

The NRMP Experience in Bunaken and Bukit Baka Bukit Raya National Parks:

Lessons Learned for Protected Areas Management in Indonesia

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List of Acronyms:

ARD	Associates in Rural Development
BB-BR	Bukit Baka Bukit Raya National Park
GOI	Government of Indonesia
Kelola	<i>Kelompok Pengelolaan Sumber Daya Alam</i> , Natural Resources Management Group
IUCN	International Union for Conservation of Nature and Natural Resources
NGO	Non-Governmental Organization
LIPI	<i>Lembaga Ilmu Pengetahuan Indonesia</i> , Indonesian Institute for Science
MoFr	Ministry of Forestry
NRMP	Natural Resources Management Project
NRM2	Natural Resources Management Project, Phase Two
PHPA	<i>Perlindungan Hutan dan Pelestarian Alam</i> , Directorate of Forest Protection and Nature Conservation
PRA	Participatory Rural Appraisal
SALT	Sloping Agricultural Land Techniques
SBKSDA	<i>Sub-Balai Konservasi Sumber Daya Alam</i> , Regional Office for Nature Conservation
USAID	United States Agency for International Development
UPT	<i>Unit Pelaksana Teknik</i> , Park Management Unit

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1. Introduction

This paper looks at the USAID-funded Natural Resources Management Project (NRMP) experience in Bunaken and Bukit Baka Bukit Raya National Parks from 1992 through 1996. During this period of time, NRMP consultants worked with PHPA staff in the development of Twenty-five Year National Park Management Plans emphasizing active participation in the planning and management process. These management plans reflect a consultative process with local communities and have been formally approved by the Ministry of Forestry. In both cases, UPTs (Unit Pelaksanaan Teknis or Technical Implementation Units) have been established in order to operationalize these management plans.

The NRMP experience resulted in a number of lessons learned for achieving more effective protected areas management in Indonesia. These lessons support the need to develop adaptive, multi-stakeholder National Parks management that provides effective protection of Indonesia's conservation estate on a national level and supports sustainable development at the regional level.

Key lessons from NRMP include:

1. **Effective National Park management must be adaptive** to on-going ecological and socio-economic change, Especially in a country like Indonesia which is experiencing such dynamic economic growth and development, there is no blueprint for long-term management. Management planning should focus less on writing books that adhere to strict guidelines and more on human resource development.
2. **Managing National Parks is about managing people.** The NRMP experience demonstrates the need to recognize the many stakeholders in a National Park and to develop a multi-stakeholder process that actively and equitably involves them in decision making. The stakeholders represent a Park's community, and this community is comprised of diverse groups with often competing interests.
3. **Participation in National Park management is an important but vague concept.** The NRMP experience achieved a consultative level of participation which is acceptable for basic information gathering. Effective resource management requires a much greater degree of participation, one based on the reciprocity of rights and responsibilities.

4. **Current National Park management in Indonesia is ineffective. This is not due to lack of funding but rather inadequate resource allocation.** Institutional changes are necessary to strengthen the potential for collaboration with other government agencies, businesses and NGOs at the regional level. Training and incentives that support adaptive management is essential for National Park staff.

The following analysis of the NRMP experience in Bunaken and Bukit Baka Bukit Raya National Parks supports the need to address these lessons, and describes the logical transition from NRMP into the Protected Areas Management sub-component of NRM2. Building from the lessons learned from the NRMP experience, NRM2 embraces a new approach to strengthening protected areas management. NRM2 moves away from product-oriented pilot projects and toward more adaptive support for on-going management processes. NRM2's Protected Areas Management sub-component intends to contribute to improved protected areas management through supporting existing implementation activities rather than conducting preliminary planning work. Further, NRM2 strives to go beyond local community participation to a broader multi-stakeholder process that will result in more long-term and effective partnerships for protected areas conservation management.

2. Conservation and Protected Areas Management in Indonesia

Sustainable management of Indonesia's natural resource base is essential to Indonesia's long-term economic development efforts, and an important component of sustainable resource management is the effective conservation management of a protected areas system. Protected areas management contributes to sustainable natural resource management by conserving both biodiversity and ecological functions. Protected areas management is essential as it supports long-term sustainable development and ensures new economic opportunities for the future.

Indonesia is one of the world's richest centers of biological diversity. It is rightly considered to be one of the top two mega-biodiversity countries in the world (See Table 1). For a country that represents only 1.3 percent of the planet's land surface, Indonesia is endowed with a very high proportion of global biodiversity. Still, Indonesia is quickly exhausting this natural resource base. Indonesia's rapid development process has helped to alleviate poverty while providing new opportunities to Indonesian citizens across the archipelago. Yet current resource use trends are unsustainable. This process of development is eroding the ecological storehouse both in terms of biological resources and the ecological processes needed by human society. Maintaining long-term development objectives requires sustaining Indonesia's natural resource base, balancing economic growth today with continued economic opportunity tomorrow.

One way to conserve the biodiversity and maintain the ecological functions for continued economic growth and social development is through the management of an effective protected areas system. While it is difficult to determine the size and scope of this protected areas system, we do know is that it must be large enough to represent sizeable representations of major ecosystems and their components, and also support a range of ecological processes that enable development to continue.

Although Indonesia has already designated a large area within its protected areas system, it is still under threat. A number of indicators already exist to suggest that irreversible losses are increasingly prevalent. Indonesia is among the top five countries for threatened mammals, and heads the list for threatened birds (IUCN, 1996ⁱ). If the level of effective protection is not improved the number of extinctions and irreversible losses will increase.

Table 1 Species Richness of Globally Megadiverse Countries

Country	Mammals	Birds	Amphibians	Reptiles	Butterflies	Angio(?)...
Indonesia	515	1,519	270	600	121	20,000
Brazil	428	1,622	516	467	74	55,000
Colombia	359	1,721	407	383	59	45,000
Mexico	449	1,010	282	717	52	25,000
Zaire	409	1,086	216	280	48	10,000
Tanzania	310	969	127	244	34	10,000

Source: Kehati, 1995.

While this paper focuses on protected areas management, it is stressed that effective protection of natural resources requires sustainable management of resources beyond these protected areas. National parks and other protected areas support a wider, integrated natural resource management system. Development and conservation are not mutually exclusive but rather interdependent. It is necessary, therefore, to look at protected areas management in a wider context: overall regional planning must link their protection with economic development in order to ensure long term, sustainable development. The management of Indonesia's protected areas system is an essential contribution to the country's continued development process, and a prudent investment in the future.

2.1 Conservation and Development in Indonesia

Often, biodiversity conservation is perceived to be the protection and maintenance of ecosystems, species, gene pools at the expense of, in direct opposition to, or in a trade-off with economic development. Economic development harnesses and exploits natural resources. In the perception of many government officials and the private sector or protected areas are areas closed to economic development. From their perspective, these areas represent lost opportunities, something on the opposite extreme of economic opportunity. There is no sense of harmony between conservation and development.

Striking a harmony between development and conservation is an essential *sine qua non* for balancing long-term growth and providing for long-term economic opportunity. This is best achieved by bringing the two concepts of conservation and development closer together in a socially acceptable, unthreatening manner, through the concepts of sustainable resource management, enabling appropriate use as opposed to no-use. This is the crux of sustainable development, and implies long-term, low impact exploitation of natural resources. It necessitates the efficient use of Indonesia's natural resource base, with substantial incentives to reduce overall economic dependence on this base. Long-term growth of the manufacturing, industrial, and service sectors through education, supporting investment flows, and, perhaps, tax linked investment incentives are essential if the real value of resources are to be maximized.

Throughout this paper, the concept of ecological conservation refers to the maintenance of ecological functions necessary to support the continued growth of the economy. Functions include such things as soil stabilization and flood protection, climate control, habitat for food, and other resources (e.g., trees). Ecological conservation also encompasses biodiversity conservation through the conservation of ecosystems and all they contain.

In situ ecological conservation preserves islands of ecological importance that directly support the surrounding developed area. It supports sustainable development by providing ecological functions that allow the economy to grow normally and reduce public expenditures on environmental crises. Ecological conservation keeps Indonesia stable, minimizing perturbations to the interdependent economic and ecological systems. *In situ* conservation is maintained within Indonesia's important conservation estate.

2.2 Indonesia's Protected Areas System

Indonesia has set a target of 18 percent of the country's land area for its protected area system (MoFr, 1995ⁱⁱ). This target intends to fulfill the safe minimum requirement for the future needs of biodiversity. The extent to which this targeted area will provide sufficient coverage for important habitats and ecological functioning remains to be seen. Questions remain about the adequacy of

the target, will for example, 18 percent of the land area provide the future seasons seed stock is uncertain at best. Simply having islands of high biological diversity and high ecosystem integrity within a regional landscape that is degrading might not sufficiently provide for the future requirements of Indonesia.

