

1 INTRODUCTION

1.1 Background and Justification

Indonesia is one of the richest countries in terms of biodiversity and diverse ecosystems. It is known that Indonesia contains 25 % of the world's fish species, 17 % of the world's bird species, 16 % of the reptile and amphibian species, 12 % of the mammal species, and 10 % of the flowering plant species (Ministry of Forestry, 1993:14). Large numbers of these species are endemic and unique to the Indonesia archipelago, including 430 species of birds, 200 species of mammals, and about 155 dipterocarp tree species. Most of the dipterocarp tree species are commercial timber and native to Kalimantan (Schweithelm et al., 1998:1-2).

The forest loss in Indonesia is increasing tremendously. Between 1976 and 1980, FAO estimated 550,000 ha of natural forest were cleared annually (Hurst, 1990:3). In contrast, current estimates, including the conversion of primary forest to other uses is 1.6 Mio ha per annum in average (Ministry of Forestry, 2000:15). Barber (2000:9) calculated that the average annual deforestation rate in Indonesia for the years 1986 to 1997 was about 1.7 Mio ha. Although this is occurring primarily in production forests, it can be a serious threat to biodiversity in the country, because many production forests play significant role in buffering biodiversity conservation.

In order to conserve biodiversity and unique ecosystems, the government of Indonesia set aside some forested land as protected areas (PAs). According to the Act of the Republic of Indonesia No. 5/1990 concerning Conservation of Living Resources and Their Ecosystems, protected areas in Indonesia can be divided into two main management categories, namely a **Sanctuary Reserve** (*Kawasan Suaka Alam – KSA*, including: strict nature reserve, and wildlife sanctuary) and a **Nature Conservation Area** (*Kawasan Pelestarian Alam – KPA*, including: national park, grand forest park, and nature recreation park)¹.

¹Refers to Act No.5/1990, KSA shall be a specific terrestrial or aquatic area having sanctuary as its main function preserving biodiversity plants and animals as well as an ecosystem which also act as a life support systems. KPA shall be a specific terrestrial or aquatic area whose main functions are to preserve diversity of plant and animal species, as well as to provide a sustainable utilization of living resources and their ecosystems. Refers to the definition of both KSA and KPA, hunting park could be a certain category of PA that aims to develop hunting activity.

Until August 2000, Indonesia has 387 protected areas, which varied from different categories. They covered an area of more than 22 Mio ha and represented almost all types of ecosystems in the tropics, upon which all exploitation purposes were prohibited. According to Bali Action Plan 1982, the protected areas in the country should cover at least 10 % of terrestrial habitat. In accordance with this agreement Indonesia's PA now cover 9.27% of the total terrestrial area in the country. The number of other categories out of NPs are considerably high, but they cover only small areas (**Table 1**)². On the other hand, the number of NPs represent 10 % of total unit number of Indonesia's protected areas, but they cover more than 50 % of the total surface area of protected areas.

Table 1. Number and size of Indonesia's Protected Areas (up to August 2000)

No	PA Category	Terrestrial		Marine		Total	
		Unit	Size (ha)	Unit	Size (ha)	Unit	Size (ha)
1.	Nature Reserve	167	2,464,767.34	7	208,708.45	174	2,673,475.79
2.	Wildlife Sanctuary	47	3,550,085.12	3	65,220.00	50	3,615,305.12
3.	National Park (NP)	34	10,990,243.23	6	3,682,955.00	40	14,673,198.23
4.	Nature Recreation Park	79	293,681.73	14	679,382.00	93	973,063.73
5.	Grand Forest Park	15	247,876.50	0	0	15	247,876.50
6.	Hunting Park	15	247,392.70	0	0	15	247,392.70
TOTAL		357	17,794,046.62	30	4,636,265.45	387	22,430,312.07

Source: Susilo, Herry-Djoko, 2000. National Parks in Indonesia. (based on Ministry of Forestry and Agriculture, Directorate General of Nature Protection and Conservation, August 2000).

Compared to other categories of protected area, NPs are the most developed in Indonesia. This can be seen from the intensity of management that is indicated by hierarchy of official bureaucratic level, resources allocations (including budget and personnel), field management practices (including infrastructures and facilities), and development program and planning. Intensive management occurs, because NP development is intended to provide a national pride of biodiversity conservation and beautiful landscapes. Different to other protected area categories, like nature reserves or wildlife sanctuaries, the management of NPs allows development of activities that might create tangible benefits to the community around the park, as well as to the regional economic development.

² Detail information about Indonesia's protected areas can be seen in **Appendices 1, 2, and 3** for terrestrial PAs, marine PAs and the map of distribution of NPs respectively.

