal certainty on forest area, and optimalization of land/forest utilization in national, sectoral and local development.

Article 4

The scope of forest area stipulation, change of forest area status and function are:

- a. Stipulation of forest area in forest area affirmation.
- b. Releasing convertible-production forest area and exchanging forest area.
- c. Change of function between forest area function.

Article 5

- (1) Stipulation of forest area is the last step in the forest area affirmation process.
- (2) Forest area affirmation consists of forest area designation, forest area boundary demarcation, forest area mapping, and forest area stipulation.
- (3) Forest area affirmation shall be based on Criteria and Standards of Forest Area Affirmation that issued in the Minister's decree No. 32/Kpts-II/2001 on Februari 12, 2001.

Article 6

- (1) Forest area stipulation shall be issued by Minister's decree and enclosed with scale 1:100,000 of forest area stipulation map.
- (2) Stipulation of forest area shall be implemented through the following processes:
 - a. Submission of Official Report on Boundary Demarcation and Boundary Demarcation Map that signed by the Boundary Demarcation Committee.
 - b. Law and technical researches on Official Report on Boundary Demarcation and Boundary Demarcation Map by Echelon I institutions in the Ministry of Forestry.
 - c. If the Official Report on Boundary Demarcation and Boundary Demarcation Map fulfil the law and technical requirements, Forestry Planning Agency shall prepare the concept of Ministerial Decree on Forest Area Stipulation with enclosed map of minimum scale of 1:100,000.
- (3) Stipulation of forest area and calculation of its extent shall be based on the result of the completion of boundary demarcation or combination of the result of boundary demarcation with other legal boundary (country borders, administrative borders).

Article 7

Basically forest area that can be changed the status is convertible-production forest.

Article 8

In certain condition change of status of production forest area can be implemented when the following requirements are fulfilled:

- a. It is for strategical purposes.
- b. It shall not negatively impact the environment, which based on the results of integrated researches.
- c. It shall not form an enclave or it shall not cut forest area into pieces that are not suitable to manage in one management unit.
- d. Results of the scoring based on criteria and standards of forest area land use that less than 125.
- e. It shall not minimize the sufficiency of minimum extent of forest area in the watershed area, which is 30% of the extent of watershed area.
- f. It shall be approved by District/City's or Provincial House of Representative.
- g. If it has important impact and involved a broad scope with strategical value, it shall be approved by the House of Representative.
- h. On district/city or province areas in which convertible-production forest area are available, it shall be started from relocation of forest area function with convertible-production forest.

- i. On district/city or province areas in which convertible-production forest area are not available, “clear and clean” substitute land shall be provided with ratio:
- 2) 1:1 for development of limited public purposes by the government
 - 3) 1:2 for development of strategic projects that prioritized by the government
 - 4) 1:1 for settling land occupation or enclave
 - 5) Minimum of 1:3 for commercial purposes.

Article 9

- (1) Change of forest area status shall be stipulated by Ministerial decree enclosed with minimum scale 1:100,000 of map.
- (2) Change of forest area status shall be conducted through:
 - a. Releasing convertible[^]production forest area
 - b. Exchange of forest area.

Article 10

Proposal on the change of convertible-production forest area status shall be submitted to the Minister with enclosed recommendation from Governor or head of district/Mayor and minimum scale 1:100,000 of map

Article 11

On proposal as pertaining to Article 10, related Echelon I in Ministry of Forestry shall provide opinion/technical consideration to the Minister with enclosed minimum scale 14:10,000 of map.

Article 12

In case the proposed forest area is not convertible-production forest, the proposal shall be completed with:

- a. Results of the researches by Integrated Team
- b. Approval of district/city’s House of Representative and Provincial House of Representative for across districts/cities forest areas.
- c. Point a, and point b shall be enclosed with minimum scale 1:100,000 of map.

Article 13

- (1) Upon opinion/technical consideration as pertaining to Article 11 or the results of the researches by Integrated Team and approval from the Local Houses of Representatives as pertaining to Article 12, the Minister shall disapprove or approve the proposal on releasing forest areas.
- (2) In the case that forest area proposed is not convertible-production forest, the relocation of function shall be processed by Ministerial Decree.

Article 14

- (1) Based on the Minister’s approval or stipulation on the relocation of forest area function, boundary demarcation shall be implemented by the Boundary Demarcation Committee on the forest area will be released.
- (2) The results of boundary demarcation shall be reported as Official Report on Boundary Demarcation and Boundary Demarcation Map that consist of:
 - a. Official Report on Boundary Demarcation and Boundary Demarcation Map on the circumference of forest areas that will be released.
 - b. Official Report on Boundary Demarcation and Boundary Demarcation Map on forest area for the new forest area boundaries that united with forest area will be released.

Article 15

- (1) On the Official Report on Boundary Demarcation and Boundary Demarcation Map as pertaining to Article 14, legal and technical researches shall be implemented by concerned Echelon I institutions in Ministry of Forestry.
- (2) When Official Report on Boundary Demarcation and Boundary Demarcation Map fulfilled the legal and technical requirements, Forestry Planning Agency shall prepare a concept of Ministerial decree on:
 - a. Stipulation on releasing forest area that enclosed with minimum scale 1:100,000 of map.
 - b. Stipulation on new boundary of forest area that enclosed with minimum scale 1:25,000 of map.
- (3) The Minister will stipulate the change of status (releasing forest area) and decide the stipulation of new of boundary forest area including the maps.

Article 16

Exchanging forest areas as pertaining to Article 9 paragraph (2) point b shall be implemented through the following processes:

1. Proposal on exchanging forest areas that submitted to the Minister enclosed with:
 - a. Map with minimum scale of 1:100,000
 - b. Recommendation of the governor or head of district or Mayor enclosed with minimum scale 1:100,000 of map
 - c. Map of proposed substitute land with minimum scale of 1:100,000
2. Upon proposal on exchanging forest areas, concerned Echelon I institutions in Ministry of Forestry shall provide their opinion/technical consideration to the Minister enclosed with minimum scale 1:100,000 map.
3. Researches by Integrated Team on proposed forest areas and proposed substitute land.
4. When recommended by the Integrated Team, the proposal shall be completed with approval from district/city's House of Representative or Provincial House of Representative for across districts/cities forest areas.
5. Based on opinion/technical consideration as pertaining in the point 2 or the results of integrated researches as pertaining to point 3 and approval from Local Houses of Representative as pertaining to point 4, the Minister shall give disapproval or approval on the proposal of exchanging forest areas and proposed substitute land.
6. Whenever the proposal is approved, "clear and clean" settlement on substitute land proposed shall be implemented.
7. Official report on exchanging forest area shall be made.
8. Designation of substitute land as forest area shall be conducted through head of district's decree or the governor's decree for across districts/cities forest areas.
9. Boundary demarcation on the forest area that will be released as well as on the substitute land shall be implemented by Boundary Demarcation Committee, and Official Report on Boundary Demarcation and Boundary Demarcation Map shall be made and signed.
10. Based on Official Report on Boundary Demarcation and Boundary Demarcation Map that have been legally and technically researched by concerned Echelon I institutions in Ministry of Forestry, Forestry Planning Agency shall prepare a concept of Ministerial decree, including enclosing maps of minimum scale 1:100,000, on:
 - a. Releasing forest areas
 - b. Stipulation on the new boundary of the forest area that bordered each other with the released forest areas
 - c. Stipulation of the substitute land as forest area.
11. The Minister issued the decree, with its enclosures, on:
 - a. Releasing forest areas

- b. Stipulation on the new boundary of the forest area that bordered each other with the released forest areas
- c. Stipulation of the substitute land as forest area.

Article 17

- (1) Change of forest area function can only be done when the area proposed to be changed shall fulfil the criteria and standards of forest function stipulation.
- (2) Forest area function that will be changed shall be based on Provincial Forest (Marine) Area Designation Map stipulated by the Minister.
- (3) Change of forest area function shall be based on the researches results conducted by the Integrated Team.

Article 18

Proposal on the change of forest area function that submitted to the Minister shall be enclosed with:

- a. Opinion/technical consideration from District/City Forestry Offices or Provincial Forestry Office for across districts/cities forest areas
- b. Recommendation from head of the district/Mayor or Governor for across districts/cities forest areas
- c. Approval from district/city's House of Representative or Provincial House of Representative for across districts/cities forest areas
- d. Map with minimum scale of 1:100,000

Article 19

Upon proposal as pertaining to Article 18, concerned Echelon I institution in Ministry of Forestry shall provide opinion/technical consideration to the Minister.

Article 20

Based on opinion/technical consideration as pertaining to Article 18, the Minister shall disapprove or approve the proposal on the change of forest area function.

Article 21

Whenever the proposal is approved, Forestry Planning Agency shall prepare a concept of Ministerial decree on the change of forest area function enclosed with minimum scale 1:100,000 of map.

Article 22

The Minister shall issue the decree on the change of forest area function with its enclosing map.

Article 23

Whenever deviation or violation occurred on the central governments authority in stipulating forest area, changing the status and function of forest area, the Minister has an authority to act based on Article 50 of the Act No. 41 of 1999 and Article 7 of Government Regulation No. 25 of 2000.

Article 24

Matters which have not been regulated enough in this decree shall be regulated later.

Article 25

Forest areas that have been stipulated; changed the status and or the function by Ministerial decree or other regulations prior to this decree shall be deemed in effect.

Article 26

Following the issuance of this decree, Minister of Forestry's decree No. 399/Kpts-II/1990 amended by No. 634/Kpts-II/1996 and Minister of Forestry's decree No. 400/Kpts-II/1990 amended by No. 635/Kpts-II/1996 and Minister of Forestry's decree No. 292/Kpts-II/1995 and Minister of Forestry's decree No. 613/Kpts-II/1997, as long as not in conflict with this decree, shall be deemed in effect.

Article 27

Arrangement on the stipulation of forest area, change of status and function of forest area shall be used as the foundation in implementing the stipulation of forest area, change of status and function of forest area.

Article 28

This decree shall be taken on effect since the date of issuance.

Issued in Jakarta

On March 21, 2001

Minister of Forestry

Nur Mahmudi Ismail

Minister of Forestry's decree No. 48/Kpts-II/2004 on amendment of Minister of Forestry's decree No. 70/Kpts-II/2001 on forest area stipulation, change of forest area status and function (2 articles)

(Complete version)

Article I

1. Stipulation on Article 8 shall be amended, so the whole Article 8 shall become as the following:

Article 8

In certain condition change of status of production forest area can be implemented when the following requirements are fulfilled:

- a. It is for strategical purposes.
- b. It shall not negatively impact the environment, which based on the results of integrated researches.
- c. It shall not form an enclave or it shall not cut forest area into pieces that are not suitable to manage in one management unit.
- d. Results of the scoring based on criteria and standards of forest area land use that less than 125.
- e. It shall not minimize the sufficiency of minimum extent of forest area in the watershed area, which is 30% of the extent of watershed area.
- f. If it has important impact and involved a broad scope with strategical value, it shall be approved by the House of Representative.
- g. On district/city or province areas in which convertible-production forest area are available, it shall be started from relocation of forest area function with convertible-production forest.
- h. On district/city or province areas in which convertible-production forest area are not available, "clear and clean" substitute land shall be provided with ratio:

1. 1:1 for development of limited public purposes by the government
 2. 1:2 for development of strategical projects that prioritized by the government
 3. 1:1 for settling land occupation or enclave
 4. Minimum of 1:3 for commercial purposes.
2. Stipulation on Article 12 shall be amended, so the whole Article 12 shall become as the following:

Article 12

In case the proposed forest area is not convertible-production forest, the proposal shall be completed with:

- a. Results of the researches by Integrated Team
 - b. Point a enclosed with minimum scale 1:100,000 of map.
3. Stipulation on paragraph (1) Article 13 shall be amended, so the whole Article 13 shall become as the following:

Article 13

- (1) Upon opinion/technical consideration as pertaining to Article 11 or the results of the researches by Integrated Team as pertaining to Article 12, the Minister shall disapprove or approve the proposal on releasing forest areas.
 - (2) In the case that forest area proposed is not convertible-production forest, the relocation of function shall be processed by Ministerial Decree.
4. Stipulation on Article 16 shall be amended, so the whole Article 16 shall be as the following:

Article 16

Exchanging forest areas as pertaining to Article 9 paragraph (2) point b shall be implemented though the following processes:

1. Proposal on exchanging forest areas that submitted to the Minister enclosed with:
 - a. Map with minimum scale of 1:100,000
 - b. Recommendation of the governor or head of district or Mayor enclosed with minimum scale 1:100,000 of map
 - c. Map of proposed substitute land with minimum scale of 1:100,000
2. Upon proposal on exchanging forest areas, concerned Echelon I institutions in Ministry of Forestry shall provide their opinion/technical consideration to the Minister enclosed with minimum scale 1:100,000 map.
3. Researches by Integrated Team on proposed forest areas and proposed substitute land.
4. Based on opinion/technical consideration as pertaining in the point 2 or the results of integrated researches as pertaining to point 3, the Minister shall give disapproval or approval on the proposal of exchanging forest areas and proposed substitute land.
5. Whenever the proposal is approved, “clear and clean” settlement on substitute land proposed shall be implemented.
6. Official report on exchanging forest area shall be made.
7. Designation of substitute land as forest area shall be conducted by Ministerial decree.
8. Boundary demarcation on the forest area that will be released as well as on the substitute land shall be implemented by Boundary Demarcation Committee, and Official Report on Boundary Demarcation and Boundary Demarcation Map shall be made and signed.
9. Based on Official Report on Boundary Demarcation and Boundary Demarcation Map that have been legally and technically researched by concerned Echelon I institutions in Ministry of Forestry, Forestry Planning Agency shall prepare a concept of Ministerial decree, including enclosing maps of minimum scale 1:100,000, on:
 - a. Releasing forest areas
 - b. Stipulation on the new boundary of the forest area that bordered each other with the

released forest areas

- c. Stipulation of the substitute land as forest area.
10. The Minister issued the decree, with its enclosures, on:
 - a. Releasing forest areas
 - b. Stipulation on the new boundary of the forest area that bordered each other with the released forest areas
 - c. Stipulation of the substitute land as forest area.
5. Stipulation on Article 18 shall be amended, so the whole Article 18 shall be as the following:

Article 18

Proposal on the change of forest area function that submitted to the Minister shall be enclosed with:

- a. Opinion/technical consideration from District/City Forestry Offices or Provincial Forestry Office for across districts/cities forest areas
- b. Recommendation from head of the district/Mayor or Governor for across districts/cities forest areas
- c. Map with minimum scale of 1:100,000.