On paper, Indonesia has established of the most comprehensive systems of protected areas in Southeast Asia. But the selection of the protected area system has not been determined scientifically. Instead, it has been determined by setting aside a large portion of the country as protected area, to be planned, managed and evaluated at a later date when resources permit. Some 16.2 million hectares of terrestrial area, or 8.5 percent of the country's land area, and some 2.5 million hectares of marine area are already set aside for conservation (Metzner, J., 1994). In addition, large areas of protection forests have been established with reported areas ranging from 9.5 percent to 15 percent of the country's total land area. A further 7 percent of land area (or approximately 3 million hectares) has been proposed for inclusion as protected area, which, if approved, would increase the size of the existing protected areas system to 19 million hectares. A total of 30 million hectares of marine conservation areas have also been proposed to be included in the protected area system before 2000. This expansion aims to incorporate reserves in each of the major habitat types within the seven bio-geographical zones represented in Indonesia.

Protected areas were first established in the 1700's by a Dutch Colonial officer concerned about the loss of natural habitats on Java, a region facing rapid population growth (Supriana, N., and Sukandar, S., 1996). The first official reserve was established at Cibodas in 1889 and, in 1916, the first conservation legislation was passed, the Nature Reserve Act. Shortly thereafter, the first strict nature reserve (*cagar alam*) was established in 1919. Strict nature reserves were initially used to set aside areas. However, since the 1980's, a broader classification system has been applied (IUCN, 1994ⁱⁱⁱ), involving management approaches ranging from total exclusivity to the commercial and community use of resources inside protected areas. The first national parks was established in 1980 and the first national marine park (Pulau Seribu) was established in 1982^{iv}. Of the 36 existing national parks, only 3 were originally established as national parks. 12 were originally wildlife reserves, 9 were strict nature reserves, 4 were previously combinations of wildlife reserves and nature reserves, and the remaining 5 were tourist/recreation parks with nature and wildlife reserves. Table 2 presents the size of the conservation estate by protected area status 1996/97

Table 2 Structure and Extent of Indonesia's Conservation Estate (1996/97)

Classification	No. of units	Area (Hectares)	Area (%)
1. Terrestrial Areas			
1.1 National Parks	30	10,397,419.89	61%
1.2 Strict Nature Reserves	172	2,210,247.00	13%
1.3 Nature Recreation Parks	76	285,647.00	2%
1.4 Wildlife Reserves	45	3,576,928.00	21%
1.5 Grand Forest Parks	11	237,373.00	1%
1.6 Hunting Parks	13	234,392.00	1%
Sub-Total	347	16,942,006.89	100%
2. Marine Areas			
2.1 National Parks	6	3,682,955.00	81%
2.2 Strict Nature Reserves	5	194,850.00	4%
2.3 Nature Recreation Parks	13	597,582.00	13%
2.4 Wildlife Reserves	3	65,220.00	1%
Sub-Total	27	4,540,607.00	100%
3. Combined Totals:			
3.1 National Parks	36	14,080,374.89	66%
3.2 Strict Nature Reserves	177	2,405,097.00	11%
3.3 Nature Recreation Parks	89	883,229.00	4%
3.4 Wildlife Reserves	48	3,642,148.00	17%
3.5 Grand Forest Parks	11	237,373.00	1%
3.6 Hunting Parks	13	234,392.00	1%
Total	374	21,482,613.89	100%

Source: Statistik PHPA, 1996/1997

Legally, the management of Indonesia's conservation estate is established within Act No. 5 of 1990, concerning Conservation of Living Resources and Their Ecosystems, and a number of supporting regulations and guidelines for operational matters, such as national park planning. Institutionally responsibility for management lies with the Directorate General of Forest Protection and Nature Conservation (PHPA) within the Ministry of Forestry (MoFr). Within, the MoFr, the PHPA is one of four directorate generals. PHPA is comprised of central offices with locations in Bogor and Jakarta, 8 regional (Balai) representative offices, 28 provincial (sub-Balai) offices and 12 national park management units (UPTs) with a total staff of 4,861 in 1996. An additional 22 national parks have just received UPT status, thus requiring the reallocation of approximately 2,200 additional staff (MacAndrews and Saunders, 1997).

The extent and coverage of Indonesia's protected area system is impressive, but effective conservation management has yet to be fully realized. As this paper shows, many tools currently applied to protected areas management in Indonesia are ineffective. There is a need to recognize these weaknesses and to develop appropriate responses to correct them. Such responses include shifting management planning from a blueprint approach to a more adaptive and on-going management; initiating institutional reforms that strengthen park managers' capacity to participate in regional planning and development; and developing park management around a participatory multi-stakeholder process that supports both the rights and responsibilities of these stakeholders.

3. National Park Planning and the NRM Experience

The NRMP experience offers insight to the opportunities and constraints of National Park management in Indonesia. NRMP was requested by the GOI to assist with this challenge by developing the national park management plans for two sites: Bukit Baka-Bukit Raya, a tropical forest in Kalimantan, and Bunaken, a coral reef and marine environment in North Sulawesi. While NRMP focused primarily on national park planning, review of these experiences provides valuable lessons for future national park management.

3.1 National Park Management Plan Guidelines

Management of national parks in Indonesia commences with the development of a twenty-five year national park management plan strictly adhering to the Department of Forestry's National Park Twenty-Five Year Management Plan guidelines. These guidelines present a detailed table of contents for a three volume management plan encompassing:

- Book 1: The National Park Management Plan, which includes a comprehensive set of activities and budgeting;
- Book 2: Data Projection and Analysis, which provides information and analysis to justify the overall plan; and
- Book 3: Site Plan, which includes maps and figures for zonation and site development.

The National Park Twenty-Five Year Management Plan guidelines further stipulate the management plan review and approval process at the provincial and national levels. Upon review by a forum of related agencies, the management plan "containing the best alternatives

should be acknowledged by the Head of the Provincial Development Planning Agency to be evaluated by the Head of the Provincial Office of the Ministry of Forestry.”^v Each national park management Plan is then approved and endorsed by the Director General of Forest Protection and Conservation.

Ministry of Forestry staff associated with the management of a specific national park place great emphasis on the production of an approved Twenty-Five Year Management Plan. This document provides the basis for both increased access to funds for the national park as well as independent budgetary status from other protected areas in the region. The Twenty-Five Year Management Plan is thus perceived as a blueprint for management, providing most specifically the budgetary guidelines for each park’s Five-Year Management Plans as well as its annual budgets.

The concept of set management plan guidelines has some merits. The use of guidelines ensures that certain sets of baseline data and information are collected, and that necessary government agencies are consulted. This provides the opportunity for decision-makers within PHPA to monitor and manage the national parks within an overall system. This could be particularly useful for maximizing the efficiency of both financial and human resource allocations within the national park system. However, the current management plan guidelines are also fraught with problems. While NRMP went ahead with the production of management plans for Bunaken and Bukit Baka-Bukit Raya National Parks, management plan guidelines constrain effective conservation management.

One shortcoming is that park planning guidelines demand too much information that is irrelevant to managing parks (Taylor, 1996). The guidelines emphasize data collection rather than management and problem solving, and provide inadequate guidance for scoping and planning. A second shortcoming is the static nature of the detailed guidelines which offers little flexibility to adapt planning to the unique conditions of each national park. Management activities and budgets are reflective of situations and conditions which exist at the time that the management plan is written. Once it has been finalized and approved, there are no mechanisms to amend it to reflect ecological or socio-economic changes. In consequence, the plans become end goals or products of the planning process, rather than tools for effective, on-going management.

A third shortcoming of current management plan guidelines is that resource allocation priorities (both human and financial) are confined to the existing national park. There is no strategic analysis to determine if resources required for a given area might be better utilized somewhere else. In effect, the existing system does not allow PHPA to capture the largest potential gain from the resources available to it. A fourth shortcoming of the present model for national park planning is that it does not incorporate a learning-based approach, that is learning from experience about what happens under certain conditions and what are the underlying causes and patterns of causation for certain outcomes. This is largely due to the fact that there are neither

evaluation nor feedback mechanisms in place for decision-making. Without effective learning opportunities, management decision-making remains novel and intuitive, which decreases the likelihood of effective responses. In contrast, an iterative and learning-based management process would allow for the design of more rapid and effective decisions in response to similar situations in the future.

One strong indication of the need to develop alternative framework and decision-making processes to replace the existing management plan guidelines is the response to the park management plans developed and presented to the Ministry of Forestry by NRMP. The overwhelming response has been, "...but what do we need to do? The plan is too long and complicated to be useful..." While the management plan guidelines stipulate government agencies to be consulted in the review and approval process, there tends to be little sense of ownership of a park's twenty-five year management plan by these agencies. Although the plans are prepared in strict adherence to PHPA's guidelines, there is already mounting evidence that the current system of planning is not adding value to effective protection of Indonesia's national parks and nature reserves. Continued donor involvement in the preparation of management plans exacerbates this problem. To date, more than twenty management plans are in progress, yet only four have been completed and approved. However, the completion and approval of a management plan is not necessarily a good indicator of effective management. The current blueprint approach to national park management planning is proving to be inappropriate for Indonesia's unique and complex national park system.