In the practical sense, management of NPs are guided and controlled by government policies as regulatory instruments, such as acts, government regulations, presidential decrees, ministerial decrees, and many others. One of the most important government policies that directly guides the management practices in the field is the management plan. This plan guides and controls the management of resources, the uses of area, and the development of facilities needed to support that management and use (MacKINNON et al., 1986:189). It facilitates all development activities and all management actions to be implemented in the area, although in some cases, it remains as a “sleeping agenda” of NP development.

Although NPs are intensively managed, but in fact its performance could not exactly meet with the main management goal, namely to conserve natural ecosystems in sustainable way. Many NPs have long been encroached on by small peasants, poachers, and illegal loggers, and parts of some PAs have been illegally converted to plantation agriculture. Since 1998, however, encroachment into PAs has increased dramatically; this was the case with East Kalimantan’s Kutai NP where locals have taken over thousands of hectares of land to plant cash crops, build settlement and cut timber. Similar occupation had been reported also at Lore Lindu NP in Central Sulawesi. Organized illegal logging³ has been well documented in Aceh’s Gunung Leuser NP and Central Kalimantan’s Tanjung Puting NP, and is widely thought to be widespread in many others (Barber, 2000:47). In Meru Betiri NP, East Java, about 2000 ha of teak forest has been illegally logged by about 400 local people who had illegal back-up from local military, NP rangers, and private businessman (Report from POKJA Mitra Meru Betiri, August 1998).

From report documents and questionnaires addressed to the director of NPs in Indonesia, it can be concluded that there are at least five major problems that exist in the Indonesia’s NP management: (1) human resource, both quantity and quality, (2) the poor enforcement towards government policies in the field, (3) lack of political support from related agencies (stakeholders), (4) limited management facilities in the field, and (5) illegal utilization of natural resources in the park (natural resources dependent people).

³ *Private companies (Sawmill, Forest Concession Holder, and sometimes local businessman) took the “political transition” opportunity to exploit local people for illegal logging. In some cases, this was backed-up by the military. They pay local people as “illegal workers” or they accept timber from illegal logging and bring it to a “black market” for a low price. The local people do not care whether the forest land is protected, because they need money to live. In these situations, forest rangers (or even the policeman) can not do anything, otherwise their lives are placed in danger.*

Since January 2001 the national policy has been related to regional autonomy, however, in the future NP management should be adjusted to more localized needs. Regional autonomy will imply on delegation of authorities from the central government to the regions. It will surely affect to the management of NPs. Therefore, analysis of such a new condition is expected to solve the problems by formulating some alternative strategies related to NP management, with regards to decentralization process.

To achieve this goal, the field study, which includes expert interviews addressed to some high ranking government officials in MoFEC (now: MOF – Ministry of Forestry) ^{has been}, was carried out. In order to know the present situation of NP management in the field, thirty-six questionnaires were distributed to the director of Indonesia's NPs. This primary data and other information were used to formulate the alternative strategies of a solution.

1.2 Research Inquiry

Management of NP is a complex system involving sub-systems interacting together. With the complexity of NP management systems, the analysis on management aspects is complicated and difficult. Many factors, such as national policy, commitments towards biodiversity conservation, qualified human resources, budget availability, facilities, etc., play a significant role in influencing the management practices in the field. Another crucial challenge comes from the pressure of local people needing subsistence.

For these reasons, the NP management in Indonesia encounters some problems that originate both from inside and outside the park. Problems from inside or internal management problems usually involve biodiversity conservation within the park, such as wildlife population control, habitat improvement, tourism management, and management facilities. Possible causes of poor park management performance could possibly be attributed to lack of leadership, poor database information, insufficient trained staffs, inadequate research and development, insufficient support from related agencies, lack of evaluation and monitoring systems, and unclear reward and incentive systems. External management problems mostly arise from local people or so called *natural resource dependent people*, and from their related agencies. External problems result in illegal settlements and agriculture fields inside the parks, illegal timber logging and gathering of other forest resources, illegal hunting and poaching, overlapping land use, and buffer zone development. Several causes may influence these problems, such as: unclear boundaries, poor law enforcement, insufficient extension and

information sharing with local communities and other agencies, market demand on forest resources, lack of benefits perceived by local communities, lack of coordination among relevant agencies, lack of commitment on law and regulations, lack of spatial land use planning, lack of integrated planning and development, and lack of proper management direction or technical management guidelines.

