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NATURAL RESOURCES MANAGEMENT PROJECT

**Bappenas - Ministry of Forestry
Assisted By
USAID**

ANNUAL REPORT

August 1992 - August 1993

AID Contract No. 497-0362-C-00-1064-00

**Associates in Rural Development
for
Office of Agro-Enterprise and Environment
USAID-Jakarta**

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GLOSSARY

ADB	Asian Development Bank
BAPPENAS	National Development Planning Board
BPS	Bureau of Statistics
CENRA	Comprehensive Environmental and Natural Resources Accounting
CIDA	Canadian International Development Agency
DGPH	Directorate General of Forest Utilization
DIP	Approved Project Budget
DUP	Suggested Project Budget
EA	Environmental Assessment
EPS	Environmental Program Support (Project)
GOI	Government of Indonesia
HPH	Forest Concession
ITTO	International Tropical Timber Organization
LH	State Ministry for the Environment
MOFr	Ministry of Forestry
MS	Master of Science (degree)
NGO	Non Governmental Organization
NRM	Natural Resources Management (Project)
ODA	Overseas Development Agency
PCC	Project Coordinating Committee
PMG	Project Management Group
PH	Forest Utilization
PHPA	Forest Protection and Nature Conservation
P.T. KKP	Kurnia Kapuas Plywood forest concession holder
P.T. SBK	Sari Bumi Kusuma forest concession holder
PWG	Policy Working Group
Repelita V	Fifth Five-Year Development Plan (1988/9-1992/3)
Repelita VI	Sixth Five-Year Development Plan (1993/4-1998/9)
RKL	Rencana Karya Lima Tahun (Five Year Operational Plan)
RKPH	Rencana Karya Pengusahaan Hutan (Operational Forest Utilization Plan)

RKT Rencana Karya Tahunan (Annual Logging Plan)
SBKSDA Sub-office of Natural Resources Conservation
SFM Sustainable Forest Management and Human Resources
Development [ITTO Project PD 89/90 (F)]
TFA Traditional Forest Areas
TPTI Indonesian Selected Felling and Replanting System
UNSRAT University of Sam Ratulangi, in Manado
UNTAN University of Tanjung Pura, in Pontianak
USAID United States Agency for International Development

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A. Introduction

This report is the second annual report covering the activities carried out by the Associates in Rural Development (ARD) team under the Natural Resources Management (NRM) project for the period from August 4, 1992 through to August 4, 1993 under USAID contract No. 497-0362-C-00-1064-00. The contract between Associates in Rural Development (ARD) and USAID was signed on August 4, 1991 with the NRM/ARD team fully mobilized by the end of January 1992. Activities under the contract started from September 1991 and have developed rapidly since.

B. Programme Activities

1. Introduction

The NRM/ARD team activities have developed quickly in this second year of the NRM/ARD contract and generally good progress was made in meeting the contract's outputs (see Table 2). Support was given in developing the project's main components as follows:

2. Policy Analysis for Sustainable Economic Development

a. Policy Secretariat

A major part of the Policy Secretariat work is to provide recommendations to the government for policy changes. To date a number of recommendations have led to changes in policy. These recommendations have included increasing the economic rent from the forestry sector, recommending reducing the annual cut from natural production forests and providing an ecological justification for revising the Indonesian selective cutting and planting system. In addition a plan for the implementation of the traditional forest area concept prepared by NRM/ARD advisors in West Kalimantan is being finalized leading to the issuing of a MoFr regulation. These and future recommendations for policy changes are based on the on-going work of the Policy Secretariat activities that in 1992/93, included the following:

- Macro policy studies. These are undertaken by the Policy Secretariat NRM/ARD advisors working with GOI counterparts. Work continued on the ten macro policy studies approved by the PCC (see Annex 1 for list and implementation schedule). This included completion of the Input/Output Modelling activity and work started on four other studies, all relating to natural resources

management issues in the context of forthcoming sixth Five Year Development Plan (Repelita VI) and the Second Twenty Five Year Development Plan. The four studies started were on fiscal monetary policy, trade and exchange rates, the employment effects of sectoral policy and a marine policy study. In addition arrangements were made to bring on a consultant in September 1993 to start work on a fifth study on protected areas. To carry out these studies out teams of local and international consultants along with research assistants are assembled with each study taking three to four months to complete (see Annex 2 for participants to date). The first study, the I/O modelling which was carried out in collaboration with the Institute of Economic Analysis New York University aroused considerable interest and led to a number of meetings and seminars in Bappenas to discuss the results. These consisted of a final report, two training manuals and sixteen working papers (see Annex 3). This study is being used as a basis for macro economic projections for the second Twenty Five Year Plan and the sixth Five Year Development Plan both which are currently moving towards final drafts. Follow-up work in 1993/94 will entail training of a key group of counterpart GOI staff from Bappenas, BPS and the other government departments to manipulate the model with a more senior level Bappenas group meeting to discuss the implications of different scenarios.

- Host Country Contracts. Five host country contracts were awarded in May 1992/93 (see Annex 4) with assistance given by the NRM/ARD team in the preparations of TORs, in the process of selection, and in helping monitor the various studies as they are implemented. By August 1993 these studies were well underway and all are due to be completed in September 1993. Based on the results from these five studies up to five more host country contracts will be processed through MoFr for award by the end of 1993.
- Policy Bulletins. In order to fully circulate the projects policy findings to all the participants in the project and to a wider audience it was decided during a year to produce a series of Policy Bulletins. These will summarize the major policy issues coming out of the various policy studies and from the activities in the two field sites in Bukit Baka-Bukit Raya and in Bunaken.
- Seminars. A Bappenas seminars series was started with seminars given in collaboration the NRM/ARD advisors by GOI counterparts on forestry policy, eco-labelling and I/O modelling. It is planned to run these seminars on a regular basis under the auspices on the NRM PCC at least

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every two months for Bappenas officials and other invitees.

- Training. In house training on data analysis was carried out for the three teams of research assistants working on NRM Policy Secretariat macro policy studies in 1992/93. These courses consisted of a three day introductory course followed by continued on the job training during the life of the study. After discussions with Bappenas it was decided that the planned monthly policy analysts training courses that had been including in the revised Joint Implementation Plan (JIP) in January 1993 would be better focussed on specific case studies rather than on generalities. As a result it was decided to link in the policy analysts training courses with the Policy Secretariat macro policy studies. To introduce the series a first general training course for counterparts in Bappenas, KLH, Home Affairs and Finance will be run in late August 1993, followed by five or six specific courses related to the macro studies.
- Establishing a network of policy analysts. Although the full time policy analysts to be provided to the Policy Secretariat by the government are as yet not available, the Secretariat through its various activities has been building up a network of organizations, projects and individuals interested in the policy analysis of natural resource issues. This has been done through regular meetings with other centres such as Centre for Policy and Implementation Studies (CPIS), other projects including the USAID supported Development Studies Project (DSP), through the use of national consultants working on the various policy studies and through the recruitment and training of fifteen research assistants to work in the Policy Secretariat on various policy studies during the year. This network has been extended by involving the faculties and staff at the local universities in both West Kalimantan and North Sulawesi in the NRM field activities.
- Briefing papers. At request of the Bappenas, a number of briefing papers were prepared during the year. These include papers on: Long-term Forestry Development Objectives and Policies in the Context of the Second Long-term Development Plan; Natural Resource Issues in the Context of the Second Long-term Development Plan; Policy Issues in Indonesia's Forestry Sector; Rent Capture in Indonesia's Forestry Sector; Policy Recommendations for Macroeconomic and Cross-Sectoral Policies.

b. Ministry of Forestry (Jakarta)