The unique features, opportunities, and constraints of each national park, compounded by the dynamic nature of Indonesia's rapid development process, requires a far more adaptive approach to national park planning. As such, planning should be considered an on-going part of national park management. The NRMP experience in Bunaken and Bukit Baka-Bukit Raya National Parks demonstrates that management under the current set of guidelines is ineffective. The NRMP experience shows that national park management planning must be treated as a flexible and adaptive process, constantly revisited within the integrated context of overall park management. Throughout this process, multi-stakeholder participation must be developed and nurtured to a point of ownership, far beyond the point of consultation as prescribed by the National Park Management Plan guidelines and experienced by NRMP.

3.2 Preparing the Plans

While both are national parks, Bunaken and Bukit Baka-Bukit Raya have very little in common. Bunaken is a marine park located just minutes away from Manado, the provincial capital of North Sulawesi. With its international reputation for diving, Bunaken is a major tourist destination. Deep in the heart of Kalimantan, Bukit Baka-Bukit Raya straddles the provincial

border between West and Central Kalimantan. This terrestrial park is located more than a day away from either of its associated provincial capitals, and is of far greater interest to the seven timber concessions surrounding it than it is to tourists.

While significantly different in terms of conservation values, access, and stakeholder interest, NRMP prepared Twenty-Five Year Management Plans for both of these national parks under the same set of guidelines set forth by the Ministry of Forestry. Beyond this, in accordance with the NRMP work plan, NRMP attempted to develop these two management plans in a participatory nature, consulting perceived stakeholders (with an emphasis on local communities) throughout the process. The two management plans have been submitted and approved, but their potential for effective implementation has yet to be demonstrated.

3.3 Bunaken National Park Planning: Community vs. Stakeholder Participation

Located just a short boat ride away from the city of Manado and its international airport, Bunaken is an internationally-acclaimed divers' paradise. Its coral reefs and steep walls team with brightly colored fish and other marine life. The status of national park acknowledges that Bunaken has ecosystems worth preserving in order to maintain and further cultivate tourism development. Stakeholders in the park compete for a range of resources, including dive sites, fish and other marine resources, mangroves, and tourism development sites.

Bunaken National Park's conservation value consists of its great marine biodiversity and tourism potential. Located in the center of the world's most diverse marine regions (eastern Indonesia, southern Philippines and the northern Great Barrier Reef in Australia), Bunaken represents some of the greatest marine biodiversity in the world. Marine biologists estimate that within this 80,000 hectare park there are more than 2,500 species representing 175 families of fish.^{vi} The largest number of species occur on the fringing coral reefs, while deep water lagoons between islands provide suitable habitat for pelagic fish and mammal species, including marlin, tuna, sharks, and whales. Besides its important coral reefs, the park contains approximately 20 percent of the region's mangrove habitat, with 28 major mangrove species identified.^{vii} Bunaken also provides habitat to several endangered species, notably the dugong, green and hawksbill turtles, all seven species of giant clam that occur within Indonesia, and several other mollusk species.^{viii}

One of the main goals of NRMP's field work in Bunaken was to facilitate participatory and flexible management of the national park based on a participatory planning process for the development of the national park management plan. Throughout the NRMP experience, project staff and field workers attempted to generate and nurture a vague concept of community participation. During this process, NRMP's work in Bunaken became a shining example of community participation in national park planning. But the success of this planning process

must be measured in terms of the level of participation in planning, flexibility of management, and the resulting participation in implementation of national park management. Sadly, there is very little management in Bunaken National Park at present. Much of this stems from the fact that NRMP's participatory endeavors failed to adequately coalesce Bunaken's true community.

In reality, there is little sense of community among Bunaken's diverse group of stakeholders, which includes:

- Various government agencies at the national, provincial and local level;
- Private sector investors and traders;
- People living in settlements in and around the park; and
- People economically linked to resources (goods or services) coming from the park.

The provincial level government and local investors have great interest in Bunaken. Unlike most national parks, Bunaken is located in the provincial capital's backyard and is perceived as a key element to provincial economic development. This factor is important to understand, particularly in the context of the economic stagnation being experienced in the region following the economic boom (and hence major economic focus) on plantation crops of cloves and kopra. Bunaken is perceived as a magnet for money. That is, if its ecological integrity is maintained, tourists will come in larger and larger numbers, spending more and more money to go diving. The perimeters of the park, including mainland and island coast lines, are considered ripe for tourism development. From the provincial government and investors' perspectives, people using Bunaken's resources for non-tourism purposes pose a threat to the park's natural beauty and thus potential income stream. A more base argument would be that these people, especially those living near the main dive areas, are an eye-sore on valuable land. From this perspective, the best management option is their elimination from the park.

The conflict over local residents derives in part from the lack of knowledge regarding the relative value sets of alternative uses of Park resources. Relative value sets for Bunaken indicate that local fisheries still provide the highest contribution to the provincial economy (US \$6 million) compared to tourism (US \$4.3 million) and preservation (US \$4.1 million). The lack of data on fish off-take for the Park meant that official data set recorded perhaps 10-15 percent of the real fish catch. As a consequence provincial decision makers undervalued the importance of the fishery. This situation is perhaps aggravated by the manner in which benefits are distributed between the fishery and tourism sector. Tourism contributing to wider regional goals and benefiting urban based communities while fishing supported rural based communities. The reality is that management needs to co-manage these uses in a manner that sustains a healthy reef which, will require all users to modify their behaviors in certain circumstances.

Very few local residents reap the benefits of tourism and perceive a number of problems associated with it. Dive sites are often located in favored fishing spots. Tourism development,

especially along the northern coast of the national park, is leading to environmental degradation that is negatively impacting local livelihoods. Specifically, the clearing of mangroves is leading to beach erosion, increased incidence of flooding, coral reef damage, and the loss of breeding habitat for economically important marine species. The national park's conservation objective of preservation of ecological functions is being lost to economic development opportunities.

Thus, a cohesive Bunaken National Park community does not exist. Instead, there is a group of stakeholders coming from different backgrounds that share and compete for a range of economic interests. The discourse within this group is more hierarchical and top down than it is democratic. Antagonism between stakeholders is fueled by conflicting economic interests and is embedded in conflicting cultures. The dominant political culture tends to be the Minahasans and the dominant economic culture tends to be Indonesian Chinese. Both of these groups are Christian with strong terrestrial orientations. In contrast, people living in settlements in or around the marine park are more diverse. Farmers tend to be Christian, while fishermen tend to be Muslim. Resource use is opportunistic with families using low-capital systems to meet family and market demands.

Bunaken's status as a national park does not provide a common meeting ground, but rather incites a power struggle among stakeholders over current and future resource use rights. As stakeholders fight to control resources, the ambiguity of the national park status may be more destructive than protective of Bunaken's resource base. Those losing or concerned about losing control of resource rights (and thus a loss of responsibility) sacrifice nebulous long-term benefits (i.e. conservation, sustainable resource use, stewardship) with rapid, often destructive, short-term gains. As such, the designation of Bunaken as a national park incites further division within the concept of community, and leads to power struggles for resource rights. Those sensing a loss of rights or reduced access then lose a sense of responsibility over these resources and rapidly increase their rates of exploitation. Given an uncertain future, banking on short-term gains becomes a prudent decision.

Each stakeholder group is a diverse community in and of itself, often representing a wide range of groups of people with various backgrounds, interests, and aspirations. Many of these groups have had little or no interaction, and share little in common with other groups. Further, many of these groups are in active competition with one another for resource rights. Specifically, government officials and investors interested in expanding the tourism sector are in clear competition with fishing communities. Given this diversity and competition, developing participation in an equitable and constructive manner posed a formidable challenge.

3.3.1 Participatory Planning and Management

There was no existing foundation for stakeholder participation when NRMP started field work in Bunaken in 1992, thus making the facilitation of a participatory planning process difficult. Long-term consultants intended to work with local Manado-based NGOs, but found a dearth of natural resource management, conservation, and community participation experience. From a field of twenty NGO representatives invited to participate in NRMP's first three-week community awareness program, only five remained active to the end.^{ix} These five were then recruited as NRMP field-workers. Over time, they formed their own NGO, Kelola, (*Kelompok Pengelolaan Sumber Daya Alam* or the Natural Resources Management Group). Kelola's staff hope to provide a bridge between the formal park management structure (UPT) and local communities. Given their enthusiasm for the Bunaken National Park management plan (particularly its participatory nature) and skills developed as field assistants during the planning process, there is great potential for Kelola to play an active role in Bunaken National Park's management.

Unfortunately, however, this is only possible with some sort of long-term financial commitment that enables Kelola to continue its work. One failure of NRMP is that, while it professed institutional strengthening of local NGOs during the life of the project, no measures were taken to maintain long-term NGO effectiveness. While Kelola has the skills to support the management of Bunaken National Park, they currently lack financial resources to do so. Like most other NGOs in Indonesia, Kelola must engage in a project-to-project approach for institutional survival. Kelola must focus on opportunities presented by funders and can only pursue Bunaken National Park management activities if funders express an interest in or support for this.