Article II

This decree shall be taken on effect since the date of issuance.

Issued in Jakarta

On January 23, 2004

Minister of Forestry

Muhammad Prakosa

Appendix 3: Legislations in India related to the study

Constitution of India, 1949

As amended by The Constitution (Amendment) Acts up to 93rd Amendment Act, 2005

Part IV. Directive Principles of State Policy

Article 48A. Protection and improvement of environment and safeguarding of forests and wild life

The State shall endeavor to protect and improve the environment and to safeguard the forests and wild life of the country

Part IVA. Fundamental Duties

Article 51A. Fundamental duties

It shall be the duty of every citizen of India:

- (a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
- (b) to cherish and follow the noble ideals which inspired our national struggle for freedom;
- (c) to uphold and protect the sovereignty, unity and integrity of India;
- (d) to defend the country and render national service when called upon to do so;
- (e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
- (f) to value and preserve the rich heritage of our composite culture;
- (g) to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures;
- (h) to develop the scientific temper, humanism and the spirit of inquiry and reform;
- (i) to safeguard public property and to abjure violence;
- (j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement.

Part IX. The Panchayats

Article 243. Definitions

In this Part, unless the context otherwise requires,

- (a) “district” means a district in a State;
- (b) “Gram Sabha” means a body consisting of persons registered in the electoral rolls relating to a village comprised within the area of Panchayat at the village level;
- (c) “intermediate level” means a level between the village and district levels specified by the Governor of a State by public notification to be the intermediate level for the purposes of this Part;
- (d) “Panchayat” means an institution (by whatever name called) of self- government constituted under article 243B, for the rural areas;
- (e) “Panchayat area” means the territorial area of a Panchayat;
- (f) “Population” means the population as ascertained at the last preceding census of which the relevant figures have been published;
- (g) “village” means a village specified by the Governor by public notification to be a village for the purposes of this Part and includes a group of villages so specified.

Part XI Relations between The Union and The States

Chapter I. Legislative relations

Distribution of Legislative Powers

Article 245. Extent of laws made by Parliament and by the Legislatures of States

- (1) Subject to the provisions of this Constitution, Parliament may make laws for the whole or any part of the territory of India, and the Legislature of a State may make laws for the whole or any part of the State.
- (2) No law made by Parliament shall be deemed to be invalid on the ground that it would have extra-territorial operation.

Article 246. Subject-matter of laws made by Parliament and by the Legislatures of States

- (1) Notwithstanding anything in clauses (2) and (3), Parliament has exclusive power to make laws with respect to any of the matters enumerated in List I in the Seventh Schedule (in this Constitution referred to as the “Union List”).
- (2) Notwithstanding anything in clause (3), Parliament, and, subject to clause (1), the Legislature of any State also, have power to make laws with respect to any of the matters enumerated in List III in the Seventh Schedule (in this Constitution referred to as the “Concurrent List”).
- (3) Subject to clauses (1) and (2), the Legislature of any State has exclusive power to make laws for such State or any part thereof with respect to any of the matters enumerated in List II in the Seventh Schedule (in this Constitution referred to as the “State List”).
- (4) Parliament has power to make laws with respect to any matter for any part of the territory of India not included in a State notwithstanding that such matter is a matter enumerated in the State List.

SEVENTH SCHEDULE

(Article 246)

List I—Union List

1. Defence of India and every part thereof including preparation for defence and all such acts as may be conducive in times of war to its prosecution and after its termination to effective demobilisation.
2. Naval, military and air forces; any other armed forces of the Union.
- 2A. Deployment of any armed force of the Union or any other force subject to the control of the Union or any contingent or unit thereof in any State in aid of the civil power; powers, jurisdiction, privileges and liabilities of the members of such forces while on such deployment.
3. Delimitation of cantonment areas, local self-government in such areas, the constitution and powers within such areas of cantonment authorities and the regulation of house accommodation (including the control of rents) in such areas.
4. Naval, military and air force works.
5. Arms, firearms, ammunition and explosives.
6. Atomic energy and mineral resources necessary for its production.
7. Industries declared by Parliament by law to be necessary for the purpose of defence or for the prosecution of war.
8. Central Bureau of Intelligence and Investigation.
9. Preventive detention for reasons connected with Defence, Foreign Affairs, or the security of India; persons subjected to such detention.
10. Foreign affairs; all matters which bring the Union into relation with any foreign country.
11. Diplomatic, consular and trade representation.
12. United Nations Organisation.
13. Participation in international conferences, associations and other bodies and implementing of

decisions made thereat.

14. Entering into treaties and agreements with foreign countries and implementing of treaties, agreements and conventions with foreign countries.
15. War and peace.
16. Foreign jurisdiction.
17. Citizenship, naturalisation and aliens.
18. Extradition.
19. Admission into, and emigration and expulsion from, India; passports and visas.
20. Pilgrimages to places outside India.
21. Piracies and crimes committed on the high seas or in the air; offences against the law of nations committed on land or the high seas or in the air.
22. Railways.
23. Highways declared by or under law made by Parliament to be national highways.
24. Shipping and navigation on inland waterways, declared by Parliament by law to be national waterways, as regards mechanically propelled vessels; the rule of the road on such waterways.
25. Maritime shipping and navigation, including shipping and navigation on tidal waters; provision of education and training for the mercantile marine and regulation of such education and training provided by States and other agencies.
26. Lighthouses, including lightships, beacons and other provision for the safety of shipping and aircraft.
27. Ports declared by or under law made by Parliament or existing law to be major ports, including their delimitation, and the constitution and powers of port authorities therein.
28. Port quarantine, including hospitals connected therewith; seamen's and marine hospitals.
29. Airways; aircraft and air navigation; provision of aerodromes; regulation and organisation of air traffic and of aerodromes; provision for aeronautical education and training and regulation of such education and training provided by States and other agencies.
30. Carriage of passengers and goods by railway, sea or air, or by national waterways in mechanically propelled vessels.
31. Posts and telegraphs; telephones, wireless, broadcasting and other like forms of communication.
32. Property of the Union and the revenue therefrom, but as regards property situated in a State subject to legislation by the State, save in so far as Parliament by law otherwise provides.
33. * * * * *
34. Courts of wards for the estates of Rulers of Indian States.
35. Public debt of the Union.
36. Currency, coinage and legal tender; foreign exchange.
37. Foreign loans.
38. Reserve Bank of India.
39. Post Office Savings Bank.
40. Lotteries organised by the Government of India or the Government of a State.
41. Trade and commerce with foreign countries; import and export across customs frontiers; definition of customs frontiers.
42. Inter-State trade and commerce.
43. Incorporation, regulation and winding up of trading corporations, including banking, insurance and financial corporations, but not including co-operative societies.
44. Incorporation, regulation and winding up of corporations, whether trading or not, with objects not confined to one State, but not including universities.
45. Banking.

46. Bills of exchange, cheques, promissory notes and other like instruments.
47. Insurance.
48. Stock exchanges and futures markets.
49. Patents, inventions and designs; copyright; trade-marks and merchandise marks.
50. Establishment of standards of weight and measure.
51. Establishment of standards of quality for goods to be exported out of India or transported from one State to another.
52. Industries, the control of which by the Union is declared by Parliament by law to be expedient in the public interest.
53. Regulation and development of oilfields and mineral oil resources; petroleum and petroleum products; other liquids and substances declared by Parliament by law to be dangerously inflammable.
54. Regulation of mines and mineral development to the extent to which such regulation and development under the control of the Union is declared by Parliament by law to be expedient in the public interest.
55. Regulation of labour and safety in mines and oilfields.
56. Regulation and development of inter-State rivers and river valleys to the extent to which such regulation and development under the control of the Union is declared by Parliament by law to be expedient in the public interest.
57. Fishing and fisheries beyond territorial waters.
58. Manufacture, supply and distribution of salt by Union agencies; regulation and control of manufacture, supply and distribution of salt by other agencies.
59. Cultivation, manufacture, and sale for export, of opium.
60. Sanctioning of cinematograph films for exhibition.
61. Industrial disputes concerning Union employees.
62. The institutions known at the commencement of this Constitution as the National Library, the Indian Museum, the Imperial War Museum, the Victoria Memorial and the Indian War Memorial, and any other like institution financed by the Government of India wholly or in part and declared by Parliament by law to be an institution of national importance.
63. The institutions known at the commencement of this Constitution as the Benares Hindu University, the Aligarh Muslim University and the Delhi University; the University established in pursuance of article 371E; any other institution declared by Parliament by law to be an institution of national importance.
64. Institutions for scientific or technical education financed by the Government of India wholly or in part and declared by Parliament by law to be institutions of national importance.
65. Union agencies and institutions for
 - (a) professional, vocational or technical training, including the training of police officers; or
 - (b) the promotion of special studies or research; or
 - (c) scientific or technical assistance in the investigation or detection of crime.
66. Co-ordination and determination of standards in institutions for higher education or research and scientific and technical institutions.
67. Ancient and historical monuments and records, and archaeological sites and remains, declared by or under law made by Parliament to be of national importance.
68. The Survey of India, the Geological, Botanical, Zoological and Anthropological Surveys of India; Meteorological organisations.
69. Census.
70. Union Public Service; All-India Services; Union Public Service Commission.
71. Union pensions, that is to say, pensions payable by the Government of India or out of the Consolidated Fund of India.

72. Elections to Parliament, to the Legislatures of States and to the offices of President and Vice-President; the Election Commission.
73. Salaries and allowances of members of Parliament, the Chairman and Deputy Chairman of the Council of States and the Speaker and Deputy Speaker of the House of the People.
74. Powers, privileges and immunities of each House of Parliament and of the members and the Committees of each House; enforcement of attendance of persons for giving evidence or producing documents before committees of Parliament or commissions appointed by Parliament.
75. Emoluments, allowances, privileges, and rights in respect of leave of absence, of the President and Governors; salaries and allowances of the Ministers for the Union; the salaries, allowances, and rights in respect of leave of absence and other conditions of service of the Comptroller and Auditor-General.
76. Audit of the accounts of the Union and of the States.
77. Constitution, organisation, jurisdiction and powers of the Supreme Court (including contempt of such Court), and the fees taken therein; persons entitled to practise before the Supreme Court.
78. Constitution and organisation (including vacations) of the High Courts except provisions as to officers and servants of High Courts; persons entitled to practise before the High Courts.
79. Extension of the jurisdiction of a High Court to, and exclusion of the jurisdiction of a High Court from, any Union territory.
80. Extension of the powers and jurisdiction of members of a police force belonging to any State to any area outside that State, but not so as to enable the police of one State to exercise powers and jurisdiction in any area outside that State without the consent of the Government of the State in which such area is situated; extension of the powers and jurisdiction of members of a police force belonging to any State to railway areas outside that State.
81. Inter-State migration; inter-State quarantine.
82. Taxes on income other than agricultural income.
83. Duties of customs including export duties.
84. Duties of excise on tobacco and other goods manufactured or produced in India except—
 - (a) alcoholic liquors for human consumption;
 - (b) opium, Indian hemp and other narcotic drugs and narcotics, but including medicinal and toilet preparations containing alcohol or any substance included in sub-paragraph (b) of this entry.
85. Corporation tax.
86. Taxes on the capital value of the assets, exclusive of agricultural land, of individuals and companies; taxes on the capital of companies.
87. Estate duty in respect of property other than agricultural land.
88. Duties in respect of succession to property other than agricultural land.
89. Terminal taxes on goods or passengers, carried by railway, sea or air; taxes on railway fares and freights.
90. Taxes other than stamp duties on transactions in stock exchanges and futures markets.
91. Rates of stamp duty in respect of bills of exchange, cheques, promissory notes, bills of lading, letters of credit, policies of insurance, transfer of shares, debentures, proxies and receipts.
92. Taxes on the sale or purchase of newspapers and on advertisements published therein.
- 92A. Taxes on the sale or purchase of goods other than newspapers, where such sale or purchase takes place in the course of inter-State trade or commerce.
- 92B. Taxes on the consignments of goods (whether the consignment is to the person making it or to any other person), where such consignment takes place in the course of inter-State trade or commerce.
93. Offences against laws with respect to any of the matters in this List.
94. Inquires, surveys and statistics for the purpose of any of the matters in this List.
95. Jurisdiction and powers of all courts, except the Supreme Court, with respect to any of the matters in

this List; admiralty jurisdiction.