- Memorandum of Understanding (MoU). The MoU was finally signed in March 1993 between MoFr and SBK that provides the basis for NRM activities in the SBK concessionaire (see Annex 5). In July a similar MoU was signed for the SFM project by MoFr with PT KKP.
- Environmental Assessment. An environmental assessment of the projects pilot activities was carried out by a team from the Biodiversity Support Program between September-December 1992 (see Annex 6.A. for TOR). They made a comprehensive study of the environmental impact of the NRM project activities in the pilot project areas in West/Central Kalimantan and in North Sulawesi. The NRM/ARD advisors worked closely with the team and the teams' recommendations were incorporated into the revised NRM/SFM Joint Implementation Plan for 1993/94. This included a recommendation for the recruitment of a community development advisor to support NRM project activities with the local communities and NGOs in Manado. This and other recommendations are being followed up by the project and GOI (see Annex 6.B.)
- Applied Research (MoFr). A short-term consultant was mobilized in January 1993 to examine the proposed competitive awards system. Based on his report (Burbridge, 1992) it was agreed that this would be started on a pilot scale under the NRM project focusing on the two pilot project areas in Bukit Baka-Bukit Raya and Bunaken. A series of steps including the setting up of a national committee and two regional workshops were agreed on. The workshops will be arranged in collaboration with MoFr in October/November 1993.

3. Pilot Management of Natural Production Forests

a. Applied Research

Work had been completed on a research agenda for the Bukit Baka-Bukit Raya area in early 1992 with an completed agenda for applied research (Curran, 1992). However due to the continued delays in the construction of the Bukit Baka research station, which is expected to be operational in mid 1994, full implementation of the applied research component will be delayed. However taxonomy work being carried out under sub contract by the Arnold Arboretum at Harvard University was continued with the consultant spending two and a half months in the field in September/November including working with the local university (UNTAN) in Pontianak in beginning the

work on establishing an arboretum at UNTAN. The consultant returned in July 1993 initially to carry out a biodiversity survey of the HPH areas and then to help NRM/ARD advisors carry out a habitat survey of the Bukit Baka-Bukit Raya area.

b. Pilot Project Areas

1. Bukit Baka/Bukit Raya - West/Central Kalimantan

a. Research Station

Construction (to be funded by the SFM project) had not started by early August 1993 although a contract was awarded in July 1993 by MoFr to a local contractor in Central Kalimantan to design/plan the station. Hopefully construction will be completed by early 1994 and the station be fully staffed by mid 1994. Meanwhile the USAID assisted NRM project had taken a number of steps to assist the ITTO supported SFM project in this endeavor. It has completed the installation of a mini hydro electricity system to provide electricity for the research station as well as to provide water both to the station and to the concessionaires camp at Camp Km. 54. This was completed in May 1993 and will require some additional work once the station is completed to connect up the various buildings and houses and to start up the system. At that time a local operator will be trained to carry out maintenance. A topography survey had been carried out in early 1992 by a team recruited by the NRM project (Denny et al, 1992) and the completed survey is being used by MoFr and its contractor. The NRM/ARD Team Leader/Research Advisor who has considerable experience in research station management and who has already completed protocols for the Bukit Baka station in 1992 (Voss, 1992) is involved in assisting, where requested, in the building of the station and will be involved in its running, once it is constructed.

b. Management of Natural Production Forest

Work started in the first year of the NRM/ARD team contract was continued and expanded in 1992/93. Although it is not possible to continue the work started in 1992 by a consultant on logging (Hendrison, 1992) due to some initial reluctance of the concessionaire (SBM) on the recommended use of wheel skidders this was resolved by mid 1993 and this consultancy will now be continued in September/October 1993 initially to provide training on controlled felling for SBK personnel. In addition a number of forest management short term consultants will

be mobilized in August-November 1993 to work on important aspects of forest management identified by the Director General of Forest Utilization (DGPH) - MoFr. One consultant will look at the three major forestry plans (the RKT, RKL and the RKPH) to see if these are consistent and if necessary update them while a second consultant will look at how effectively these are being implemented in the field in the concessions. These two consultants will overlap so that there is a continuity of inputs in this important aspect of the forest management work. A third consultant will look at the economic activities arising out of the TPTI system. During the year the title of the Forest Management/Agroforestry Advisor was changed to Agroforestry Advisor to reflect more accurately the work that, at that time, was carrying out under the NRM project in Bukit Baka. This advisor had had been working extensively with the forest concession holding community development program (Bina Desa) and introducing agroforestry techniques in the local communities. It was intended that he would now spend 60% of his time on agroforestry activities and 40% on forest management issues. However towards the end of the year (July) further discussions were being held on the most appropriate title for this position and the duties it should encompass.