Beyond seeking NGO involvement, NRMP's field work in Bunaken focused on four specific stakeholder groups comprising the national park community: national government officials from PHPA, provincial level government officials from Bapeda and other agencies, tour operators working within Bunaken's existing dive industry, and people living in settlements in or adjacent to the park. The provincial and local level government agencies were regularly consulted regarding the development of the management plan and related issues. Tour operators worked together to agree upon tourism zones for diving and diving protocol within the national park. Input was sought from people living in and around the park in order to delineate use and core zones. However, in many respects, each of these individual groups was treated independently of the others to address relevant management issues, with few clear examples of participatory forums including representatives from the separate groups working together in a participatory manner.

As the project matured, more and more time and energy focused on one particular stakeholder group: the people living in settlements in or adjacent to the national park. Spearheaded by the efforts of NRMP field staff, a number of 'community-based' field projects were initiated, including a formal Participatory Rural Appraisal (PRA) training workshop, community-based

ecotourism, a Sloping Agricultural Land Techniques (SALT) project, a sustainable mangrove management study, and a seaweed study. The intention of these projects was to further involve local communities – those living in and around the Park – in resource management through both the provision of income generating opportunities (ecotourism and SALT) and through active involvement in resource management as envisioned in the original sustainable mangrove management study terms of reference.

3.3.2 Lessons Learned from Bunaken

Lesson One: Defining Community

One of the primary lessons learned from these local community participation development endeavors was that even within this distinct subgroup of the national park community, there was great disparity. Each settlement had a unique set of issues relative to the park. Within each settlement, different people (often from within the same families and even within the same household) had different perceptions of and links to the national park. In some villages, like Rap-Rap, there exists a clear delineation between the Christian farming community and the Muslim fishing community. Within a fishing community, different individuals seek different resources. For example, some are pelagic fishers, others utilize reef resources, while others earn a living through exploiting the mangrove forests. These mangrove forests may be adjacent to the village, but could just as likely be on another island, next to another village. In short, other than their residence within and around the national park, the people of these local communities actually have very little in common with one another.

NRMP community participation development endeavors failed to recognize the diversity of local communities. Instead, each settlement was treated as a homogenous group. Community meetings were routinely relied upon as equitable forums for bringing together community members concerned about shared values. In reality, community meetings tended to attract only a small portion of a given settlement. Most importantly, meeting attendees often had little to lose or gain from a particular meeting's subject matter.

This last fact became especially evident during the sustainable mangrove management study. Community meetings and forums were initiated in order to gather information about mangrove resource use and to ultimately develop a community-based sustainable resource management and zonation system. Some of the meetings drew large crowds, and others did not. In some villages, it was virtually impossible to even schedule a meeting. Yet, the number of meetings and participants are not appropriate indicators for measuring effective participation. The biggest problem of this participatory approach is that it failed to involve the mangrove community, that is those people economically linked to the mangrove forests and who are responsible for their

current rapid rate of destruction. Quite sensibly, these people avoided the opportunity to participate in community-based mangrove management. As individuals, they had nothing to gain and everything to lose. The mangrove forest was zoned as forestry land and exploitation of mangroves within the national park was illegal. With no existing resource use rights nor any guarantee of potential use rights, there were no incentives to participate in such a meeting. Individual economic interests clearly outweighed commitment to community and a participatory planning process.

Box 1: Community Meetings, Participation and Stakeholders

It was a good turn-out for the community meeting in Tinongko. The leaders of this predominantly Christian village had first recommended that we come on Sunday, after Church, when most of the villagers would be spending a quiet day at home with their families. They were right. Still dressed in their handsome Church clothes, about 50 men, women and children sat on plastic chairs in a semi-circle in the front yard of the Village Head. We were introduced as the mangrove management research team, and the meeting was underway.

After introducing who we were and what we were doing – we were a team of international and Indonesian consultants, research assistants and field workers striving to develop a sustainable mangrove management plan with the communities of Bunaken National Park – we rolled into our usual program about the important ecological functions of mangroves and our recognition of the economic value of mangroves to people living in communities living in the Park. As this is a participatory process, what do you think about sustainable management?

There was a murmur in the crowd as people whispered to one another and looked at the mangrove management team. Finally, an older gentleman spoke up. “Yes, the mangroves are very important and they need to be managed.” He said this with a forced certainty in his voice and a look of hesitation from his eyes. The rest of the community looked at us with apprehension, as if thinking, “We hope that is the right answer and that you will now let this issue rest.”

But we continued to push. “Who uses the mangroves for what?” People then listed a range of uses for mangrove wood: firewood, seaweed cultivation, drying floors and fish traps. Then a woman blurted out, “Cutting mangroves is illegal. It must be people from other villages.” There was a murmur, this time of confusion, and finally a silence. After pushing the issue further, meeting participants agreed that, yes, people from Tinongko also exploited nearby mangrove forests. Unfortunately, none of them were at the meeting. After more discussion, meeting participants agreed to support the mangrove management team and eventually sustainable mangrove management. We were all happy and pleased as the formal meeting came to an end and we drank tea and ate snacks. One of the field assistants came to me with a smile on his face and asked me if I thought the meeting had been a success.

While many people showed up for this meeting, does that mean it was a success? We were trying to gain support for a participatory approach to sustainable mangrove management at the community level. While many people from the local community participated, nobody from the mangrove users community came. In terms of our impact on mangrove management, then, this meeting was a failure.

The number of community meetings and participants they draw are often used as indicators for community participation. Frequent, well attended meetings are used to indicate successful community participation. Yet this indicator is often wrong. Village-based community meetings represent one specific community: those people living in an administrative entity of a particular village. In dealing with natural resource management, it is often necessary to redefine community to stakeholders/user-groups directly linked a resource. This often breaks the administrative, spatial boundaries of a village community.

Community meetings may be successful, but this success is predicated on first clearly identifying the relevant participants. It does not matter how many people show-up to a community meeting. What matters is how many of the 'right' people show up and to what degree they are willing to participate and interact.

NRMP made many positive steps to address community participation in Bunaken's national park planning, but did not have the time, vision or foundation to satisfactorily achieve it. The level of participation achieved was that of public awareness and consultation, primarily for data collection and zonation. Participation through community meetings resulted in consultation with those who turned up, which did not always correspond with those who were needed. This level of community participation is not sufficient for active national park management, and achieving higher levels of participation will not come from further community meetings.

As the Bunaken experience shows, community participation must be redefined in the context of a multi-stakeholder process, where stakeholders are comprised of the many disparate groups of the community and are recognized as having different, often conflicting, interests that need to be negotiated. Participatory management also requires extending resource management and decision-making rights to the various stakeholders, with responsible use of these resources being the requisite condition for the continuation of those rights.

Lesson Two: Traditional Resource Management and Conservation

A second lesson learned during NRMP's efforts to develop community-based management is that there are not necessarily traditional natural resource management mechanisms that can be appropriately applied to national park conservation or even sustainable development. Throughout the planning process and during virtually every community-level field activity, great efforts were made to find traditional and sustainable natural resource management tools that could be applied to Bunaken National Park's management. These management mechanisms simply did not exist because historically there has been no reason for them to exist.

In the past, resource scarcity was not a major problem because of low population pressures. If required resources became scarce in one area, people could simply move on to a new area. Given the relatively short history of fishing communities living in and around Bunaken National Park (only four or five generations old, having migrated primarily from other coastal areas of Sulawesi), it is likely that their traditional resource management followed just such a pattern of migration from resource scarce areas to the more fertile waters of Bunaken. Should resources become scarce in Bunaken, either due to physical scarcity, loss of squatters' rights to national parks, government laws, or political, economic powers, communities and around Bunaken will most likely follow tradition and move to new, more fertile waters.

Lesson Three: Responsive Planning

A third lesson learned from NRMP's involvement in Bunaken is the need for flexibility in park planning. Such flexibility does not exist in the blueprint nature of the national park management plan guidelines, which requires comprehensive management activities and budgets for twenty-five years. This is unrealistic for Indonesia as it is experiencing such rapid rates of economic growth and development. As mentioned earlier in this chapter, national park management must be flexible and adaptive and planning must be perceived of as an ongoing process.

The need for flexibility is clearly depicted in Bunaken National Park. During the short time between submission of the management plan and its approval, the park experienced a dramatic shift in economic development and natural resource use through the rapid development of seaweed cultivation. Starting out along the fringing reef of Nain Island, seaweed cultivation has expanded to other islands as well as mainland coastal areas. Seaweed cultivation led to an unpredicted population increase, particularly on Nain Island, changes in fishing practices, and unsustainable pressure on the park's mangrove resources.

While seaweed farming in Park actually started in 1989, it was not considered an important issue during the development of the Bunaken National Park Management Plan. Initially cultivated on the reef flats surrounding Nain Island and along the southern coastline, the small handful of seaweed farmers quickly became disenchanted with poor prices and difficult marketing. By

1991, seaweed cultivation seemed to have come to an end. It certainly did not seem to be an important natural resource management issue.