96. Fees in respect of any of the matters in this List, but not including fees taken in any court.
97. Any other matter not enumerated in List II or List III including any tax not mentioned in either of those Lists.

List II—State List

1. Public order (but not including the use of any naval, military or air force or any other armed force of the Union or of any other force subject to the control of the Union or of any contingent or unit thereof in aid of the civil power).
2. Police (including railway and village police) subject to the provisions of entry 2A of List I.
3. Officers and servants of the High Court; procedure in rent and revenue courts; fees taken in all courts except the Supreme Court.
4. Prisons, reformatories, Borstal institutions and other institutions of a like nature, and persons detained therein; arrangements with other States for the use of prisons and other institutions.
5. Local government, that is to say, the constitution and powers of municipal corporations, improvement trusts, districts boards, mining settlement authorities and other local authorities for the purpose of local self-government or village administration.
6. Public health and sanitation; hospitals and dispensaries.
7. Pilgrimages, other than pilgrimages to places outside India.
8. Intoxicating liquors, that is to say, the production, manufacture, possession, transport, purchase and sale of intoxicating liquors.
9. Relief of the disabled and unemployable.
10. Burials and burial grounds; cremations and cremation grounds.
11. * * * * *
12. Libraries, museums and other similar institutions controlled or financed by the State; ancient and historical monuments and records other than those declared by or under law made by Parliament to be of national importance.
13. Communications, that is to say, roads, bridges, ferries, and other means of communication not specified in List I; municipal tramways; ropeways; inland waterways and traffic thereon subject to the provisions of List I and List III with regard to such waterways; vehicles other than mechanically propelled vehicles.
14. Agriculture, including agricultural education and research, protection against pests and prevention of plant diseases.
15. Preservation, protection and improvement of stock and prevention of animal diseases; veterinary training and practice.
16. Pounds and the prevention of cattle trespass.
17. Water, that is to say, water supplies, irrigation and canals, drainage and embankments, water storage and water power subject to the provisions of entry 56 of List I.
18. Land, that is to say, rights in or over land, land tenures including the relation of landlord and tenant, and the collection of rents; transfer and alienation of agricultural land; land improvement and agricultural loans; colonization.
19. * * * * *
20. * * * * *
21. Fisheries.
22. Courts of wards subject to the provisions of entry 34 of List I; encumbered and attached estates.
23. Regulation of mines and mineral development subject to the provisions of List I with respect to regulation and development under the control of the Union.
24. Industries subject to the provisions of entries 7 and 52 of List I.

25. Gas and gas-works.
26. Trade and commerce within the State subject to the provisions of entry 33 of List III.
27. Production, supply and distribution of goods subject to the provisions of entry 33 of List III.
28. Markets and fairs.
29. * * * * *
30. Money-lending and money-lenders; relief of agricultural indebtedness.
31. Inns and inn-keepers.
32. Incorporation, regulation and winding up of corporations, other than those specified in List I, and universities; unincorporated trading, literary, scientific, religious and other societies and associations; co-operative societies.
33. Theatres and dramatic performances; cinemas subject to the provisions of entry 60 of List I; sports, entertainments and amusements.
34. Betting and gambling.
35. Works, lands and buildings vested in or in the possession of the State.
36. * * * * *
37. Elections to the Legislature of the State subject to the provisions of any law made by Parliament.
38. Salaries and allowances of members of the Legislature of the State, of the Speaker and Deputy Speaker of the Legislative Assembly and, if there is a Legislative Council, of the Chairman and Deputy Chairman thereof.
39. Powers, privileges and immunities of the Legislative Assembly and of the members and the committees thereof, and, if there is a Legislative Council, of that Council and of the members and the committees thereof; enforcement of attendance of persons for giving evidence or producing documents before committees of the Legislature of the State.
40. Salaries and allowances of Ministers for the State.
41. State public services; State Public Service Commission.
42. State pensions, that is to say, pensions payable by the State or out of the Consolidated Fund of the State.
43. Public debt of the State.
44. Treasure trove.
45. Land revenue, including the assessment and collection of revenue, the maintenance of land records, survey for revenue purposes and records of rights, and alienation of revenues.
46. Taxes on agricultural income.
47. Duties in respect of succession to agricultural land.
48. Estate duty in respect of agricultural land.
49. Taxes on lands and buildings.
50. Taxes on mineral rights subject to any limitations imposed by Parliament by law relating to mineral development.
51. Duties of excise on the following goods manufactured or produced in the State and countervailing duties at the same or lower rates on similar goods manufactured or produced elsewhere in India:—
 - (a) alcoholic liquors for human consumption;
 - (b) opium, Indian hemp and other narcotic drugs and narcotics, but not including medicinal and toilet preparations containing alcohol or any substance included in sub-paragraph (b) of this entry.
52. Taxes on the entry of goods into a local area for consumption, use or sale therein.
53. Taxes on the consumption or sale of electricity.
54. Taxes on the sale or purchase of goods other than newspapers, subject to the provisions of entry 92A of List I.

55. Taxes on advertisements other than advertisements published in the newspapers and advertisements broadcast by radio or television.
56. Taxes on goods and passengers carried by road or on inland waterways.
57. Taxes on vehicles, whether mechanically propelled or not, suitable for use on roads, including tramcars subject to the provisions of entry 35 of List III.
58. Taxes on animals and boats.
59. Tolls.
60. Taxes on professions, trades, callings and employments.
61. Capitation taxes.
62. Taxes on luxuries, including taxes on entertainments, amusements, betting and gambling.
63. Rates of stamp duty in respect of documents other than those specified in the provisions of List I with regard to rates of stamp duty.
64. Offences against laws with respect to any of the matters in this List.
65. Jurisdiction and powers of all courts, except the Supreme Court, with respect to any of the matters in this List.
66. Fees in respect of any of the matters in this List, but not including fees taken in any court.

List III—Concurrent List

1. Criminal law, including all matters included in the Indian Penal Code at the commencement of this Constitution but excluding offences against laws with respect to any of the matters specified in List I or List II and excluding the use of naval, military or air forces or any other armed forces of the Union in aid of the civil power.
2. Criminal procedure, including all matters included in the Code of Criminal Procedure at the commencement of this Constitution.
3. Preventive detention for reasons connected with the security of a State, the maintenance of public order, or the maintenance of supplies and services essential to the community; persons subjected to such detention.
4. Removal from one State to another State of prisoners, accused persons and persons subjected to preventive detention for reasons specified in entry 3 of this List.
5. Marriage and divorce; infants and minors; adoption; wills, intestacy and succession; joint family and partition; all matters in respect of which parties in judicial proceedings were immediately before the commencement of this Constitution subject to their personal law.
6. Transfer of property other than agricultural land; registration of deeds and documents.
7. Contracts, including partnership, agency, contracts of carriage, and other special forms of contracts, but not including contracts relating to agricultural land.
8. Actionable wrongs.
9. Bankruptcy and insolvency.
10. Trust and Trustees.
11. Administrators-general and official trustees.
 - 11A. Administration of Justice; constitution and organisation of all courts, except the Supreme Court and the High Courts.
12. Evidence and oaths; recognition of laws, public acts and records, and judicial proceedings.
13. Civil procedure, including all matters included in the Code of Civil Procedure at the commencement of this Constitution, limitation and arbitration.
14. Contempt of court, but not including contempt of the Supreme Court.
15. Vagrancy; nomadic and migratory tribes.
16. Lunacy and mental deficiency, including places for the reception or treatment of lunatics and mental

- deficients.
17. Prevention of cruelty to animals.
 - 17A. Forests.
 - 17B. Protection of wild animals and birds.
 18. Adulteration of foodstuffs and other goods.
 19. Drugs and poisons, subject to the provisions of entry 59 of List I with respect to opium.
 20. Economic and social planning.
 - 20A. Population control and family planning.
 21. Commercial and industrial monopolies, combines and trusts.
 22. Trade unions; industrial and labour disputes.
 23. Social security and social insurance; employment and unemployment.
 24. Welfare of labour including conditions of work, provident funds, employers' liability, workmen's compensation, invalidity and old age pensions and maternity benefits.
 25. Education, including technical education, medical education and universities, subject to the provisions of entries 63, 64, 65 and 66 of List I; vocational and technical training of labour.
 26. Legal, medical and other professions.
 27. Relief and rehabilitation of persons displaced from their original place of residence by reason of the setting up of the Dominions of India and Pakistan.
 28. Charities and charitable institutions, charitable and religious endowments and religious institutions.
 29. Prevention of the extension from one State to another of infectious or contagious diseases or pests affecting men, animals or plants.
 30. Vital statistics including registration of births and deaths.
 31. Ports other than those declared by or under law made by Parliament or existing law to be major ports.
 32. Shipping and navigation on inland waterways as regards mechanically propelled vessels, and the rule of the road on such waterways, and the carriage of passengers and goods on inland waterways subject to the provisions of List I with respect to national waterways.
 33. Trade and commerce in, and the production, supply and distribution of,—
 - (a) the products of any industry where the control of such industry by the Union is declared by Parliament by law to be expedient in the public interest, and imported goods of the same kind as such products;
 - (b) foodstuffs, including edible oilseeds and oils;
 - (c) cattle fodder, including oilcakes and other concentrates;
 - (d) raw cotton, whether ginned or unginned, and cotton seed; and
 - (e) raw jute.
 - 33A. Weights and measures except establishment of standards.
 34. Price control.
 35. Mechanically propelled vehicles including the principles on which taxes on such vehicles are to be levied.
 36. Factories
 37. Boilers.
 38. Electricity.
 39. Newspapers, books and printing presses.
 40. Archaeological sites and remains other than those declared by or under law made by Parliament to be of national importance.
 41. Custody, management and disposal of property (including agricultural land) declared by law to be evacuee property.

42. Acquisition and requisitioning of property.
43. Recovery in a State of claims in respect of taxes and other public demands, including arrears of land-revenue and sums recoverable as such arrears, arising outside that State.
44. Stamp duties other than duties or fees collected by means of judicial stamps, but not including rates of stamp duty.
45. Inquiries and statistics for the purposes of any of the matters specified in List II or List III.
46. Jurisdiction and powers of all courts, except the Supreme Court, with respect to any of the matters in this List.
47. Fees in respect of any of the matters in this List, but not including fees taken in any court.

Indian Forest Act, 1927 (86 sections)

(Sections related to reserved forest, protected forest and village forest)

Chapter II Of Reserved Forests

Section 3. Power to reserve forests

The State Government may constitute any forest-land or waste-land which is the property of Government, or over which the Government has proprietary rights, or to the whole or any part of the forest-produce of which the Government is entitled, a reserved forest in the manner hereinafter provided.

Section 4. Notification by State Government

(1) Whenever it has been decided to constitute any land a reserved forest, the State Government shall issue a notification in the Official Gazette—

- (a) declaring that it has been decided to constitute such land a reserved forest;
- (b) specifying, as nearly as possible, the situation and limits of such land; and
- (c) appointing an officer (hereinafter called “the Forest Settlement-officer”) to inquire into and determine the existence, nature and extent of any rights alleged to exist in favour of any person in or over any land comprised within such limits or in or over any forest-produce, and to deal with the same as provided in this Chapter.

Explanation.—For the purpose of clause (b), it shall be sufficient to describe the limits of the forest by roads, rivers, ridges or other well-known or readily intelligible boundaries.

(2) The officer appointed under clause (c) of sub-section (1) shall ordinarily be a person not holding any forest-office except that of Forest Settlement-officer.

(3) Nothing in this section shall prevent the State Government from appointing any number of officers not exceeding three, not more than one of whom shall be a person holding any forest-office except as aforesaid, to perform the duties of a Forest Settlement-officer under this Act.

Section 5. Bar of accrual of forest-rights

After the issue of a notification under section 4, no right shall be acquired in or over the land comprised in such notification, except by succession or under a grant or contract in writing made or entered into by or on behalf of the Government or some person in whom such right was vested when the notification was issued; and no fresh clearings for cultivation or for any other purpose shall be made in such land except in accordance with such rules as may be made by the State Government in this behalf.

Section 6. Proclamation by Forest Settlement-officer

When a notification has been issued under section 4, the Forest Settlement-officer shall publish in the local vernacular in every town and village in the neighbourhood of the land comprised therein, a proclamation

- (a) specifying, as nearly as possible, the situation and limits of the proposed forest;
- (b) explaining the consequences which, as hereinafter provided, will ensue on the reservation of such forest; and
- (c) fixing a period of not less than three months from the date of such proclamation, and requiring every person claiming any right mentioned in section 4 or section, 5 within such period either to present to the Forest Settlement-officer a written notice specifying or to appear before him and state, the nature of such right and the amount and particulars of the compensation (if any) claimed in respect thereof.