The management of NPs in Indonesia is a centralized, even over-centralized system, rather than distributing power to more localized level. As described by Caldecott and Lutz (1998:175), to have a functional system the government should have enough power to be able to neglect local aspirations and local conditions; when the power fails, many protected areas will be immediately exploited by local groups that conceive of no reason not to do so. The new phenomena of NP encroachments by local people, indicates that the existing NP management has not significantly considered local aspirations and local needs. In other words, the management practices did not contribute sufficient benefits to the local people, causing them to be reluctant to participate in the NP management in the field. It is also difficult to coordinate or cooperate with related local or regional agencies, because almost all planning systems of NP management are exclusive; the management plans do not give enough respect to other agencies. The arrogant opinion of NP management that everything about conservation of biodiversity is the most important aspect of development in the country, may create other problems in the coordination process.

Considering the new reform era that began in the middle of 1998, the management of natural resources should be handled by a more local level of management. Therefore, in the long-run the management of NPs should also considerably be decentralized with a devolving certain degree of power or authority.

Based on the current conditions of Indonesia's NP management, particularly the problems that have occurred, some questions were subjected to some of the problems listed below and were tested through empirical fieldwork and existing secondary information.

1. According to Article 7 Paragraph 2 of the Act No. 22/1999 concerning Regional Government, the authorities in the field of natural resources utilization and conservation are still handled by the central government. In Article 2 Paragraph 4 point (e), it is also pronouncedly mentioned that the central government has an authority in the management of protected areas within the country. However, it does not mean that central government will monopolize the all aspects of management in protected areas, without any respects to

local aspiration and local institutions. Decentralization may considerably promote local participation in all aspects of management, including decision-making process and field practice management. Therefore, decentralized NP management should in the long run be considered as a strategy to accommodate local aspirations and local interests that support participation and partnerships.

2. It is stated in Article 68 Paragraphs 1-4 and Article 69 Paragraphs 1-2 of Act No. 41/1999 concerning Forestry, that people have rights to benefit from the forests, such as a high quality of environment produced from the well managed forests, access to forest land use planning, right to control over forestry development, and a right to utilize forests and forest products within certain regulation. Furthermore, it is also mentioned that people who live in and around the forests may get compensation due to their loss of access to the forest resources around them as their livelihood. On the other hand, people also have responsibilities for forest security, forest devastation, and forest rehabilitation. From these statements, it can be concluded that people should actively be involved in the management of forests, including NPs. The failure of local participation was initially due to the lack of involvement in all stages of management, including planning and goal setting. The management objectives of NPs and almost all project planning were designed by the government and then people were ordered to participate in the programs.
3. In developing policies concerning protected area management, the government did not actively involve multi-stakeholders, which caused some constraints in the implementation. The opinions and ideas from all stakeholders must strongly be considered and accommodated.
4. Local people do not actively participate in the management of NPs, because they do not achieve enough benefits from the NPs. Instead, they take resources from the park illegally to fulfill their basic needs for survival. Buffer zone development programs that initially intended to involve local people in the management practices mostly failed, because the goals and project activities were dominantly set up by park managers or by the central government.
5. The interest groups or stakeholders also do not strongly support the management of NPs, since they do not receive advantages or benefits from their partnerships. In response to this, they only vaguely paid attention to the park management problems, because they did not have a “sense of belonging” to the park in their region.

The interrelationship among elements in the management of NP is hypothetically drawn up in the **Figure 1** below. From the diagram and regarding the policy process, it can be said that the

goal from this mechanism is alternative strategies of management, cooperation and participation. According to Ellefson (1992) and Cabbage (1993) this stage is called *policy formulation* with the output of *policy alternative*.

1.3 Objective of the Research

The main objective of the research is to develop management strategy for NPs with regards to the problems that have occurred and the national policy tendency that is regional autonomy. An analysis will be focused on whether the legal government frameworks promote sustainable park management, local participation, and partnerships. The strategy could include policy and management strategy, cooperative and participatory strategies, which should support decentralization process and regional autonomy, which has been implemented since January 2001.

The detail of the research objectives can be described as follows:

1. To evaluate current Indonesia's national park management and the problems encountered in the field.
2. To identify and analyze the government policies that deal with NP management, particularly in relation to the decentralization process and to people's participation.
3. To develop strategies for decentralization of NPs management, to promote local participation through the involvement of multi-stakeholders, taking into consideration constraints and challenges of the current conditions of NPs management.

1.4 Output Expectation

The results of the research are expected to give valuable suggestions to the NP managers and relevant government agencies related to NP management, especially to the Ministry of Forestry about the possible form of decentralization of NPs in the future. Furthermore, it could serve as an important consideration/input in developing NP management, particularly in improving government policy strategy, institutional partnership strategy, and participatory strategy, so that management can effectively and efficiently be implemented in the field.

In line with the reformation era (beginning May 1998), the Ministry of Forestry demands more input regarding natural (forest) resource management, including NP management. Therefore, the research results will have a good chance to be adopted or at least to be strongly considered by the government when making policies concerning protected area management.