1992 saw a quiet rebirth for seaweed cultivation in Bunaken National Park. CV Sumber Rezeki, a Manado-based company, guaranteed seaweed farmers a purchase price of Rp. 350/kg of dried seaweed. Over subsequent years, the purchase price for dried seaweed continued to rise. By 1995 had doubled to Rp. 700/kg, and in 1996 it was up to Rp. 1,000/kg. As prices continued to rise, more and more people have started cultivating seaweed in Bunaken National Park, and this has led to major changes in the use of the Park's natural resources that was not anticipated in the National Park Management Plan:

1. People are giving-up fishing to become seaweed farmers. More than 64% of seaweed farmers in Bunaken National Park are former fishermen.^x
2. Seaweed farming is spreading from Nain Island to virtually all reef flats in the Park. More than 200,362 seaweed lines are spread across some 463 hectares of reef flats near Nain, Buhias, Tangkasi, Tinongko, Bango, Rap-Rap and Wawantulap. While most prevalent along the Nain reef flats (more than 70% of which are currently being used for seaweed farming), more than 1,439 households are cultivating seaweed on reef flats within the Park. 61% started in 1995 or later.^{xi}
3. The economic incentives of seaweed farming is increasing population pressure within the National Park. Until the recent seaweed boom, population pressures remained relatively

constant. Now, particularly on Nain Island, there is a proliferation of in-migration. This includes the return of family members, as well as outsiders marrying in to the community.

4. The rapid growth of seaweed cultivation is drastically changing natural resource utilization. Positively, it is enhancing the local fish populations because of reduced fishing efforts.^{xii} Negatively, it is destroying the Park's important mangrove habitats as mangrove trees are exploited for seaweed stakes, drying floors, shelters, etc. In 1995, Bunaken's seaweed farmers used more than 3,008 cubic meters of mangrove wood, or 37.6% of all mangrove wood harvested that year.^{xiii} Given the current poor condition of the Park's mangrove habitats, this use rate is not sustainable.

The important socio-economic and natural resource management feature of the Park, seaweed cultivation is not adequately addressed in the Bunaken National Park Management Plan. At the time of Management Plan consultation and writing, the market value of seaweed was low and thus not competitive with fishing. When seaweed prices broke the Rp. 650/kg barrier, however, its cultivation became more attractive.^{xiv} As prices continue to rise, not only do fishermen give-up fishing but people start migrating into the National Park. Natural resource use becomes highly concentrated and, potentially, threatened. While this is a growing problem, Park managers seeking to use the Management Plan as a blueprint for management are provided with no prescriptions for addressing this problem. It is likely to go on, unaddressed.

The significant impact of seaweed cultivation on Bunaken National Park and the Park management plan's lack of response to it underscores the need to move away from the current rigid Management Plan guidelines to a more flexible, adaptive planning process. In a country experiencing such rapid economic growth and development as Indonesia's, it becomes impossible for planners to predict and plan for changes in natural resource use for twenty-five years at a time. National Park management planning, therefore, needs to be treated as a flexible, adaptive process that supports management on an on-going basis. As this case-study shows, planning can not simply be the preface for management.

As an expansion in seaweed cultivation was not predicted during the park's management planning process, there are no adequate tools to address it. With this dramatic change occurring so soon after completion of the management plan, one can only assume many more changes will occur over the twenty-five year course of the prescribed plan. The rapid growth of the seaweed industry and its significant impact on park resources quite clearly demonstrates the need for a flexible, adaptive planning process.

Lesson Four: Political Interests

Yet, while Bunaken National Park now has an approved Twenty-five Year Management Plan, how successful will its implementation be? Many political issues minimize the effectiveness of Bunaken's management plan. An approved and effective Bunaken National Park Management Plan clearly threatens powerful stakeholders. Many provincial-level government officials and private sector investors could lose access to Bunaken National Park to the Ministry of Forestry through an approved management plan and the park's resulting UPT status. In order to capture ongoing and projected tourism revenues, it is in the provincial government and private investors' best interest to maintain control of Bunaken at the provincial rather than national level. These political issues became clear during the development of the management plan, as these important stakeholders showed great reluctance to support or even participate in the national park planning process.

Lesson Five: A Sense of Ownership

A final lesson learned from Bunaken is the need for developing appropriate ownership for the management planning process and overall park management. This is especially true in light of recommendations to shift from the current management planning system to a more adaptive one.

SB-KSDA, the provincial-level office of PHPA responsible for Bunaken National Park and all other protected areas in North Sulawesi, was a conspicuously absent participant in the Bunaken national park planning process. SB-KSDA's minimal role in Bunaken's National Park planning is due to a number of reasons. Firstly, the office did not allocate appropriate human resources to the planning process and, therefore, only a limited number of staff were responsible for ongoing management activities of Bunaken National Park. Secondly, existing staff lacked the skills and experience necessary to collaborate with teams of professional consultants which were often working under major time constraints. Thirdly, the goals of SB-KSDA differed from NRMP planners and other national park stakeholders, and were not necessarily taken into account by NRMP. SB-KSDA was more concerned with achieving the budgetary benefits and the independence associated with UPT status than developing a participatory, multi-stakeholder management process. Given SB-KSDA's lack of involvement in the planning process, it is unlikely SBKSDA will use the management plan as a blueprint for Bunaken's ongoing management.

It is evident that effective implementation of the management plan will be hampered. The management plan may support SB-SKDA's goals of achieving UPT status and thus enhance its financial position, but the plan will not result in an ongoing, participatory management process. Further, it is unlikely that current SB-KSDA would actually be transferred to the Bunaken UPT if and when it is formally approved. Staffing for the National Park would be decided from the central PHPA office. This weakens the sense of ownership of SB-KSDA staff in the planning process, as they perceive the potential of only temporary involvement.

The Bunaken experience shows that while efforts to engage in a participatory planning process were made (at least in the form of a consultative process), a blueprint approach to management that desires and promotes participation is not necessarily feasible.

3.4 The Bukit Baka-Bukit Raya Experience: Saving a Plan

Straddling the Schwaner mountain range in the heart of Kalimantan, Bukit Baka-Bukit Raya is a 180,000 hectare national park recently created through the re-gazettement of two adjacent nature reserves (*cagar alam*). These two reserves had adjacent boundaries along the Schwaner mountain range ridge line which is also the West and Central Kalimantan provincial boundary. Prior to acquiring the status as a national park, these two nature reserves were managed administratively from their respective capitals of Pontianak and Palangka Raya. The new status of national park changes this management delineation and there remains a lack of clarity as to whether park management falls under the jurisdiction of West or Central Kalimantan. In either case, the transition from low-level management of the two nature reserves that was possible at great distance – more than a day’s journey from either provincial capital to Bukit Baka-Bukit Raya’s boundary – is perceived as a major problem given the higher level of management considered to be necessary for Bukit Baka-Bukit Raya as a national park.

3.4.1 The Bukit Baka Bukit Raya National Park Planning Process

As was the case for Bunaken, NRMP prepared a national park management plan for Bukit Baka-Bukit Raya following Ministry of Forestry guidelines, and attempted to do so in a participatory manner. Like Bunaken, the participatory and community-oriented approach proved to be more of a stakeholder identification and consultation process. There was little alliance building among stakeholders, too much emphasis placed on the local population living in settlements adjacent to the national park, and too little emphasis placed on timber companies operating concessions adjacent to and in some cases with overlapping claims into the national park.

Unlike the Bunaken experience, Bukit Baka-Bukit Raya’s Management Plan, which was finalized and approved by the Ministry of Forestry in 1996, was prepared in a great hurry during the final year of NRMP’s involvement in Kalimantan. A previous management plan for Bukit Baka-Bukit Raya had been prepared and submitted to the Ministry of Forestry previously, at the commencement of NRMP field activities. This first management plan, however, was not approved by the Ministry of Forestry as it did not follow the established guidelines. While the final approved management plan includes some data and concepts from the original management plan and other NRMP documents, it is primarily the result of a rapid consultative process with Bukit Baka-Bukit Raya’s National Park stakeholders, including:

- Ministry of Forestry/PHPA officials at the national and provincial levels;
- Other government agencies at the provincial and local levels;
- Officials of companies operating timber concessions in or near the park;
- People living in settlements adjacent to the park; and

- Scientists from LIPI, national and provincial level universities and NGOs.

While great efforts were made to inspire active participation throughout this consultative process, stakeholder participation was weak. Some stakeholder groups may have been disappointed with the failure of the original management plan, while others simply did not feel a sense of ownership of and commitment to the abstract concept of a national park located far away in the heart of Kalimantan.

The resulting approved management plan fits within the Ministry of Forestry's guidelines, but its potential for implementation is questionable. Both West and Central Kalimantan SB-KSDA offices currently operate on limited budgets with poorly trained staff. Bukit Baka-Bukit Raya's great distance from provincial-level offices presents an extremely expensive logistical problem.

3.4.2 Lessons Learned from Bukit Baka-Bukit Raya

Lesson One: Management Costs and Conservation Values

If the management objective of Bukit Baka-Bukit Raya National Park is to maintain its conservation values, it is first important to establish what these values actually are. Having done this, the costs necessary to preserve these values must be determined. Different management options result in different costs. Given this, what is the most cost-effective way to manage the conservation of Bukit Baka-Bukit Raya National Park?