4. Protected Areas

a. Bukit Baka/Bukit Raya - West/Central Kalimantan

The main focus of work in this year was on the completion of the management plan for the Bukit Baka-Bukit Raya National Park in collaboration with GOI counterparts in PHPA. The twenty five year framework was completed early in 1993 and was submitted to the local and central levels of government for discussions. A number of meetings took place to discuss this and as a result revisions were made to the overall plan. These include incorporating the Guidelines for Management Plans (MoFr, 1993) which were finally brought out by PHPA in June 1993. In addition work is being carried out to assist PHPA to complete the one and five year operational plans for Bukit Baka-Bukit Raya. Both of these are expected to be completed by November 1993. The GPS equipment provided to the NRM/ARD team in March 1993, along with training provided by the US Forestry Service, proved to be very useful to all of the NRM/ARD team in Bukit Baka-Bukit Raya particularly in helping put together the management plans. In the finalization of the plans a number of planned inputs are still required. These include the completion of the biodiversity and boundary surveys under the GOI DIPs for 1991/92 and a survey of a local communities living within the Bukit Raya part of the Park.

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This survey will be carried out by a short term consultant in August/September. The Bukit Raya area is very inaccessible with only some 6 communities consisting of 140 families in that section of the park. Once this survey is completed it will finalize the survey data on local communities for the Bukit Baka-Bukit Raya Park first started in 1992/93 (Belsky, 1992). To help also in the finalization of the Bukit Baka-Bukit Raya Management Plan a consultant was mobilized to look at the integration of existing provincial plans at the provincial and kabupaten levels (two kabupatens cover the Bukit Baka-Bukit Raya area; one in West Kalimantan and one in Central Kalimantan) to establish linkages between the local government Department of Home Affairs system and the National Park system operated by the Ministry of Forestry (McKinnon, 1993). This was also a useful consultancy in identifying work being carried out currently in Indonesia on the integration of various sectorial activities in other National Parks particularly in Sumatera. This is being done by the Department of Home Affairs which is currently drafting regulations for the various agencies to work together in National Parks generally throughout Indonesia.

In late 1992 the possibility of installing potable water in villages on the outskirts of the Bukit Baka part of the park was examined and it was decided to put in six pilot potable water systems (McGowan, 1992). The concessionaire, SBK, donated \$15,000 worth of equipment and installation was started in March 1993 and is expected to be completed by November 1993. This has been undertaken by the local villagers assisted by a small team of NRM/ARD consultants. Work continued with the local communities in designing an environment and education awareness campaign which will be implemented in the second half of 1993 (Bergau, 1993). In addition considerable efforts were made to involve local NGOs in the work of the project in West/Central Kalimantan. However an assessment of their capabilities showed that there are a very limited number of local NGOs with the background and experience able to assist the NRM project in West Kalimantan and only one possible NGO available in Central Kalimantan (de Brune, 1993). It was therefore recommended that it was best to try twinning local NGOs with more experienced Java based NGOs and to get the more experienced central NGOs to train up local NGOs in field activities that can assist the NRM project activities in Bukit Baka-Bukit Raya. Work continued with the Bina Desa program run by the SBK concessionaire with the installation of pilot plots and the training of local trainers. Initially it is planned to purchase LandSat imagery at a scale of 1:100,000. Once the precise boundaries of the park are demarcated by using the GPS equipment by the end of 1993 then SPOT imagery would be purchased to augment the LandSat map. Aerial mapping of the Park still remains a problem as the funds allocated under the

1992/93 DIP proved to be inadequate. While this was being sorted out it was decided that existing Landsat/SPOT maps should be obtained under the NRM/ARD contract. In addition it is also planned to purchase satellite imagery for Gunung Palung in late 1993.