Section 7. Inquiry by Forest Settlement-officer

The Forest Settlement-officer shall take down in writing all statements made under section 6, and shall at some convenient place inquire into all claims duly preferred under that section, and the existence of any rights mentioned in section 4 or section 5 and not claimed under section 6 so far as the same may be ascertainable from the records of Government and the evidence of any persons likely to be acquainted with the same.

Section 8. Powers of Forest Settlement-officers

For the purpose of such inquiry, the Forest Settlement-officer may exercise the following powers, that is to say:

- (a) power to enter, by himself or any officer authorised by him for the purpose, upon any land, and to survey, demarcate and make a map of the same; and
- (b) the powers of a Civil Court in the trial of suits.

Section 9. Extinction of rights

Rights in respect of which no claim has been preferred under section 6, and of the existence of which no knowledge has been acquired by inquiry under section 7, shall be extinguished, unless before the notification under section 20 is published, the person claiming them satisfies the Forest Settlement-officer that he had sufficient cause for not prefer-ring such claim within the period fixed under section 6.

Section 10. Treatment of claims relating to practice of shifting cultivation

- (1) In the case of a claim relating to the practice of shifting cultivation, the Forest Settlement-officer shall record a statement setting forth the particulars of the claim and of any local rule or order under which the practice is allowed or regulated, and submit the statement to the State Government, together with his opinion as to whether the practice should be permitted or prohibited wholly or in part.
- (2) On receipt of the statement and opinion, the State Government may make an order permitting or prohibiting the practice wholly or in part.
- (3) If such practice is permitted wholly or in part, the Forest Settlement-officer may arrange for its exercise
 - (a) by altering the limits of the land under settlement so as to exclude land of sufficient extent, of a suitable kind, and in a locality reasonably convenient for the purposes of the claimants, or
 - (b) by causing certain portions of the land under settlement to be separately demarcated, and giving permission to the claimants to practise shifting cultivation therein under such conditions as he may prescribe.
- (4) All arrangements made under sub-section (3) shall be subject to the previous sanction of the State Government.
- (5) The practice of shifting cultivation shall in all cases be deemed a privilege subject to control, restriction and abolition by the State Government.

Section 11. Power to acquire land over which right is claimed

- (1) In the case of a claim to a right in or over any land, other than a right of way or right of pasture, or a

right to forest produce or a water-course, the Forest Settlement-officer shall pass an order admitting or rejecting the same in whole or in part.

- (2) If such claim is admitted in whole or in part, the Forest Settlement-officer shall either
 - (i) exclude such land- from the limits of the proposed forest; or
 - (ii) come to an agreement with the owner thereof for the surrender of his rights; or
 - (iii) proceed to acquire such land in the manner provided by the Land Acquisition Act, 1894 (1 of 1894).
- (3) For the purpose of so acquiring such land
 - (a) the Forest Settlement-officer shall be deemed to be a Collector proceeding under the Land Acquisition Act, 1894 (1 of 1894);
 - (b) the claimant shall be deemed to be a person interested and appearing before him in pursuance of a notice given under section 9 of that Act;
 - (c) the provisions of the preceding sections of that Act shall be deemed to have been complied with; and
 - (d) the Collector, with the consent of the claimant, or the Court, with the consent of both parties, may award compensation in land, or partly in land and partly in money.

Section 12. Order on claims to rights of pasture or to forest-produce

In the case of a claim to rights of pasture or to forest-produce, the Forest Settlement-officer shall pass an order admitting or rejecting the same in whole or in part.

Section 13. Record to be made by Forest Settlement-officer

The Forest Settlement officer, when passing any order under section 12, shall record, so far as may be practicable,

- (a) the name, father's name, caste, residence and occupation of the person claiming the right; and
- (b) the designation, position and area of all fields or groups fields (if any), and the designation and position of all buildings (if any) in respect of which the exercise of such rights is claimed.

Section 14. Record where he admits claim

If the Forest Settlement-officer admits in whole or in part any claim under section 12, he shall also record the extent to which the claim is so admitted, specifying the number and description of the cattle which the claimant is from time to time entitled to graze in the forest, the season during which such pasture is permitted, the quantity of timber and other forest produce which he is from time to time authorised to take or receive, and such other particulars as the case may require. He shall also record whether the timber or other forest-produce obtained by the exercise of the rights claimed may be sold or bartered.

Section 15. Exercise of rights admitted

- (1) After making such record the Forest Settlement officer shall, to the best of his ability, having due regard to the maintenance of the reserved forest in respect of which the claim is made, pass such orders as will ensure the continued exercise of the rights so admitted.
- (2) For this purpose the Forest Settlement-officer may
 - (a) set out some other forest-tract of sufficient extent, and in a locality reasonably convenient, for the purposes of such claimants, and record an order conferring upon them a right of pasture or to forest-produce (as the case may be) to the extent so admitted; or
 - (b) so alter the limits of the proposed forest as to exclude forest-land of sufficient extent, and in a locality reasonably convenient, for the purposes of the claimants; or
 - (c) record an order, continuing to such claimants a right of pasture or to forest-overpage produce, as the case may be, to the extent so admitted, at such seasons, within such portions of the proposed forest, and under such rules, as may be made in this behalf by the State Government.

Section 16. Commutation of rights

In case the Forest Settlement-officer finds it impossible having due regard to the maintenance of the reserved forest, to make such settlement under section 15 as shall ensure the continued exercise of the said rights to the extent so admitted, he shall, subject to such rules as the State Government may make in this behalf, commute such rights, by the payment to such persons of a sum of money in lieu thereof, or by the grant of land, or in such other manner as he thinks fit.

Section 17. Appeal from order passed under section 11, section 12, section 15 or section 16

Any person who has made a claim under this Act, or any Forest-officer or other person generally or specially empowered by the State Government in this behalf, may, within three months from the date of the order passed on such claim by the Forest Settlement-officer under section 11, section 12, section 15 or section 16, present an appeal from such order to such officer of the Revenue Department of rank not lower than that of a Collector, as the State Government may, by notification in the Official Gazette, appoint to hear appeals from such orders:

Provided that the State Government may establish a Court (hereinafter called the Forest Court) composed of three persons to be appointed by the State Government, and when the Forest Court has been so established, all such appeals shall be presented to it.

Section 18. Appeal under section 17

(1) Every appeal under section 17 shall be made by petition in writing, and may be delivered to the Forest Settlement-officer, who shall forward it without delay to the authority competent to hear the same.

(2) If the appeal be to an officer appointed under section 17, it shall be heard in the manner prescribed for the time being for the hearing of appeals in matters relating to land-revenue.

(3) If the appeal be to the Forest Court, the Court shall fix a day and a convenient place in the neighbourhood of the proposed forest for hearing the appeal, and shall give notice thereof to the parties, and shall hear such appeal accordingly.

(4) The order passed on the appeal by such officer or Court, or by the majority of the members of such Court, as the case may be, shall, subject only to revision by the State Government, be final.

Section 19. Pleaders

The State Government, or any person who has made a claim under this Act, may appoint any person to appear, plead and act on its or his behalf before the Forest Settlement-officer, or the appellate officer or Court, in the course of any inquiry or appeal under this Act.

Section 20. Notification declaring forest reserved

(1) When the following events have occurred, namely:

(a) the period fixed under section 6 for preferring claims have elapsed and all claims (if any) made under that section or section 9 have been disposed of by the Forest Settlement-officer;

(b) if any such claims have been made, the period limited by section 17 for appealing from the orders passed on such claims has elapsed, and all appeals (if any) presented within such period have been disposed of by the appellate officer or Court; and

(c) all lands (if any) to be included in the proposed forest, which the Forest Settlement-officer has, under section 11, elected to acquire under the Land Acquisition Act, 1894 (1 of 1894), have become vested in the Government under section 16 of that Act, the State Government shall publish a notification in the Official Gazette, specifying definitely, according to boundary-marks erected or otherwise, the limits of the forest which is to be reserved, and declaring the same to be reserved from a date fixed by the notification.

(2) From the date so fixed such forest shall be deemed to be a reserved forest.

Section 21. Publication of translation of such notification in neighbourhood of forest

The Forest-officer shall, before the date fixed by such notification, cause a translation thereof into the local vernacular to be published in every town and village in the neighbourhood of the forest.

Section 22. Power to revise arrangement made under section 15 or section 18

The State Government may, within five years from the publication of any notification under section 20, revise any arrangement made under section 15 or section 18, and may for this purpose rescind or modify any order made under section 15 or section 18, and direct that any one of the proceedings specified in section 15 be taken in lieu of any other of such proceedings, or that the rights admitted under section 12 be commuted under section 16.

Section 23. No right acquired over reserved forest, except as here provided

No right of any description shall be acquired in or over a reserved forest except by succession or under a grant or contract in writing made by or on behalf of the Government or some person in whom such right was vested when the notification under section 20 was issued.

Section 24. Rights not to be alienated without sanction

(1) Notwithstanding anything contained in section 23, no right continued under clause (c) of sub-section (2) of section 15 shall be alienated by way of grant, sale, lease mortgage or otherwise, without the sanction of the State Government:

Provided that, when any such right is appendant to any land or house, it may be sold or otherwise alienated with such land or house.

(2) No timber or other forest-produce obtained in exercise of any such right shall be sold or bartered except to such extent as may have been admitted in the order recorded under section 14.

Section 25. Power to stop ways and water-courses in reserved forests

The Forest-officer may, with the previous sanction of the State Government or of any officer duly authorised by it in this behalf, stop any public or private way or water-course in a reserved forest, provided that a substitute for the way or water-course so stopped, which the State Government deems to be reasonably convenient, already exists, or has been provided or constructed by the Forest-officer in lieu thereof.

Section 26. Acts prohibited in such forests

(1) Any person who

(a) makes any fresh clearing prohibited by section 5, or

(b) sets fire to a reserved forest, or, in contravention of any rules made by the State Government in this behalf, kindles any fire, or leaves any fire burning, in such manner as to endanger such a forest; or who, in a reserved forest

(c) kindles, keeps or carries any fire except at such seasons as the Forest-officer may notify in this behalf,

(d) trespasses or pastures cattle, or permits cattle to trespass;

(e) causes any damage by negligence in felling any tree or cutting or dragging any timber;

(f) fells, girdles, lops, or bums any tree or strips off the bark or leaves from, or otherwise damages, the same;

(g) quarries stone, bums lime or charcoal, or collects, subjects to any manufacturing process, or removes, any forest-produce;

(h) clears or breaks up any land for cultivation or any other purpose;

(i) in contravention of any rules made in this behalf by the State Government hunts, shoots, fishes, poisons water or sets traps or snares; or

(j) in any area in which the Elephants' Preservation Act, 1879 (6 of 1879), is not in force, kills or catches elephants in contravention of any rules so made, shall be punishable with imprisonment for a term which may extend to six months, or with fine which may extend to five hundred rupees, or with both, in addition to such compensation for damage done to the forest as the convicting Court may direct to be paid.

(2) Nothing in this section shall be deemed to prohibit

(a) any act done by permission in writing of the Forest-officer, or under any rule made by the state Government; or

(b) the exercise of any right continued under clause (c) of sub-section (2) of section 15, or created by grant or contract in writing made by or on behalf of the Government under section 23.

(3) Whenever fire is caused wilfully or by gross negligence in a reserved forest, the State Government may (notwithstanding that any penalty has been inflicted under this section) direct that in such forest or any portion thereof the exercise of all rights of pasture or to forest produce shall be suspended for such period as it thinks fit.

Section 27. Power to declare forest no longer reserved

(1) The State Government may, by notification in the Official Gazette, direct that, from a date fixed by such notification, any forest or any portion thereof reserved under the Act shall cease to be a reserved forest.

(2) From the date so fixed, such forest or portion shall cease to be reserved; but the rights (if any) which have been extinguished therein shall not revive in consequence of such cessation.

Chapter III Of Village-Forests

Section 28. Formation of village-forests

(1) The State Government may assign to any village-community the rights of Government to or over any land which has been constituted a reserved forest, and may cancel such assignment. All forests so assigned shall be called village-forests.

(2) The State Government may make rules for regulating the management of village forests, prescribing the conditions under which the community to which any such assignment is made may be provided with timber or other forest-produce or pasture, and their duties for the protection and improvement of such forest.

(3) All the provisions of this Act relating to reserved forests shall (so far as they are not inconsistent with the rules so made) apply to village-forests.

Chapter IV Of Protected Forests

Section 29. Protected forests

(1) The State Government may, by notification in the Official Gazette, declare the provisions of this Chapter applicable to any forest-land or waste-land which, is not included in a reserved forest but which is the property of Government, or over which the Government has proprietary rights, or to the whole or any part of the forest produce of which the Government is entitled.

(2) The forest-land and waste-lands comprised in any such notification shall be called a "protected forest".

(3) No such notification shall be made unless the nature and extent of the rights of Government and of private persons in or over the forest-land or waste-land comprised therein have been inquired into and recorded at a survey or settlement, or in such other manner as the State Government thinks sufficient. Every such record shall be presumed to be correct until the contrary is proved:

Provided that, if, in the case of any forest-land or waste land, the State Government thinks that such inquiry and record are necessary, but that they will occupy such length of time as in the meantime to endanger the rights of Government, the State Government may, pending such inquiry and record, declare such land to be a protected forest, but so as not to abridge or affect any existing rights of individuals or communities.

Section 30. Power to issue notification reserving trees, etc.