According to the Bukit Baka-Bukit Raya National Park Management Plan^{xv}, the purposes of the park are four-fold:

1. Protect native ecosystems and maintain the natural diversity of species;
2. Maintain the high quality of surface waters discharged from the watershed;
3. Help improve the quality of life of local residents; and
4. Provide high quality experiences for park visitors.

These four purposes are based on the assumption that the conservation values of the park are ecosystem conservation, watershed management, and tourism. Of these three values, Bukit Baka-Bukit Raya's most significant conservation value is probably ecosystem conservation. The park is basically a wilderness core area within a greater region of lowlands which are quickly being transformed by agricultural conversion and timber extraction. It should be noted, however, that due to its relatively small size, the park's contribution to ecosystem conservation is rather limited. The park's conservation value of watershed management is minimal. While the park contains the headwaters of a number of important watersheds for West and Central Kalimantan, water captured within the park is insignificant in proportion to the volumes of water entering

these watersheds beyond the park's boundaries. Exploitation of park resources by local communities is also relatively minimal. Clearly, the biggest threat to park resources are by companies interested in accessing timber. Management options geared toward community development near the park are clearly misguided expenditures. Finally, tourism development for the national park makes no sense. Current tourism statistics in the region indicate insignificant demand and thus do not warrant expenditures on tourism infrastructure.

Thus, while Bukit Baka-Bukit Raya clearly has a conservation value, it is low relative to other national parks and protected areas in Indonesia. Compounded by its inaccessibility and associated high management costs, Bukit Baka-Bukit Raya does not warrant an expensive and complex management plan. In fact, it may have been wiser to maintain Bukit Baka-Bukit Raya as two separate nature reserves and to manage by non-management. That is, successful management of Bukit Baka-Bukit Raya should not be treated as an expensive, complex integrated conservation and development project, but rather as an inexpensive, ongoing process of low level facilitation.

Lesson Two: Multi-stakeholder Identification and Management

The Bukit Baka – Bukit Raya management planning process failed to clearly identify and facilitate the participation of the relevant stakeholders. Too little emphasis was given to the timber companies operating logging concessions adjacent to (and in some cases within) the park, while too much emphasis was given to the relatively small population of people living in communities adjacent to the park. This results in a management plan promoting costly and potentially ineffective development programs, while greater emphasis should have gone towards the promotion of more cost-effective timber concession management efforts.

The greatest threat to Bukit Baka-Bukit Raya is timber companies with concessions adjacent to and in some cases overlapping the national park's boundaries. These companies pose potential threats to the integrity of the national park directly by encroaching on its ecosystem for timber exploitation and by constructing roads and providing infrastructure which induce migrants into new, previously uninhabited areas. Managing this threat is straightforward and inexpensive. Park management must oversee annual logging plans and ensure that concessions do not encroach upon the park and that road construction is kept to a minimum. This can be done, quite simply, through meetings with the appropriate stakeholders conducted in the comforts of the park's provincial capitals or even Jakarta. Only a small team of rangers is necessary to monitor the applications of these logging plans in the field. It should also be noted that the topography Bukit Baka-Bukit Raya National Park contributes to this management objective. Primarily encompassing steep slopes and shallow, narrow rivers, Bukit Baka-Bukit Raya is not cost-effective for logging. With or without protected area status being designated for the park, it is

unlikely that large tracks of the park would be logged due to the park's inaccessibility and thus inefficient logging operation costs.

Even though people living in settlements in and around Bukit Baka-Bukit Raya pose little threat to the integrity of the national park, NRMP field activities and the national park management planning process focused substantially on development activities to improve their qualities of life to minimize their to continued exploitation of the national park's resources. Because this small population has little impact on the park's resources, such activities would prove to be extremely high in cost with little return to conservation objectives.

NRMP initiated development activities to encourage community participation in the park planning process. This participation was largely consultative in nature – park planners and consultants frequently met with community members to gather information and share ideas regarding the management plans. Consultations included community meetings, interviews and questionnaires. Visits by project staff and consultants could last from a few hours to several days.

In the case of BB-BR, the community consultation process was concentrated in seven villages.^{xvi} These villages were the most accessible to NRMP's Pontianak project office, and offered relatively good infrastructure to visitors in terms of road access to the Park and adjacent villages as well as a project guest house. While many other communities living adjacent to the Park received few visitors and virtually no consultation, NRMP became concerned that these seven villages might be over-consulted.

Responding to this concern, NRMP initiated a series of community development activities in these villages. Gravity feed water systems were installed and follow-up sanitation training programs were provided. Later in the project, an agricultural development training project was initiated. The idea: NRMP would offer community development activities as incentives for communities to provide on-going participation in the BB-BR national park planning process.

Leveraging community development projects for community support for the park planning process was a misguided concept. Apparent community support was only an illusion of participation: local communities became less concerned with National Park management planning issues and more concerned with answering consultants' questions properly so that the direct benefits of development activities would continue.

Further, using community development activities to encourage participation is also expensive. The costs for generating and supporting community participation for the planning process would grow geometrically in order to maintain this participation throughout implementation of the twenty-five year management plan. True participation in natural resource management must be built on a foundation of trust, and shared rights and responsibilities. It can not be traded or

bought through community development projects. When community development is used in protected areas management, it should be clearly linked to conservation objectives. Community conservation agreements offer one mechanism for making this linkage.

Lesson Three: Buffer Zone Development and Regional Planning

Like the Bunaken plan, the Bukit Baka-Bukit Raya National Park Management Plan was written during a time of great support by the international conservation community for integrated conservation and development projects, community participation, and buffer-zone management. These are a set of related concepts based on the assumption that people living near national parks, or in the parks' buffer zones, need alternative income generating opportunities to provide incentives and offset losses for participating in a nearby park's conservation management. As such, the Bukit Baka-Bukit Raya management plan provides a complex menu of community planning and development activities which, if successful, will encourage the existing population to remain while attracting other voluntary migrants.

Given the remoteness of Bukit Baka-Bukit Raya National Park from more developed areas of West and Central Kalimantan, the potential contribution of a successful buffer-zone community development program towards the park's conservation objectives is questionable. Quite simply, given the dearth of effective economic and social development activities near the borders of Bukit Baka-Bukit Raya, a new and successful program may succeed in drawing some people away from the national park, but, at the same time, may attract significantly more people into it. This concern questions the justification of buffer-zone development activities as it suggests that the provision of development opportunities could inadvertently lead to increased pressures on park resources. NRMP's Bukit Baka-Bukit Raya experience suggests that a park's buffer-zone needs to be redefined less within the context of a narrow geographic band surrounding the park and more within the context of each region's overall spatial plan.

Especially as part of a twenty-five year management plan, economic and social development activities presented in support of conservation management objectives must look far beyond a series of small-scale community development activities and instead consider overall regional planning. Treating an entire region as a buffer-zone^{xvii} allows for comprehensive planning within an existing regional planning and development framework necessary to draw people away from environmentally sensitive areas toward existing centers of growth. Rather than looking at independent community development projects with no clear linkages to regional planning and development, such an approach would provide the tools for sustainable regional development based on sustainably managed resource exploitation with adequate investments in infrastructure and training for the local population. Through this approach, people would be drawn away from remote areas toward areas of growth and development. This would reduce human impact on

national parks and other protected areas, and support economic and social development based on sustainable natural resource management.

NRMP development activities with communities living adjacent to the national park illustrate the problems of a buffer-zone development strategy in a remote area without clear links to regional planning and development. In order to develop support for NRMP and the national park planning process, NRMP initiated a potable watery delivery program in a number of West Kalimantan villages nestled along the border of Bukit Baka-Bukit Raya. Such a program provided great benefits to these communities, as access to potable water reduced the incidence of illness from water-borne disease and generally contributed to improved quality of life. Yet the potable water delivery project was restricted to just a handful of villages located right next to the park. Most other villages in the region did not benefit from this. As a result, the potable water project acted as an incentive to attract migrants to move closer to the park. Positively, the project gained a degree of support for the national park by members of a few (not all or even a majority) of villages living near the park. Negatively, the clean water project attracted new people to settle near the park.

Lesson Four: Institutional Capacity for Management

NRMP's Bukit Baka-Bukit Raya community development projects also highlight institutional weaknesses in delivering integrated conservation activities in remote areas. There was little government support for these endeavors, and, like Bunaken, NRMP made great efforts to work with and support local NGOs for these projects. Similar to Bunaken, NRMP staff had a difficult time identifying competent NGOs in the West and Central Kalimantan region to work as partners. NRMP eventually identified representatives from some local NGOs to work on specific activities, but, especially given the great logistical costs and constraints of working in this remote area, it is highly unlikely that these NGOs will be able to continue to support community development activities around Bukit Baka-Bukit Raya National Park.

It is important to note that the lack of institutional and human resource capacity necessary to implement the complex management prescriptions of the Bukit Baka-Bukit Raya National Park Management Plan is not necessarily bad. As mentioned above, these prescriptions are costly and misguided in terms of addressing the real threats to the conservation values of Bukit Baka-Bukit Raya. Park management should focus specifically on ensuring that timber companies do not encroach upon the national park or construct unnecessary roads that would attract voluntary migration into this remote region. This low-cost management approach clearly supports the low to medium conservation value of this national park, and it enables the redistribution of funds to other parks with higher conservation values within the context of Indonesia's national park system.