b. Bunaken - North Sulawesi

The focus in this area was also on the completion of the Twenty Five Year Management Plan and the one and five Year Operational Plans for the National Park. The final draft of the Twenty Five Year Development Plan was submitted to the Government of Indonesia in March 1993 and will be finalized by counterparts in the West Kalimantan PHPA office. The one and Five Year Operational Plans will be completed by October 1993. Considerable progress was made in working with local GOI counterparts particularly in the Bappeda as well as with local NGOs and the local communities in Bunaken Park. The appointment of a long-term Community Development Advisor as part of the NRM/ARD team in June 1993 was particularly useful as this helped the NRM project to build up its activities with local NGOs, dive operators and the local communities. Mooring buoys were installed during the year and the educational awareness campaign for the project was designed by short-term consultant (Bergau, 1993) for implementation in late 1993. A number of training courses were carried out including a two week training course for PHPA staff, one week being spent in Bunaken and the second week at the Tangkoko National Park. During the year the first work boat was completed and is being extensively used. Two other work boats have been ordered with delivery expected by the end of 1993. The GPS equipment delivered in March 1993 has proved to be very useful. A contract was awarded for the aerial photography mapping of the Park at the scale of 1:10,000 and an accuracy of 1 to 2 meters. It is hoped to have this completed by early 1994.

C. Implementation of 1991/92 and 1992/93 DIP Activities

Considerable assistance was provided by the NRM/ARD advisors in helping to move forward NRM project activities under the DIP budget for the financial years 1991/92 and 1992/93. Progress was made in the award of host country contracts but delays were met with other activities under these DIPs (see Table 1):

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- Biodiversity surveys. Biodiversity surveys planned in 1991/92 for Bukit Baka and Bunaken were still not contracted by August 1993. Assistance earlier has been given by the NRM/ARD advisors in completing the TORs. The contracts for both surveys are now due to be awarded in October 1993 (the Bukit Baka Survey to LIPI and to UNSRAT University, Manado) with work starting in November 1993. NRM/ARD advisors will assist where required in the completion of both surveys.
- Mapping Procurement. During the contracting process it was found that the allocated funding was inadequate and thus no award was made. Discussions are currently taking place to add funds in the 1993/94 DIP and rebid the contract.
- Boundary Survey - Bukit Baka/Bukit Raya. This is due to be carried out under the direction of the MoFr in West Kalimantan. The survey due to be started in July 1992 was still awaiting for a contract to be awarded in July 1993. It is now expected to start in November 1993 for completion in June 1994.
- Host Country Contracting. As noted earlier (B.2.A) five host country contracts finally were processed and awarded in June 1993 for the 1991/92 financial year. Assistance was given in the completion of TORs for these and in helping MoFr in meeting USAID contracting requirements. NRM/ARD advisors assisted in helping in the completion of the contracting process and in monitoring the implementation of the five studies. This included attending meetings called by MoFr at the central and provincial levels to review the interim and final reports prepared by the consultants working on the various studies. Funds for up to five more host country contracts have been put into the 1992/93 DIP with the TORs completed. A committee has been set up for processing the selection of contractors to carry out the second set of the contracts which are expected to be awarded by the end of 1993.

D. Training

Training under the NRM project consists of long-term training with 22 Masters degree candidates to be funded in the USA, short-term international training and in-country training. Progress was made in all three areas as follows:

1. Long-term International Training

Progress continued with the selection and placement of participants for master degree training in the United States. A summary of the requirements for candidates for long-term international training was prepared in English and Indonesia and distributed in late 1992 (see Annex 7.A.1). Four

participants were admitted to the US universities in September 1992 and a fifth in January 1993 (see Annex 7.A.2). All of these are progressing well. Of the remaining seventeen places fifteen participants were nominated and approved by the PCC (see Annex 7.A.3.). At the beginning of 1993 twelve candidates requiring additional English language training to improve their TOEFLs scores underwent intensive English language training in Jakarta or in one case, at a local university (see Annex 7.A.4). One candidate had to be withdrawn owing to very slow progress made in the intensive English language training. Work was started on admissions for this group and seven were admitted for entry to US universities in September 1993 (see Annex 7.A.5) with the balance scheduled to be admitted in 1994. Some delay was met in identifying the last three candidates. In accordance with the project agreement these had to be women to makeup the necessary quota of eight women candidates. However it was agreed in July that if these could not be found by the Government after considerable search they could be replaced by male candidates. As a result the reserve male candidate on the approved list has now been selected and is being processed to leave in January 1994. Final selection is underway for the last two candidates, male or female, to be processed to leave by mid 1994. Guidelines were prepared in consultation with GOI and USAID for research to be carried out by the NRM Masters training participants so that there is a consistent set of rules to be followed (see Annex 7.A.6). Some participants will complete their research in the USA while others will undertake field research in Indonesia.