The State Government may, by notification in the Official Gazette,

- (a) declare any trees or class of trees in a protected forest to be reserved from a date fixed by, the notification;
- (b) declare that any portion of such forest specified in the notification shall be closed for such term, not exceeding thirty years, as the State Government thinks fit, and that the rights of private persons, if any, over such portion shall be suspended during such terms, provided that the remainder of such forest be sufficient, and in a locality reasonably convenient, for the due exercise of the right suspended in the portion so closed; or
- (c) prohibit, from a date fixed as aforesaid, the quarrying of stone, or the burning of lime or charcoal, or the collection or subjection to any manufacturing process, or removal of, any forest-produce in any such forest, and the breaking up or clearing for cultivation, for building, for herding cattle or for any other purpose, of any land in any such forest.

Section 31. Publication of translation of such notification in neighbourhood

The Collector shall cause a translation into the local vernacular of every notification issued under section 30 to be affixed in a conspicuous place in every town and village in the neighbourhood of the forest comprised in the notification.

Section 32. Power to make rules for protected forests

The State Government may make rules to regulate the following matters, namely:

- (a) the cutting, sawing, conversion and removal of trees and timber, and the collection, manufacture and removal of forest-produce, from protected forests;
- (b) the granting of licences to the inhabitants of towns and villages in the vicinity of protected forests to take trees, timber or other forest-produce for their own use, and the production and return of such licences by such persons;
- (c) the granting of licences to persons felling or removing trees or timber or other forest-produce from such forests for the purposes of trade, and the production
- d) the payments, if any, to be made by the persons mentioned in clauses (b) and (c) for permission to cut such trees, or to collect and remove such timber or other forest-produce;
- (e) the other payments, if any, to be made by them in respect of such trees, timber and produce, and the places where such payment shall be made;
- (f) the examination of forest-produce passing out of such forests;
- (g) the clearing and breaking up of land for cultivation or other purposes in such forests;
- (h) the protection from fire of timber lying in such forests and of trees reserved under section 30;
- (i) the cutting of grass and pasturing of cattle in such forests;
- (j) hunting, shooting, fishing, poisoning water and setting traps or snares in such forests and the killing or catching of elephants in such forests in areas in which the Elephants' Preservation Act, 1879 (6 of 1879), is not in force;
- (k) the protection and management of any portion of a forest closed under section 30; and
- (l) the exercise of rights referred to in section 29.

Section 33. Penalties for acts in contravention of notification under section 30 or of rules under section 32

(1) Any person who commits any of the following offences, namely:

- (a) fells, girdles, lops, taps or bums any tree reserved under section 30, or strips off the bark or leaves from, or otherwise damages, any such tree;
- (b) contrary to any prohibition under section 30, quarries any stone, or bums any lime or charcoal or collects, subjects to any manufacturing process, or removes any forest-produce;

(c) contrary to any prohibition under section 30, breaks up or clears for cultivation or any other purpose any land in any protected forest;

(d) sets fire to such forest, or kindles a fire without taking all reasonable precautions to prevent its spreading to any tree reserved under section 30, whether standing fallen or felled, or to any closed portion of such forest;

(e) leaves burning any fire kindled by him in the vicinity of any such tree or closed portion;

(f) fells any tree or drags any timber so as to damage any tree reserved as aforesaid;

(g) permits cattle to damage any such tree;

(h) infringes any rule made under section 32,

shall be punishable with imprisonment for a term which may extend to six months, or with fine which may extend to five hundred rupees, or with both.

(2) Whenever fire is caused wilfully or by gross negligence in a protected forest, the State Government may, notwithstanding that any penalty has been inflicted under this section, direct that in such forest or any portion thereof the exercise of any right of pasture or to forest-produce shall be suspended for such period as it thinks fit.

Section 34. Nothing in this Chapter to prohibit acts done in certain cases

Nothing in this Chapter shall be deemed to prohibit any act done with the permission in writing of the Forest-officer, or in accordance with rules made under section 32, or, except as regards any portion of a forest closed under section 30, or as regards any rights the exercise of which has been suspended under section 33, in the exercise of any right recorded under section 29.

Wild Life (Protection) Act, 1972 (66 sections)

As amended by Act 23 of 1982, 28 of 1986, 44 of 1991, 26 of 1993, and 16 of 2003)

(Sections related to national park establishment)

Section 2. Definitions

In this Act, unless the context otherwise requires,

⁵[(1) "Animal" includes mammals, birds, reptiles, amphibians, fish, chordates and invertebrates and also includes their young and eggs;]

(2) "Animal article" means an article made from any captive animal or wild animal other than vermin, and includes an article or object in which the whole or any part of such ⁶[animal has been used, and ivory imported into India and an article made therefrom];

⁽³⁾ ⁷[xxxx]

⁸[(4) "Board" means a State Board for Wild Life constituted under sub-section (1) of Section 6;]

(5) "Captive animal" means any animal, specified in Schedule I, Schedule II, Schedule III or Schedule IV, which is captured or kept or bred in captivity;

⁽⁶⁾ ⁷[xxxx]

(7) "Chief Wild Life Warden" means the person appointed as such under clause (a) of sub-section (1) of Section 4;

⁹[(7A) "circus" means an establishment, whether stationary or mobile, where animals are kept or used wholly or mainly for the purpose of performing tricks or manoeuvres;]

⁽⁸⁾ ¹⁰[xxxx]

¹¹[(9) "Collector" means the chief officer-in-charge of the revenue administration of a district or any other officer not below the rank of a Deputy Collector as may be appointed by the State Government under Section 18B in this behalf;]

- (10) "Commencement of this Act", in relation to—
- (a) a State, means commencement of this Act in that State.
- (b) any provision of this Act, means the commencement of that provision in the concerned State;
- ¹²[(11) "Dealer" in relation to any captive animal, animal article, trophy, uncured trophy, meat or specified plant, means a person, who carries on the business of buying or selling any such animal or article, and includes a person who undertakes business in any single transaction;]
- (12) "Director" means the person appointed as Director of Wild Life Preservation under clause (a) of sub-section (1) of Section 3;
- ¹³[(12A) "Forest Officer" means the Forest Officer appointed under clause (2) of Section 2 of the Indian Forest Act, 1927 or under any other Act for the time being in force in a State;
- 12B "Forest Produce" shall have the same meaning as in sub-clause (b) of clause (4) of Section 2 of the Indian Forest Act, 1927;]
- (13) ¹⁴[xxxx]
- (14) "Government property" means any property referred to in Section 39 ¹⁵[or Section 17H].
- (15) "habitat" includes land, water or vegetation which is the natural home of any wild animal;
- (15) "hunting", with its grammatical variations and cognate expressions, includes,-
- ¹⁶[(a) killing or poisoning of any wild animal or captive animal and every attempt to do so;
- (b) capturing, coursing, snaring, trapping, driving or baiting any wild or captive animal and every attempt to do so;]
- (c) injuring or destroying or taking any part of the body of any such animal or, in the case of wild birds or reptiles, damaging the eggs of such birds or reptiles, or disturbing the eggs or nests of such birds or reptiles;
- (17) "land" includes canals, creeks and other water channels, reservoirs, rivers, streams and lakes, whether artificial or natural, "[marshes and wetlands and also includes boulders and rocks];
- (18) "licence" means a licence granted under this Act;
- ¹⁸[(18A) "Livestock" means farm animals and includes buffaloes, bulls, bullocks, camels, cows, donkeys, goats, sheep, horses, mules, yaks, pigs, ducks, geese, poultry and their young but does not include any animal specified in Schedules I to IV;]
- ¹⁹[(19) "Manufacturer" means a person who manufactures articles from any animal or plant specified in Schedules I to V and VI, as the case may be;
- (20) "Meat" includes blood, bones, sinew, eggs, shell or carapace, fat and flesh with or without skin, whether raw or cooked, of any wild animal or captive animal, other than a vermin;
- (20A) "National Board" means the National Board for Wild Life constituted under Section 5A;]
- (21) "National Park" means an area declared, whether under Section 35 or Section 38, or deemed, under sub-section (3) of Section 66, to be declared, as a National Park;
- (22) "notification" means a notification published in the Official Gazette;
- (23) "permit" means a permit granted under this Act or any rule made thereunder;
- (24) "person" includes a firm;
- ²⁰[(24A) "protected area" means a National Park, a sanctuary, a conservation reserve or a community reserve notified under Sections 18, 35, 36A and 36C of the Act;]
- (25) "prescribed" means prescribed by rules made under this Act;
- ²¹[(25A) "recognized zoo" means a zoo recognized under Section 38H;]
- ²²[(25B) "reserve forest" means the forest declared to be reserved by the State Government under Section 20 of the Indian Forest Act, 1927, or declared as such under any other State Act;
- (26) "sanctuary" means an area declared as a sanctuary by notification under the provisions of Chapter IV of this Act and shall also include a deemed sanctuary under sub-section (4) of Section 66;]
- ²³[(27) "specified plant" means any plant specified in Schedule VI;]
- (28) ²⁴[xxxx]

(29) "State Government in relation to a Union Territory, means the Administrator of that Union Territory appointed by the President under Article 239 of the Constitution;]

²⁵[(30) "taxidermy", with its grammatical variations and cognate expressions, means the curing, preparation or preservation or mounting of trophies;]

²⁶[(30A) "territorial waters" shall have the same meaning as in Section 3 of the Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976 (80 of 1976);]

(31) "trophy" means the whole or any part of any captive animal or wild animal, other than vermin, which has been kept or preserved by any means, whether artificial or natural, and includes—

(a) rugs, skins and specimens and such animal mounted in whole or in part through a process of taxidermy, and

²⁷[(b) antler, bone, carapace, shell, horn, rhinoceros horn, hair, feather, nail, tooth, tusk, musk, eggs, nests and honeycomb;]

(32) "uncured trophy" means the whole or any part of any captive animal or wild animal, other than vermin, which has not undergone a process of taxidermy, and includes a 28[freshly-killed wild animal, ambergris, musk and other animal products];

(33) "vehicle" means any conveyance used for movement on land, water or air and includes buffalo, bull, bullock, camel, donkey, elephant, horse and mule;

(34) "Vermin" means any wild animal specified in Schedule V;

(35) "weapon" includes ammunition, bows and arrows, explosives, firearms, hooks, knives, nets, poison, snares and traps and any instrument or apparatus capable of anaesthetizing, decoying, destroying, injuring or killing an animal;

²⁹[(36) "wild animal" means any animal specified in Schedules I to IV and found wild in nature;

(37) "wild life" includes any animal, aquatic or land vegetation which forms part of any habitat;]

(38) "Wild Life Warden" means the person appointed as such under clause (b) of sub-section (1) of Section 4;

³⁰[(39) "zoo" means an establishment, whether stationary or mobile, where captive animals are kept for exhibition to the public 31[and includes a circus and rescue centres but does not include an establishment] of a licensed dealer in captive animals.]

Notes:

5. Substituted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as: " "animal" includes amphibians, birds, mammals and reptiles and their young and also includes, in the cases of birds and reptiles, their eggs"

6. Substituted by Act 44 of 1991, S.5 (w.e.f. 02/10/1991).

7. Sub-sections (3) and (6) omitted by Act 44 of 1991, S.4 and 5 (w.e.f. 02/10/1991).

8. Substituted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as: " "Board" means the Wild Life Advisory Board constituted under sub-section (1) of Section 6"

9. Inserted by Act 44 of 1991, S.5 (w.e.f. 02/10/1991).

10. Omitted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as: " "Closed area" means the area which is declared under sub-section (1) of section 37 to be closed to hunting"

11. Substituted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as: " "Collector" means the chief officer-in-charge of the revenue administration of a district"

12. Substituted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as: " "dealer" means any person who carries on the business of buying and selling any captive animal, animal article, trophy, uncured trophy 1[meat or specified plant]"

13. Substituted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as: " "Forest Officer" means the Forest Officer appointed under clause (2) of Section 2 of the Indian Forest Act, 1927."

14. Sub-section (13) omitted by Act 44 of 1991, S.5 (w.e.f. 02/10/1991).

15. Inserted by Act 44 of 1991, S.5 (w.e.f. 02/10/1991).

16. Substituted by 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as: " "(a) capturing, killing, poisoning,

snaring and trapping of any wild animal and every attempt to do so, (b) driving any wild animal for any of the purposes specified in sub-clause (a)"

17. Substituted for the words " and also includes boulders and rocks' by Act 44 of 1991, S.5 (w.e.f. 02/10/1991.)
18. Substituted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as: " "live stock" includes buffaloes, bulls, bullocks, camels, cows, donkeys, goats, horses, mules, pigs, sheeps, yaks and also includes their young"
19. Substituted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as: "(19) "manufacturer" means a manufacturer of animal articles; (20) "meat" includes blood, bones, sinew, eggs, fat and flesh, whether raw or cooked, of any wild animal, other than vermin"
20. Inserted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003).
21. Inserted by Act 44 of 1991, S.5 (w.e.f. 02/10/1991).
22. Substituted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as: "(25B) "reserve forest" means the forest declared to be reserved by the State Government under Section 20 of the Indian Forest Act, 1927; (26) "sanctuary" means an area declared, whether under section 2."
23. Substituted by Act 44 of 1991, S.5 (w.e.f. 02/10/1991).
24. Omitted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as: " "special game" means any animal specified in Schedule II."
25. Substituted by 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as: " "taxidermy", with its grammatical variations and cognate expressions, means the curing, preparation or preservation of trophies;"
26. Inserted by Act 44 of 1991, S.5 (w.e.f. 02/10/1991).
27. Substituted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as: "(b) antler, horn, rhinoceros horn, hair, feather, nail, tooth, musk, eggs and nests"
28. Substituted by Act 44 of 1991, S.5, w.e.f. 02/10/1991
29. Substituted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as: "(36) "wild animal" means any animal found wild in nature and includes any animal specified in Schedule I, Schedule II, Schedule III, Schedule IV or Schedule V, wherever found; (37) "wild life" includes any animal, bees, butterflies, Crustacea, fish and moths; and aquatic or land vegetation which form part of any habitat"
30. Inserted by Act 44 of 1991, S.5 (w.e.f. 02/10/1991).