4. Broader Lessons Learned During the NRMP Experience

4.1 Integrating Conservation and Development: Park Management and Regional Planning

National parks and other protected areas are land uses that compete, compliment, and interact with alternative uses of the same resources. Land uses adjacent to and surrounding the protected area system may therefore, impinge upon the ability of the protected area management to achieve its required goals. Conversely, the requirements of protected area management may affect other activities in the wider area. The managers of protected areas are put in a very difficult position given that their jurisdictions have typically spread only as far as the park boundary. In an attempt to improve management effectiveness conservation management increasingly targets areas beyond the immediate protected area. These targeting aims to exert influence on the region immediately adjacent to protected areas

As the NRMP experiences in Bunaken and BB-BR show, the notion of working on or immediately outside the protected area boundary is self-defeating. Conservation managers seek to increase the economic returns and lower the social costs of living in such areas in return for lowering the impacts of local communities on resources. If successful, such programs provide an incentive for residents slightly more distant from the park to migrate closer to the park potentially increasing the risk to conservation objectives. Seaweed farming is an example of where an improved economic opportunity has created in-migration. Luckily to date few of the conservation project initiatives have been this successful.

How can we use the above understandings to improve management of protected areas and their important social values? The underlying issue is how to absorb the growth in the workforce. People will move away from resource exploitation if the return to their labor is higher in other applications. The sustainability of natural resource use is directly linked to the need for increasing industrialization of the economy.

If industrialization is appropriately located, it will assist in pulling labor from areas that are close to protected areas. What becomes an important ingredient for conservation management is the planning and policy for industrialisation in this wider region. The needs of conservation need to be strongly advocated within such processes, such that the expected volume of labour absorption required to protect conservation is tabled during economic planning and development forums. PHPA is, faced with the difficult task of maintaining a voice in the planning and decision-making of the wider region. For a number of institutional and jurisdictional reasons, this is unlikely to occur since both the regional and provincial level PHPA offices (Balai and Sub-Balai

KSDA) report to a national level ministry and are, therefore, effectively silenced in regional development forums. Potential restructuring of PHPA as presented in the following section is considered one means by which the strategy of industrialization could be better supported.

The major shift of conservation resources (both financial and human) resources from infrastructure development and park management within the boundaries of the protected area to community development inputs for park management and protection activities should be reviewed. The relationship between improved levels of welfare and resource conservation attitudes has very little founding (Heinen, 1994; Saunders and Weber, 1996.). Wells, M. (1997) reports a lack of evidence to support the claim that increases in welfare reduce resource dependence. On the contrary, there are a number of examples where increases in income levels resulted in new technology being applied to resource exploitation, enabling higher income levels to support higher consumption expectations. NRMP experienced this phenomena in Bunaken with the growth of the seaweed industry, and the changing gear types in local fisheries, and in Bukit Baka-Bukit Raya as a result of the increase in the number of chain saws being used to harvest Ulin

Why then are continued donor and public sector investments made to provide social and economic opportunities for remote communities located next to protected areas? In all likelihood, it is done to maintain access to communities in order to fulfill consultative requirements, as was the case with the NRMP. The intent of these consultations is to make the standard of living for these communities more pleasant, to provide higher incomes to be invested in new technologies, or improved transport access to markets. These are the very outcomes known to reduce the likelihood of long-term local control over resources. While this approach is criticised here, it is done so from the perspective of conservation. Conservation objectives by themselves do not provide justification for investing in community development. The return to conservation from community development is at best speculative and probably misplaced. Successful community development increases the risk of exploiting the very resources and conservation values that are targeted for protection.

Community development needs to occur in a wider economic context than the protected area itself. It should take place some distance away from the protected area so that regional development can provide the underpinning services and infrastructure that promote industrialisation. When local communities grow, due to population growth and increased life expectancies, park management objectives are best served by absorbing the growth of the labor into value adding at the periphery of market development. By adopting a “pull” strategy¹, it is possible that the conditions for local control of resources can be maintained for a longer period.

National Parks management, therefore, must be incorporated into regional development and spatial planning processes, both of which have a strong underpinning in location theory where

¹ Pull in the sense that labor is attracted i.e., pulled away from the protected area.

growth nodes are developed so that wider economic benefits can be spun-off to adjacent areas. Regional development agencies need to realize that the “opening” up of remote areas while being supportive of economic development may at the same time jeopardize the effective protection of critical ecosystems within the protected area system.

Spatial planning agencies currently rely heavily on biophysical classification of space. There is a need to move away from the use of biophysical zones which attempts to optimize spatial allocation of resources based on land suitability, to a range of criteria that include economic optima. Economic optima in that the net benefits of establishing and operating a particular land use exceed the net benefits of other options. While biophysical optima can predict the most intensive and physically sustainable use options they exclude important aspects, such as proximity to markets, prices, labor availability, cultural norms, and economic trade-offs between alternate production systems. In addition, biophysical assessments erroneously assume that there are no costs of transferring from the present system to an optimal one. As a consequence, a biophysical indication of over-use may not be evidence that the current or alternate uses are inefficient. In addition to the optima varying, the economic approach, is likely to provide better clues on how changes in management and land-use can be initiated. “By analyzing the economic incentives driving current land use, it is possible to widen, in an informed fashion, the number of available mechanisms for enabling individual land use decision makers to make improved allocation decisions” Aylward, B., et al. (1995^{xviii}).

As the frontiers of land utilization expand outward to accommodate population growth and the need for consumption-based welfare increases, the net benefits of alternate land uses become one of the key determinants of land allocation. Regional development initiatives are aimed at reducing the costs of production associated with such sectors as agriculture, manufacturing or forestry. The provision of new roads and improvements to existing roads lower transportation costs and enable the frontier of economic utilization to move further away from urban settlements bringing with it increased market access.

This frontier model continues unabated until the costs of establishing and enforcing a property right are less than the benefits arising from the right. Once such rights are established commercial investment into plantation forests should ease the pressure on more remote areas. Traditional land use classifications need to reflect these boundary differences. It is important for regional development and spatial planners to understand the dynamics of prices and costs associated with alternate land uses, as these interactions and the way they change in response to policies will determine at what point in time and space investors will secure property rights.

The preservation of biodiversity requires land use arrangements that are more complex than fences and permanent restrictions in protected areas (Hyde et al., 1996^{xix}). Land use arrangements may need to be site and ecosystem-specific, which conflicts with the predominant approach of Indonesian -policy. Yet the apparent desire of Indonesian policymakers is to adopt

uniformity as highlighted by the large number of pilot projects, very few of which ever get generalized to the wider community (The previous sentence is not an example of uniformity). Uniformity is perceived as being less costly than developing situation-specific responses. Although cheap in financial terms, uniform responses must bear the costs of continued failure to achieve significant benefits in the areas of conservation and sustainability of resource use. Hyde et al (1996) concludes that policy interventions “to correct problems associated with forest land tenure, deforestation, and forest management do not necessarily improve on market based solutions because forest lands often have low values and are widely dispersed” (p.242).

Spatial planning and regional development policies must account for sectoral policies that discourage investment in sustainable land use, that pertain to the establishment of rights and the transfer of rights, and that regulate the relative value of alternate production systems and the costs of transition. The Spatial Planning Act No.24. (1993) provides the basic framework for zonation and planning land use, resource development, conservation, and other special purposes. Specifically, it provides for the management of resources in a sustainable manner and, once implemented, should provide a basis for representing conservation values in the wider land use debate. The Act provides for broad consultation, which could be applied to a multi-stakeholder process as described earlier in this chapter. In addition, it allows for the use of economic incentives and disincentives, suggesting that market-based approaches and market constraint systems are tools that are already available to Indonesian policymakers.

4.2 Funding Effective Conservation Management

Management of Indonesia's conservation estate receives substantial funding. In 1996 alone, the GOI allocated \$38.3 million to PHPA. Additional funding for the protection of this protected areas system is also provided through a range of NGO and donor channels. Though Indonesian and international commentators argue that funding is the single greatest constraint to effective conservation management in Indonesia, the NRMP experience shows that this is not the case. Instead, the greatest constraint to management is inappropriate allocation of funding and the resulting implications on staffing and activities expenditures. Improved allocation of funding requires a shift in budgeting procedures toward cost-effective conservation management. Cost-effective management implies the maximization of protection of conservation values for the least cost both in terms of the system as a whole and its individual components (primarily the national parks). Once these values have been determined, scarce funding and human resources must be allocated in a manner that best achieves conservation management objective. This requires not only a clear understanding of conservation values, but, more important, how to achieve these values in as effective and efficient a manner as possible with available resources.