Section 18. Declaration of sanctuary

⁵⁵[(1) The State Government may, by notification, declare its intention to constitute any area other than an area comprised within any reserve forest or the territorial waters as a sanctuary if it considers that such area is of adequate ecological, faunal, floral, geomorphological, natural or zoological significance, for the purpose of protecting, propagating or developing wild life or its environment.]

(2) The notification referred to in sub-section (1) shall specify, as nearly as possible, the situation and limits of such area.

Explanation. — For the purposes of this section it shall be sufficient to describe the area by roads, rivers, ridges or other well-known or readily intelligible boundaries.

Section ⁵⁶[18A. Protection to sanctuaries

(1) When the State Government declares its intention under sub-section (1) of Section 18 to constitute any area, not comprised within any reserve forest or territorial waters under that sub-section, as a sanctuary, the provisions of Sections 27 to 33A (both inclusive) shall come into effect forthwith.

(2) Till such time as the rights of affected persons are finally settled under Sections 19 to 24 (both inclusive), the State Government shall make alternative arrangements required for making available fuel, fodder and other forest produce to the persons affected, in terms of their rights as per the Government records.

Section 18B. Appointment of Collectors

The State Government shall appoint, an officer to act as Collector under the Act, within ninety days of coming into force of the Wild Life (Protection) Amendment Act, 2002, or within thirty days of the issue of notification

under Section 18, to inquire into and determine the existence, nature and extent of rights of any person in or over the land comprised within the limits of the sanctuary which may be notified under sub-section (1) of Section 18.]

Section 19. Collector to determine rights

⁵⁷[When a notification has been issued under Section 18] the Collector shall inquire into, and determine, the existence, nature and extent of the rights of any person in or over the land comprised within the limits of the sanctuary.

Section 20. Bar of accrual of rights

After the issue of a notification under Section 18, no right shall be acquired in, on or over the land comprised within the limits of the area specified in such notification, except by succession, testamentary or intestate.

Section 21. Proclamation by Collector

When a notification has been issued under Section 18, the Collector shall ⁵⁸[within a period of sixty days,] publish in the regional language in every town and village in or in the neighborhood of the area comprised therein, a proclamation—

- (a) specifying, as nearly as possible, the situation and the limits of the sanctuary; and
- (b) requiring any person, claiming any right mentioned in Section 19, to prefer before the Collector, within two months from the date of such proclamation, a written claim in the prescribed form, specifying the nature and extent of such right with necessary details and the amount and particulars of compensation, if any, claimed in respect thereof.

Section 22. Inquiry by Collector

The Collector shall, after service of the prescribed notice upon the claimant, expeditiously inquire into

- (a) the claim preferred before him under clause (b) of Section 21, and
- (b) the existence of any right mentioned in Section 19 and not claimed under clause (b) of Section 21,

So far as the same may be ascertainable from the records of the State Government and the evidence of any person acquainted with the same.

Section 23. Powers of Collector

For the purposes of such inquiry, the Collector may exercise the following powers, namely:

- (a) the power to enter in or upon any land and to survey, demarcate and make a map of the same or to authorise any other officer to do so;
- (b) the same powers as are vested in a Civil Court for the trial of suits.

Section 24. Acquisition of rights

(1) In the case of a claim to a right in or over any land referred to in Section 19, the Collector shall pass an order admitting or rejecting the same in whole or in part.

(2) If such claim is admitted in whole or in part, the Collector may either—

- (a) exclude such land from the limits of the proposed sanctuary, or
- (b) proceed to acquire such land or rights, except where by an agreement between the owner of such land or holder of rights and the Government the owner or holder of such rights has agreed to surrender his rights to the Government, in or over such land, and on payment of such compensation as is provided in the Land Acquisition Act, 1894 (1 of 1894),

⁵⁹[(c) allow' in consultation with the Chief Wild Life Warden, the continuance any right"of any person in or over any land within the limits of the sanctuary.]

Section 25. Acquisition proceedings

- (1) For the purpose of acquiring such land, rights in or over such land,—
- (a) the Collector shall be deemed to be a Collector, proceeding under the Land Acquisition Act, 1894 (1 of 1894),
 - (b) the claimant shall be deemed to be a person interested and appear before him in pursuance of a notice given under Section 9 of that Act;
 - (c) the provisions of the sections, preceding Section 9 of that Act, shall deemed to have been complied with;
 - (d) where the claimant does not accept the award made in his favour in matter of compensation, he shall be deemed, within the meaning of Section 18 of that Act, to be a person interested who has not accepted the award, and shall be entitled to proceed to claim relief against the award under the provisions of Part III of that Act;
 - (e) the Collector, with the consent of the claimant, or the Court, with the consent of both the parties, may award compensation in land or money or partly in land and partly in money; and •
 - (f) in the case of the stoppage of a public way or a common pasture, the Collector may, with the previous sanction of the State Government, provide for an alternative public way or common pasture, as far as may be practicable or convenient.
- (2) The acquisition under this Act of any land or interest therein shall be deemed to be acquisition for a public purpose

⁶⁰[Section 25A. Time-limit for completion of acquisition proceedings

- (1)The Collector shall, as far as possible, complete the proceedings under Sections 19 to 25 (both inclusive), "within a period of two years from the date of notification pf declaration of sanctuary under Section 18.
- (2) The notification shall not lapse if, for any reasons, the proceedings are not completed within a period of two years.]

Section 26. Delegation of Collector's powers

The State Government may, by general or special order, direct that the powers exercisable or the functions to be performed by the Collector under Sections 19 to 25 (both inclusive) may be exercised and performed by such other officer as may be specified in the order.

⁶¹[Section 26A. Declaration of area as sanctuary

- (1) When
- (a) a notification has been issued under Section 18 and the period for preferring claims has elapsed, and all claims, if any, made in relation to any land in an area intended to be declared as a sanctuary, have been disposed of by the State Government; or
 - (b) any area comprised within any reserve forest or any part of the territorial waters, which is considered by the State Government to be of adequate ecological, faunal, floral, geomorphological, natural or zoological significance for the purpose of protecting, propagating or developing wild life or its environment, is to be included in a sanctuary,

the State Government shall issue a notification specifying the limits of the area which shall be comprised within the sanctuary and declare that the said area shall be a sanctuary on and from such date as may be specified in the notification:

Provided that where any part of the territorial waters is to be so included, prior concurrence of the Central Government shall be obtained by the State Government:

Provided further that the limits of the area of the territorial waters to be included in the sanctuary shall be

determined in consultation with the Chief Naval Hydrographer of the Central Government and after taking adequate measures to protect the occupational interests of the local fishermen.

(2) Notwithstanding anything contained in sub-section (1), the right of innocent passage of any vessel or boat through the territorial waters shall not be affected by the notification issued under sub-section (1).]

⁶²[(3) No alteration of the boundaries of a sanctuary shall be made by the State Government except on a recommendation of the National Board.]

Section 27. Restriction on entry in sanctuary

(1) No person other than,

- (a) a public servant on duty,
- (b) a person who has been permitted by the Chief Wild Life Warden or the authorised officer to reside within the limits of the sanctuary,
- (c) a person who has any right over immovable property within the limits of the sanctuary,
- (d) a person passing through the sanctuary along a public highway, and
- (e) the dependants of the person referred to in clause (a), clause (b) or clause (c),

shall enter or reside in the sanctuary, except under and in accordance with the conditions of a permit granted under Section 28.

(2) Every person shall, so long as he resides in the sanctuary, be bound

- (a) to prevent the commission, in the sanctuary, of an offence against this Act;
- (b) where there is reason to believe that any such offence against this Act has been committed in such sanctuary, to help in discovering and arresting the offender;
- (c) to report the death of any wild animal and to safeguard its remains until the Chief Wild Life Warden or the authorised officer takes charge thereof;
- (d) to extinguish any fire in such sanctuary of which he has knowledge or information and to prevent from spreading by any lawful means in his power, any fire within the vicinity of such sanctuary of which he has knowledge or information; and
- (e) to assist any Forest Officer, Chief Wild Life Warden or Police Officer demanding his aid for preventing the commission of any offence against this Act or in the investigation of any such offence.

⁶³[(3) No person shall, with intent to cause damage to any boundary-mark of a sanctuary or to cause wrongful gain as defined in the Indian Penal Code, 1860 (45 of 1860), alter, destroy, move or deface such boundary-mark.

(4) No person shall tease or molest any wild animal or litter the grounds of sanctuary.]

Section 28. Grant of permit

(1) The Chief Wild Life Warden may, on application, grant to any person a permit to enter or reside in a sanctuary for all or any of the following purposes, namely:—

- (a) investigation or study of wild life and purpose ancillary or incidental thereto;
- (b) photography;
- (c) scientific research;
- (d) tourism;
- (e) transaction of lawful business with any person residing in the sanctuary.

(2) A permit to enter or reside in a sanctuary shall be issued subject to such conditions and on payment of such fee as may be prescribed.

⁶⁴Section 29. Destruction, etc., in a sanctuary prohibited without a permit

No person shall destroy, exploit or remove any wild life including forest produce from a sanctuary or destroy or damage or divert the habitat of any wild animal by any act whatsoever or divert, stop or enhance the flow of water into or outside the sanctuary, except under and in accordance with a permit granted by the Chief Wild Life Warden,

and no such permit shall be granted unless the State Government being satisfied in consultation with the Board that such removal of wild life from the sanctuary or the change in the flow of water into or outside the sanctuary is necessary for the improvement and better management of wild life therein, authorises the issue of such permit:

Provided that where the forest produce is removed from a sanctuary the same may be used for meeting the personal bona fide needs of the people living in and around the sanctuary and shall not be used for any commercial purpose.

Explanation.— For the purposes of this section, grazing or movement of livestock permitted under clause (d) of Section 33 shall not be deemed to be an act prohibited under this section.]

Section 30. Causing fire prohibited

No person shall set fire to a sanctuary, or kindle any fire, or leave any fire burning, in a sanctuary, in such manner as to endanger such sanctuary.

Section 31. Prohibition of entry into sanctuary with weapon

No person shall enter a sanctuary with any weapon except with the previous permission in writing of the Chief Wild Life Warden or the authorised officer.

Section 32. Ban on use of injurious substances

No person shall use in a sanctuary chemicals, explosives or any other substances which may cause injury to, or endanger any wild life in such sanctuary.

Section 33. Control of sanctuaries

The Chief Wild Life Warden shall be the authority who shall control, manage and maintain all sanctuaries and for that purpose, within the limits of any sanctuary,

- (a) may construct such roads, bridges, buildings, fences or barrier gates, and carry-out such other works as he may consider necessary for the purposes of such sanctuary:

⁶⁵[Provided that no construction of commercial tourist lodges, hotels, zoos and safari parks shall be undertaken inside a sanctuary except with the prior approval of the National Board.]

- (b) shall take such steps as will ensure the security of wild animals in the sanctuary and the preservation of the sanctuary and wild animals therein;
- (c) may take such measures, in the interests of wild life, as he may consider necessary for the improvement of any habitat;
- (d) may regulate, control or prohibit, in keeping with the interests of wild life, the grazing or movement of ⁶⁶[live-stock].
⁶⁷[x x x x]

⁶⁸[Section 33A. Immunisation of live-stock

(1) The Chief Wild Life Warden shall take such measures in such manner, as may be prescribed, for immunisation against communicable diseases of the live-stock kept in or within five kilometres of a sanctuary.

(2) No person shall take, or cause to be taken or grazed, any live-stock in a sanctuary without getting it immunised.]

⁶⁹[Section 33B. Advisory Committee.

(1) The State Government shall constitute an Advisory Committee consisting of the Chief Wild Life Warden or his nominee not below the rank of Conservator of Forests as its head and shall include a member of the State Legislature within whose constituency the sanctuary is situated, three representatives of Panchi Raj Institutions, two representatives of non-governmental organisations and two individuals active in the field of wild life conservation, one representative each departments dealing with Home and Veterinary

matters, Honorary Wild Life Warden, if any, and the officer-in-charge of the sanctuary as Member-Secretary.

- (2) The Committee shall render advice on measures to be taken for conservation and management of the sanctuary including participation of the people within and around the sanctuary.
- (3) The Committee shall regulate its own procedure including quorum.]

Section 34. Registration of certain persons in possession of arms

(1) Within three months from the declaration of any area as a sanctuary, every person residing in or within ten kilometres of any such sanctuary and holding a licence granted under the Arms Act, 1959 (54 of 1959), for the possession of arms or exempted from the provisions of the Act and possessing arms, shall apply in such form, on payment of such fee and within time as may be prescribed, to the Chief Wild Life Warden or the authorised officer, for the registration of his name.

(2) On receipt of an application under sub-section (1), the Chief Wild Life Warden or the authorised officer shall register the name of the applicant in such manner as be prescribed.

⁷⁰[(3) No new licences under the Arms Act, 1959 (54 of 1959) shall be granted a radius of ten kilometres of a sanctuary without the prior concurrence of the Chief Life Warden.]

⁷¹[Section 34A. Power to remove encroachment

(1) Notwithstanding any law contained in any other law for the time being in force, any officer not below the rank Assistant Conservator of Forests may,

- (a) evict any person from a sanctuary or National Park, who unauthorisedly occupies Government land in contravention of the provisions of this Act;
- (b) remove any unauthorised structures, buildings, or constructions erected on any Government land within any sanctuary or National Park and all the things, tools and effects belonging to such person shall be confiscated, by an order of an officer not below the rank of the Deputy Conservator of Forests:

Provided that no such order shall be passed unless the affected person is given an opportunity of being heard.

(2) The provisions of this section shall apply notwithstanding any other penalty which may be inflicted for violation of any other provision of this Act.]

Section 35. Declaration of National Parks

(1) Whenever it appears to the State Government that an area, whether within a sanctuary or not, is, by reason of its ecological, faunal, floral, geomorphological or zoological association or importance, needed to be constituted as a National Park for the purpose of protecting, propagating or developing wild life therein or its environment, it may, by notification, declare its intention to constitute such area as a National Park:

⁷²[Provided that where any part of the territorial waters is proposed to be included in such National Park, the provisions of Section 26A shall, as far as may be, apply in relation to the declaration of a National Park as they apply in relation to the declaration of a sanctuary.]

(2) The notification referred to in sub-section (1) shall define the limits of the area which is intended to be declared as a National Park,

(3) Where any area is intended to be declared as a National Park, the provisions of Sections ⁷³[19 to 26A (both inclusive except clause (c) of sub-section (2) of Section 24)] shall, as far as may be, apply to the investigation and determination of claims, and extinguishment of rights, in relation to any land in such area as they apply to the said matters in relation to any land in a sanctuary.

(4) When the following events have occurred, namely:

- (a) the period for preferring claims has elapsed, and all claims, if any, made in relation to any land in an area intended to be declared as a National Park, have been disposed of by the State Government, and
- (b) all rights in respect of lands proposed to be included in the National Park have become vested in the State Government,

the State Government shall publish a notification specifying the limits of the area which shall be comprised within the National Park and declare that the said area shall be a National Park on and from such date as may be specified in the notification,

⁷⁴[(5) No alteration of the boundaries of a National Park by the State Government shall be made except on a recommendation of the National Board.

(6) No person shall destroy, exploit or remove any Wild Life including forest from a National Park or destroy or damage or divert the habitat of any wild animal act whatsoever or divert, stop or enhance the flow of water into or outside the National Park, except under and in accordance with a permit granted by the Chief Wild Life Warden and no such permit shall be granted unless the State Government being satisfied consultation with the National Board that such removal of wild life from the National Park or the change in the flow of water into or outside the National Park is necessary for the improvement and better management of wild life therein, authorises the issue of such permit:

Provided that where the forest produce is removed from a National Park, the may be used for meeting the personal *bona fide* needs of the people living in and ; the National Park and shall not be used for any commercial purpose.]

(7) No grazing of any ⁷⁵[live-stock] shall be permitted in a National Park and no ⁷⁵[live-stock] shall be allowed to enter therein except where such ⁷⁵[live-stock] is used as a vehicle by a person authorised to enter such National Park.

(8) The provisions of Sections 27 and 28, Sections 30 to 32 (both inclusive) and clauses (a), (b) and (c) of ⁷⁶[Section 33, Section 33A] and Section 34 shall, as far may be apply in relation to a National Park as they apply in relation to a sanctuary.

⁷⁷[**Explanation** For the purposes of this section, in case of an area, whether within a sanctuary or not, where the rights have been extinguished and the land has become vested in the State Government under any Act or otherwise, such area maybe notified by it, by a notification, as a National Park and the proceedings under Section 19 to 26 (both inclusive) and the provisions of sub-sections (3) and (4) of this section shall not apply.]

Section 38. Power of Central Government to declare areas as sanctuaries or National Parks

(1) Where the State Government leases or otherwise transfers any area under its control, not being an area within a sanctuary, to the Central Government, the Central Government may, if it is satisfied that the conditions specified in Section 18 are fulfilled in relation to the area so transferred to it, declare such area, by notification, to be a sanctuary and the provisions of ⁸¹[Sections 18 to 35] (both inclusive), 54 and 55 shall apply in relation to such sanctuary as they apply in relation to a sanctuary declared by the State Government.

(2) The Central Government may, if it is satisfied that the conditions specified in Section 35 are fulfilled in relation to any area referred to in sub-section (1), whether or not such area has been declared, to be a sanctuary by the Central Government or the State Government, declare such area, by notification, to be a National Park and the provisions of Sections 35, 54 and 55 shall apply in relation to such National Park as they apply in relation to a National Park declared by the State Government.

(3) In relation to a sanctuary or National Park declared by the Central Government, the powers and duties of the Chief Wild Life Warden under the sections referred to in sub-sections (1) and (2), shall be exercised and discharged by the Director or by such other officer as may be authorised by the Director in this behalf and references, in the sections aforesaid, to the State Government shall be construed as references to the Central Government and reference therein to the Legislature of the State shall be construed as a reference to Parliament.

Notes:

55. Substituted by Act 44 of 1991, S.15 (w.e.f. 02/10/1991).

56. Inserted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003).

57. Substituted for the words "whenever any area is declared to be a sanctuary" by Act 44 of 1 991 , S. 1 6 (w.e.f. 02/10/1991)

58. Inserted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003)

59. Inserted by Act 44 of 1991, S. 17 (w.e.f. 02/10/1991)

60. Inserted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003).

61. Inserted by Act 44 of 1991, S.18 (w.e.f. 02/10/1991)

62. Substituted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as: "(3) No alteration of the boundaries of a sanctuary shall be made except on a resolution passed by the Legislature of the State."
63. Inserted by Act 44 of 1991, S. 19 (w.e.f. 02/10/1991)
64. Substituted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as: "29. Destruction, etc., in a sanctuary prohibited without a permit.- No person shall destrc exploit or remove any wild life from a sanctuary or destroy or damage the habitat of any wild animal or depr'r any wild animal of its habitat within such sanctuary except under and in accordance with a permit granted the Chief Wild Life Warden and no such permit shall be granted unless the State Government, being satisf i that such destruction, exploitation or removal of wild life from the sanctuary is necessary for the improveme and better management of wild life therein, authorises the issue of such permit."
65. Inserted by Act No. 16of2003dt. 17/01/2003 (w.e.f. 01/04/2003).
66. Substituted for the word "cattle" by Act 44 of 1991, S. 21 (w.e.f. 02/10/1991).
67. Clause (e) omitted by Act 44 of 1991, S.21 (w.e.f. 02/10/1991).
68. Inserted by Act 44 of 1991, S.22, (w.e.f. 02/10/1991).
69. Inserted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003)
70. Inserted by Act 44 of 1991, S.22A (w.e.f. 02/10/1991)
71. Inserted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003)
72. AddedbyAct44of1991, S.23(w.e.f.02/10/1991).
73. Substituted by Act 44 of 1 991, S.23(w.e.f. 02/1 0/1 991).
74. Substituted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as:"(5) No alteration of the boundaries of a National Park shall be made except on a resolution passed by the Legislature of the State. (6) No person shall destroy, exploit or remove any wild life from a National Park or destroy or the habitat of any wild animal or deprive any wild animal of its habitat within such National Park except under and in accordance with a permit granted by the Chief Wild Life Warden and no such permit shall be unless the State Government, being satisfied that such destruction, exploitation or removal of wild the National Park" is necessary for the improvement and better management of wild life therein, authorises issue of such permit."
75. Substituted for the word "cattle" by Act 44 of 1991, S.23 (w.e.f. 02/10/1991).
76. Substituted by Act 44 of 1991, S.23 (w.e.f. 02/10/1991).
77. Inserted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003).
78. The Sub-heading "Game Reserve" and S.36 omitted by Act 44 of 1991, S.24 (w.e.f. 02/10/1991).
79. Inserted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003)
80. Omitted by Act 16 of 2003 dt. 17/01/2003 (w.e.f. 01/04/2003). Prior to read as:"37. Declaration of closed area.- (1) The State Government may, by notification, declare any area closed to hunting for such period as may be specified in the notification. (2) No hunting of any wild animal shall be permitted in a closed area during the period specified in the notification referred to in sub-section (1)."
81. Substituted for the words and figures "Sections 19 to 35" by Act 44 of 1991, S.25 (w.e.f. 02/10/1991)

Section 66. Repeal and savings

(1) As from the commencement of this Act, every other Act relating to any matter contained in this Act and in force in a State shall, to the extent to which that Act or any provision contained therein corresponds, or is repugnant, to this Act or any provision contained in this Act, stand repealed:

Provided that such repeal shall not,—

- (i) affect the previous operation of the Act so repealed, or anything duly done or suffered thereunder;
- (ii) (ii) affect any right, privilege, obligation or liability acquired, accrued or incurred under the Act so repealed;
- (iii) affect any penalty, forfeiture or punishment incurred in respect of any offence committed against the Act so repealed; or
- (iv) affect any investigation, legal proceeding or remedy in respect of any such right, privilege, obligation, liability, penalty, forfeiture, or punishment as aforesaid; and any such investigation, legal proceeding

or remedy may be instituted, continued or enforced, and any such penalty, forfeiture and punishment may be imposed, as if the aforesaid Act had not been repealed.

(2) Notwithstanding such repeal,

- (a) anything done or any action taken, under the Act so repealed (including any notification, order, certificate, notice or receipt issued, application made, or permit granted) which is inconsistent with the provisions of this Act, be deemed to have been done or taken under the corresponding provisions of this Act as if this Act were in force at the time such thing was done or action was taken, and shall continue to be in force, unless and until superseded by anything done or any action taken under this Act;
- (b) every licence granted under any Act so repealed and in force immediately before the commencement of this Act shall be deemed to have been granted under the corresponding provisions of this Act and shall, subject to the provisions of this Act, continue to be in force for the unexpired portion of the period for which such licence had been granted.

(3) For the removal of doubts, it is hereby declared that any sanctuary or National Park declared by a State Government under any Act repealed under sub-section (1) shall be deemed to be a sanctuary or National Park, as the case may be, declared by the State Government under this Act and where any right in or over any land in any such National Park which had not been extinguished under the said Act, at or before the commencement of this Act, the extinguishment of such rights shall be made in accordance with the provisions of this Act.

⁵⁸[(4) For the removal of doubts, it is hereby further declared that where any proceeding under any provision of Sections 19 to 25 (both inclusive) is pending on the date of commencement of the Wild Life (Protection) Amendment Act, 1991 any reserve forest or a part of territorial waters comprised within a sanctuary declared under Section 18 to be a sanctuary before the date of such commencement shall be deemed to be a sanctuary declared under Section 26A.]

Note: 58. Inserted by Act 44 of 1991, S.48 (w.e.f. 02/10/1991)

Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act, 1976 (19 sections)

Section 3. Sovereignty over, and limits of territorial waters

(1) The sovereignty of India extends and has always extended to the territorial waters of India (hereinafter referred to as the territorial waters) and to the seabed and subsoil underlying, and the air space over such waters.

(2) The limit of the territorial waters is the line every point of which is at a distance of twelve nautical miles from the nearest point of the appropriate baseline.

(3) Notwithstanding anything contained in sub-section (2), the Central Government may, whenever it considers necessary so to do having regard to International Law and State practice, alter, by notification in the Official Gazette, the limit of the territorial waters.

(4) No notification shall be issued under sub-section (3) unless resolutions approving the issue of such notification are passed by both Houses of Parliament.

Forest (Conservation) Act, 1980

As amended by Act 69 of 1988

(Complete version)

An Act to provide for the conservation of forests and for matters connected therewith or ancillary or incidental thereto.

Be it enacted by Parliament in the Thirty-first Year of the Republic of India as follows:

Section 1. Short title, extent and commencement

- (1) This Act may be called the Forest (Conservation) Act, 1980.
- (2) It extends to the whole of India except the State of Jammu and Kashmir.
- (3) It shall be deemed to have come into force on the 25th day of October, 1980.

Section 2. Restriction on the dereservation of forests or use of forest land for non-forest purpose

Notwithstanding anything contained in any other law for the time being in force in a State, no State Government or other authority shall make, except with the prior approval of the Central Government, any order directing-

- (i) that any reserved forest (within the meaning of the expression "reserved forest" in any law for the time being in force in that State) or any portion thereof, shall cease to be reserved;
- (ii) that any forest land or any portion thereof may be used for any non-forest purpose;
- (iii) that any forest land or any portion thereof may be assigned by way of lease or otherwise to any private person or to any authority, corporation, agency or any other organisation not owned, managed or controlled by Government;
- (iv) that any forest land or any portion thereof may be cleared of trees which have grown naturally in that land or portion, for the purpose of using it for reforestation.