Achieving cost-effective conservation management necessitates clear links between funding allocations and overall conservation goals and objectives. Currently, this link does not exist for two related reasons. First, funding allocations are made on an input-oriented, projects basis focusing only vaguely on the development of particular national parks. A breakdown of PHPA's 1996/97 budget shows that almost half of available funding went toward administration (8%), facilities (29%) and equipment (12%). By comparison, only 12% of the budget went to buffer zone activities, education and awareness, and staff training. Thus, funding focuses more on infrastructure development and capital costs, and less on management and operational activities. Too much money is spent on building infrastructure for parks, and not enough money is spent on more important behavior change programs necessary to support park conservation.

The second reason follows from the first in that funding allocations are not clearly linked to conservation values and/or management goals and objectives. Many building projects are irrelevant to effective conservation management, and therefore represent misallocation of funding. If there were a stronger link between conservation values and the budgeting process, there would most likely be a dramatic shift in funding. Far less money would go into infrastructure development, and much more would be invested in programs such as buffer zone activities, education and awareness, and staff training.

Effective and efficient budgeting for Indonesia's protected areas system requires a number of inter-related steps. First, conservation values for the entire system and particularly within each national park must be clearly determined. Simultaneously, scarce resources (human and financial) must be quantified. Second, workplans and budgets for each park should be prepared

in the field and focus specifically on those activities that best support conservation values at risk. Each of these activities should include clear indicators to measure the degree of success in achieving their conservation objectives. Third, workplans and budgets should be sent to the National Parks headquarters in PHPA. Here, individual work plans and budgets would be competitively evaluated against one another and within the context of the conservation goals of the entire national park system. Finally, resource allocations (human and financial) would be made on a cost-effective basis, according to each investment's contribution to the overall protection of conservation values at risk. Such a resource budgeting system would ensure that activities in each national park would support the overall goals and objectives of the greater national parks system.

4.3 Institutional Reform

Increased efficiency and effectiveness of conservation management in Indonesia requires significant institutional reform. Such reform should encourage PHPA to take an outward, rather than inward, looking perspective, focusing more on conservation management and necessary behavioral change processes rather than national park infrastructure development. PHPA should not try to manage Indonesia's vast protected areas system independently, but instead work to mobilize other available resources through the development of a series of partnerships. This would strengthen the capacity for improved resource allocations within the protected areas system, and provide new opportunities for additional funding and staffing resources. These reforms will not be possible without adequate performance incentives provided to PHPA staff. Clearly, the motivation of PHPA staff to develop more efficient conservation of protected areas should be rewarded accordingly.

PHPA should reassess its role in national parks management within the context of both management of Indonesia's conservation estate as well as in support of regional development. Based on the NRMP experience, it is recommended that the PHPA centralized function become one of conservation estate portfolio manager. Responsible for determining and maintaining the goals and objectives of Indonesia's conservation estate, the central PHPA office would then allocate scarce resources, both financial and human. Decisions for resource allocation among national parks would be determined by management plans more reflective of business plans. Such plans would spell-out the conservation values and management constraints of each national park, management activities and expected outputs, and clear indicators to measure the effectiveness of these activities. Funding and resource allocation to the national parks would be based on the success of achieving these goals and objectives.

Implementation of national park management would be decentralized to and integrated within regional-level planning and development. National park management would occur through the provincial-level Kanwil Kehutanan, thus providing a regional –level platform to participate in

planning and development. This is a fundamental change from the current KSDA and SB-KSDA system which has no institutional links to, and thus no voice in, the provincial or district level governments. By being linked to the provincial-level Kanwil Kehutanan, national park management would be able to participate in and influence regional planning. Beyond supporting regional sustainable development, this platform would also provide national parks with access to provincial level resource allocations.

Effective national park management also means looking beyond government agencies. As the NRMP experience shows, successful management hinges on adequate participation of all national park stakeholders. The first step of management planning is identifying these stakeholders and understanding their interests. Stakeholders include a broad range of disparate communities, including private sector interests, government agencies, people living near or in the parks, NGOs, etc. Their interests in the park will be equally broad and most likely conflicting. Effective management requires generating responsible participation of these stakeholders. Often, this will necessitate further decentralization of authority through the granting of resource rights. The strength of a multi-stakeholder process rests on the capacity of park management to share rights and responsibilities with stakeholders. Institutional reform supporting this should reflect an ease of access to stakeholders and the potential to delegate some degree of authority.

5. Conclusion

NRMP's experiences have highlighted the fundamental need to move conservation from a protected area model with community development based in buffer zones into a wider regional economic development context. To do so requires a new range of skills and thinking to be applied to conservation management. The ability to identify industrial production systems with adequate labour absorption capacities to recruit labour from communities adjacent to protected areas, the ability to identify what policies restrict private sector investment into such industrialisation options became increasingly obvious. Once such a strategy can be established the types of interventions park managers or projects may adopt change dramatically. The priority is how to deliver skills to those who need to shift their labour from resource utilisation to industrial employment, enabling them to compete for jobs.

Presently, PHPA is poorly structured and skilled for such approaches. The lack of effective protection provided to the conservation estate is less to do with funding than is commonly claimed. The fundamental weaknesses in PHPA simply preclude effective management of the conservation estate. These weaknesses are compounded by the current park management plans which, have proved to be ineffective for management systems. Increasingly, systems with more feedback and learning are required for effective management, managers need to adapt to new pressures and threats that are arriving at an ever increasing rate.

NRMP's experience in Bunaken demonstrates the need for improved application of participatory processes. Yet, at the same time, what was achieved was far from adequate. Greater involvement is required to make participatory systems worthwhile. This requires real sharing of power and the acceptance of responsibilities to make the necessary trade-offs by those granted the rights to be involved. NRMP involved those who wanted to listen, but not necessarily those who needed to listen. This was largely due to NRMP's insufficient understanding of the concept of community and the demands of multi-stakeholder processes.

The experience in Bukit Baka Bukit Raya demonstrated how the poor identification of stakeholders could lead a project away from recognizing the major threats. The lack of involvement of forest concessionaires resulted in no mechanism to manage the Parks greatest threat. This highlights a major institutional issue. Whereas at the national level the benefits of logging is probably more economic than conservation, at the provincial level and below conservation and use values are of similar magnitude. Conservation management is driven from a national agency, which limits the ability of important regional values to be included in the management system. While working with the local communities, use of traditional community development approaches to gain support for the national park were less than successful.

Overall, the experiences gained point increasingly toward institutional constraints and not at field level project intervention issues.

ⁱ IUCN, 1996. The IUCN List of Threatened Animals. World Conservation Monitoring Centre and the Species Survival Commission. IUCN Publication, Gland Switzerland

ⁱⁱ MoFR, 1995. MoFR Indonesian Forestry Action Plan (IFAP), 1995 Table 4.2.

ⁱⁱⁱ IUCN, 1994. Guidelines for Protected Areas Management Categories. IUCN Publication, Gland Switzerland.

^{iv} PHPA, 1995/96. Statistik Kehutanan, bidang Perlingdungan Hutan dan Pelestarian Alam. Tahun 1995/96.

^v Director General for Forest Protection and Nature Conservation (PHPA), Ministry of Forestry. *Guidelines for the Preparation of National Park Management Plan*. No. 59/Kpts/DJ-VI/1993.

^{vi} BAPPENAS, Departemen Kehutanan, NRMP. Bunaken National Park Management Plan. USAID, 1996.

^{vii} Merrill, R. and Davie, J. *The Sustainable Use and Conservation of the Mangrove Ecosystems of Bunaken National Park*. USAID 1996.

^{viii} Weber, J. and Saunders, L. *Managing a Coral Reef Ecosystem in Indonesia*. USAID 1996.

^{ix} Wicaksono, Arief. Personal Interview. 1997.

^x 1996. Studi Budidaya Rumput Laut di Taman Nasional Bunaken. NRMP Report No. 73

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^{xiii} Merrill, R. and Davie, J; 1996. The Sustainable Use and Conservation of the Mangrove Ecosystems of Bunaken National Park. NRMP Report No. 74

^{xiv} Saunders, L. and Weber, J; 1996.

^{xv} BAPPENAS, Departmen Kehutanan, NRMP, USAID. *Bukit Baka-Bukit Raya National Park Management Plan*. 1996.

^{xvi} BAPPENAS, Dpeartmen Kehutanan, NRMP, USAID; 1996. Bukit Baka - Bukit Raya National Park Management Plan. These seven villages are Tumbang Kaburai, Nanga Juoi, Nanga Siyai, Sungkup, Beleban Ella, Riam Batang and Tumbang Tabereau.

^{xvii} In the case of Bukit Baka-Bukit Raya this would include both West and Central Kalimantan. Due to existing institutional arrangements, this would be easier to manage on a per province basis, which supports the original gazettelement of Bukit Baka and Bukit Raya as two contiguous but separate management entities.

^{xviii} Aylward, B., Echeverria, J., and Barbier, E.B. 1995. *Economic Incentives for Watershed Protection: A Report on an Ongoing Study of Arenal, Costa Rica*. CREED Working paper Series No. 3. IIED.

^{xix} Hyde, W.F, Amacher, G.S., and Magrath, W. 1996. "Deforestation and Forest Land Use: Theory, Evidence, and Policy Implications". The World Bank Research Observer, vol 11, no.2, August, pp 223-248