Explanation - For the purpose of this section, "non-forest purpose" means the breaking up or clearing of any forest land or portion thereof for-

- (a) the cultivation of tea, coffee, spices, rubber, palms, oil-bearing plants, horticultural crops or medicinal plants;
- (b) any purpose other than reforestation;

but does not include any work relating or ancillary to conservation, development and management of forests and wildlife, namely, the establishment of check-posts, fire lines, wireless communications and construction of fencing, bridges and culverts, dams, waterholes, trench marks, boundary marks, pipelines or other like purposes.

Section 3. Constitution of Advisory Committee

The Central Government may constitute a Committee consisting of such number of persons as it may deem fit to advise that Government with regard to-

- (i) the grant of approval under Section 2; and
- (ii) any other matter connected with the conservation of forests which may be referred to it by the Central Government.

Section 3A. Penalty for contravention of the provisions of the Act

Whoever contravenes or abets the contravention of any of the provisions of Section 2, shall be punishable with simple imprisonment for a period which may extend to fifteen days.

Section 3B. Offences by the Authorities and Government Departments

(1) Where any offence under this Act has been committed -

- (a) by any department of Government, the head of the department; or
- (b) by any authority, every person who, at the time the offence was committed, was directly in charge of, and was responsible to, the authority for the conduct of the business of the authority as well as the authority; shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly:

Provided that nothing contained in this sub-section shall render the head of the department or any person referred to in clause (b), liable to any punishment if he proves that the offence was committed without his

knowledge or that he exercised all due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence punishable under the Act has been committed by a department of Government or any authority referred to in clause (b) of sub-section (1) and it is proved that the offence has been committed with the consent or connivance of, or is attributable to any neglect on the part of any officer, other than the head of the department, or in the case of an authority, any person other than the persons referred to in clause (b) of sub-section (1), such officer or persons shall also be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

Section 4. Power to make rules

(1) The Central Government may, by notification in the Official Gazette, make rules for carrying out the provisions of this Act.

(2) Every rule made under this Act shall be laid, as soon as may be after it is made, before each House of Parliament, while it is in session, for a total period of thirty days which may be comprised in one session or in two or more successive sessions, and if, before the expiry of the session immediately following the session or the successive sessions aforesaid, both Houses agree in making any modification in the rule or both Houses agree that the rule should not be made, the rule shall thereafter have effect only in such modified form or be of no effect, as the case may be; so, however, that any such modification or annulment shall be without prejudice to the validity of anything previously done under that rule.

Section 5. Repeal and saving

(1) The Forest (Conservation) Ordinance, 1980 is hereby replaced.

(2) Notwithstanding such repeal, anything done or any action taken under the provisions of the said Ordinance shall be deemed to have been done or taken under the corresponding provisions of this Act.

Note: Case Law in Forest (Conservation) Act 1980 on the definition of “forest”

The word “forest” must be understood according to its dictionary meaning. This description covers all statutorily recognized forests, whether designated as reserved, protected, or otherwise for the purpose of Section 2 (i) of the Forest (Conservation) Act. The term “forest land” occurring in Section 2 will not only include “forest” as understood in the dictionary sense, but also area recorded as forest in the Government record irrespective of the ownership. *T. N. Godavarman Thirumulkpad v. Union of India & others*, 1997 (2) SCC 267 at pp. 269 & 270 (Thomas, R.P., & Johnson, G. (Eds.). 2004. *Manual of forest laws in Kerala* (pp. 596). Kochi: Em Tee En publications)

Appendix 4: The details of each study site

Appendix 4.1. The details of study sites in Java, Indonesia

	Gunung Merapi	Gunung Merbabu	Gunung Ciremai
1931	An area of 6,472 ha was stipulated as Gunung Merapi protection forest by the Dutch colonial government		
1960s		Gunung Merbabu protection forest and limited production forest	
Manager	Yogyakarta Forestry Regional Office	Perhutani Unit I Central Java	Perhutani Unit III West Java
1975	Minister of Agriculture changed the function of 198.5 ha of the protection forest to Plawangan Turgo strict nature reserve and 30 ha to Plawangan Turgo nature recreation park.		
Manager	Protection forest: Yogyakarta Forestry Regional Office Strict nature reserve and nature recreation park: Yogyakarta NRCO		
1984	Minister of Forestry extended the area of Plawangan Turgo nature recreation park to 31 ha.		
1989	Forest area establishment process was completed and only 282.25 ha were stipulated as Plawangan Turgo strict nature reserve and nature recreation park.		
1999		Gunung Merbabu protection forest and Tuk Songo nature recreation park	Ministerial Decree No. 419/Kpts-II/1999 designated the functions of Gunung Ciremai forest areas of 15,518.23 ha as protection forest, fixed-production forest, limited-production forest, and areas for other purposes
2003			Ministerial Decree No. 195/Kpts-II/2003 re-designated Gunung Ciremai forest areas to Gunung Ciremai protection forest
2004	Ministerial Decree No. 134/Menhut-II/2004 changed the function and designated an area of 6,410 ha , including Gunung Merapi protection forest, Plawangan Turgo strict nature reserve and Plawangan Turgo nature recreation park, to Gunung Merapi NP.	Ministerial Decree No. 135/Menhut-II/2004: changed the function of an area of 5,725 ha , including Gunung Merbabu protection forest and Tuk Songo nature recreation park, to Gunung Merbabu NP.	Ministerial Decree No. 424/Menhut-II/2004 changed the function of 15,500 ha of Gunung Ciremai protection forest and designated as Gunung Ciremai NP.
Manager	Gunung Merapi NP Office	Gunung Merbabu NP Office	Gunung Ciremai NP Office
Significant values			
Ecosystem	The most active volcanoes in the world with unique and specific ecosystems		Primary forest consists of low-land rainforest, montane rainforest and sub-alpine forests
Flora	47 species of orchids	Endangered orchids, <i>Pinus merkusii</i> , <i>Acacia decurrens</i> , <i>Toona sureni</i> , <i>Schima noronhae</i> , etc.	
Fauna	10 species of mammals 99 species of birds 3 species of reptile	Phanter (<i>Panthera pardus</i>), Javan Eagle (<i>Spizaetus bartelsi</i>), etc.	
Social benefit	Source of water, potentiality of nature and cultural tourism, grass for livestock, and sand mining in Gunung Merapi (before designated as NP) not a little contributed to the local livelihood	Water catchment's area for the surrounding community	Water catchment's area for local livelihood, agriculture, fishery, local drinking water company, and industries of Cirebon, Kuningan and Majalengka districts, and high potentiality for ecotourism

	Gunung Merapi	Gunung Merbabu	Gunung Ciremai
Problems	Sand mining	Some enclave settlements in the area and forest based activities, such as hunting, collecting fodder and firewood, have done by people in the enclave and by surrounding communities may become potential conflicts in the future	Encroachment, illegal logging, sand mining, forest fire, road construction through the protection forest for agricultural products transportation, which connected Palutungan in Kuningan to Ciinjuk in Majalengka, and allotment of forest areas to be managed by Community-Based Forest Management Program

Sources: Central Java Provincial Forestry Office and *PUSPICS* (The Remote Sensing Approach for Resources Inventory using Image Interpretation and Integrated Surveys) Faculty of Geography, Gadjah Mada University, 2003; Harjadi, Wastra, Setiawan, Rinekawati & Santoso, 2003; Satyatama *et al.*, 2005; Sriyanto, 2004; Yogyakarta NRCO & Faculty of Forestry Gadjah Mada University, 2003.

Appendix 4.2. The details of study sites in Kerala, India

	Mathikettan Shola	Pambadum Shola	Anamudi Shola
1897	Part of Cardamom Hills Reserve, a reserved forest notified on August 24, 1897 under Section 18 of Regulation II of 1068		
Manager	Travancore government	Travancore government	Travancore government
1908		Pambadum Shola Reserve No. 55 notified on October 22, 1908 under Section 18 of Regulation II of 1068	Idivara Shola Reserve No. 56, Pullardi Shola Reserve No. 57, and Mannavan Shola Reserve No. 58 notified on October 22, 1908 under Section 18 of Regulation II of 1068
1958	G.O. (Ms.) 804/58/Rev dated 9th August, 1958: Revenue Department controls the land and Forest and Wildlife Department controls the tree growth.		
Manager	Land: Devikulam Sub-collector, Idukki District Collector Tree/forest: Devikulam Range, Munnar Forest Division	Marayoor Range, Munnar Forest Division	Marayoor Range, Munnar Forest Division
2002	G.O. (Ms.) No. 328/2002/RD dated 17th October, 2002: 1,282 ha of Mathikettan areas transferred to the administrative control of Forest Department		
2003	G.O. (Ms.) No. 50/2003/F&WLD dated on October 10, 2003: Mathikettan Shola NP, 1,282 ha .	G.O. (Ms.) No. 12875/F2/2003/F&WLD dated on December 14, 2003: Pambadum Shola NP, 132 ha	G.O. (Ms.) No. 12876/F2/2003/F&WLD dated on December 14, 2003: Anamudi Shola NP, 750 ha
Manager	Munnar Wildlife Division	Munnar Wildlife Division	Munnar Wildlife Division
Significant values	Ecosystem west coast tropical evergreen forests west coast semi-evergreen forests south Indian moist deciduous forests Grasslands		
	west coast tropical evergreen forests	west coast tropical evergreen forests	west coast tropical evergreen forests
	west coast semi-evergreen forests	west coast semi-evergreen forests	west coast semi-evergreen forests
	south Indian moist deciduous forests	south Indian moist deciduous forests	south Indian moist deciduous forests
	Grasslands	grasslands	grasslands
High diversity of flora and fauna (in number of species)			
Climbers	15	16	39
Herbs and shrubs	63	73	151
Tree	63	28	62
Insect	13	345	344
Birds	27	14	76
Mammals	9	9	9
Social benefit	As cardamom cultivation and production area provides employment opportunities for local people		Some tribal colonies live on the out borders of Mannavan Shola, namely Muthuva colonies at Gudalar and Kulachivayal, and Tamilian colonies at Perumala, Puthur, and Kanthalur. These people are wholly dependent on Mannavan Shola for firewood, timber and wood for various agricultural purposes.
Problems	Encroachment, deforestation and forest degradation		

Sources: Government of Kerala, 2003a; 2003b; 2003c; Management plan^o, n.d.a; n.d.b; n.d.c; Menon *et al.*, 2005a; 2005b; 2005c

Appendix 5: Interview guide for EDC members in PTR

Date:

5.1. Personal Data

Name	
Place/Date of birth	
Ethnicity	
Social status	SC/ST/.....
Educational Background	1.
	2.
	3.
	4.
	5.

	Before 1997	1997-2002	2002-2004
1. Occupation (continue to II)			
2. Address (continue to III)			

3. Family (+other who lives in the same house, if any)

No	Name	Relation	Date of birth	Occupation	Address

5.2. About address

4. If different address, why move?

5. Who own the house you live in?

If yours, how you have it: bought/built/rent/from parents/.....

6. Condition of house: (picture no:.....)

- Size:		
- Material → roof:	- wall:	- floor:

- Facilities→ electricity/solar-cell Rs. /month	- source of water:	- bathroom: yes/no
- Home garden→ yes/no	- size: -	- plant species: -
- Benefit from home garden→		
fruits:	self-consumption/sell→.....	
vegetables:	self-consumption/sell→.....	
spices:	self consumption/sell→.....	
timber:	self-consumption/sell→.....	
others:	self consumption/sell→.....	

5.4. About Periyar Tiger Reserve

7. Do you know what Periyar Tiger Reserve is?

If yes, what is it?

What for?

From when is it established?

8. Have you visited PTR? If yes, when, purpose of visit, what did you see there?

9. Do you know where the boundary of the reserve?

10. What do you think of protecting wildlife? Is it worth?

11. Do people get benefit from the existence of PTR? If yes, what are they?

12. Do you obtain direct/indirect benefit from PTR? If yes, what are they?

13. Do you notice the changes on surrounding PTR, since the first time you are here until now? If yes, what kinds of changes?

- Social:

- Economy:

- Culture:

- Infrastructure: road/building/houses/school/market/...

14. Do you know any illegal operation in PTR, for example poaching, illegal cutting, smuggling, etc?

If yes, do you know how the manager of PTR solves the problems?

Is there any participation of people?

5.5. About Eco-development project

15. Name of EDC:

16. Position in EDC:

17. Joined EDC (dd/mm/yy):

18. How did you join EDC? Anybody asked you to join? If yes, who and why?

19. Reason joined EDC:

20. What do you expect from EDC?

21. Date of establishment of EDC (dd/mm/yy): until:

22. Members of EDC:persons →malefemale

23. What does your EDC do in PTR Eco-development project?

24. Benefit of EDC

- For members:

- For non-members:

- For surrounding PTR:

- For PTR:

25. Is there any financial support from the Government to your EDC?

If yes, how much per period of time? What for?

Do you know from where the Government obtained this fund?

26. Do you have to pay EDC membership fee? If yes, how much per period of time? What for?

27. Do you know other financial support to EDC? If yes, from where? How much per period of time? What for?

28. If Government financial support is ended, what your EDC will do: stop/continue your activities? If continue, how your EDC will continue your activities financially?