2. Short-term International Training

An NRM short-term international training plan was prepared in late 1992 (see Annex 7.B. for details). This was approved by the PCC and implemented from early 1993. By August 1993 thirteen participants had completed or were still attending nine overseas courses (see Annex 7.B.2.). These included courses on Integrated Coastal Resources Management, Tropical Rainforest Research and Reforestation Planning. The balance of the trainees will go out on agreed on courses during 1993/94. As there was a slow response and as a number of potential candidates were unable to pass the ALIGU English test (which is a requirement under USAID regulations) some of nominated participants were not able to attend some courses. The main problem to date in providing NRM international training is the longish application procedures (between one and two months required to process a nominated person) and the inability of the program to react to the last minute requests. Apart from this the international training given to date has proved to be valuable.

3. In-country Training

Considerable in-country training was carried out in accordance with the schedule in the Joint Implementation Plan during the year with 657 manmonths training provided in the sixteen short-term courses (see Annex 7.C.). This training was carried out by NRM/ARD long and short term advisors and consultants in the Policy Secretariat for GOI staff and project assistants and in the pilot project areas with participants from local communities, concessionaire staff and Government staff in Bukit Baka and in Manado with local government staff, university staff and NGOs. In addition all the NRM/ARD long-term advisors and short-term consultants carried out on the job training of GOI and other counterparts.

E. Project Management Meetings

The NRM Policy Working Group (PWG) met once during the year and the operational Project Coordinating Committee (PCC) met four times. Generally the project management system works well although liaising efficiently with the large number of PIUs in MoFr (4) and the MoFr offices that the NRM/ARD team have to work with in West Kalimantan (3) sometimes proves difficult.

F. NRM/SFM Joint Implementation Plan

The NRM/SFM Joint Implementation Plan (JIP) is revised annually and reflects the changes in planned yearly activities. It provides the basic document for all concerned with working on either the USAID assisted NRM project and the ITTO assisted SFM project. Activities for 1993/94 were discussed between the GOI (Bappenas and MoFr), ITTO and the NRM/ARD Team in December 1992 and after a number of revisions the JIP was approved for distribution by the PCC in April 1993.

G. Administrative Activities

1. Offices

a. NRM Policy Secretariat

The NRM Policy Secretariat continued to expand during the year. In addition to providing office space for GOI counterparts, NRM/ARD long-term advisors and short-term consultants as well as support staff, it also provides space for temporary consultants and research assistants working on the various macro policy studies. To accommodate this team that totalled of up to 15 temporary staff in 1992-1993, two further extensions were built each accommodating six temporary



staff. The electricity was increased during the year to 21,000 VA and internal wiring and panels were reenforced. While waiting for this upgrading that took some time a silent generator was procured to provide electricity for the back sections of the office. The library was reorganized and additional space allocated so that persons using the library system to check for books and reports as well as those looking for project maps do this with more ease. Other minor alternations were made to make the Policy Secretariat to more full support the NRM project activities. The Policy Secretariat was extensively used in 1992/93 by GOI counterparts for seminars and for NRM related project meetings.

b. Suboffices

- A suboffice is provided by the Ministry of Forestry (MoFr) on the 15th floor of Block I of the Manggala complex. This houses the NRM/ARD Forest Advisor and the NRM/ARD Administrative Specialist assisting MoFr in implementing MoFr related activities including the applied research component of the NRM Project.
- In West Kalimantan the SBK concessionaire has allocated four rooms for accommodation and two rooms as an office at Camp 54 for use by the three NRM/ARD long-term advisors and short term consultants working in the Bukit Baka/Bukit Raya area. In addition office space has been provided in Pontianak as well as Litbang suboffice for the Bukit Baka/Bukit Raya based NRM/ARD long-term advisors when they are in Pontianak and for NRM/ARD short-term consultants.
- In Manado a suboffice has been provided in the PHPA local Manado office and this is occupied by the NRM/ARD Nature Conservation, Marine Conservation and Community Development Advisors as well as support staff.

In all cases the NRM/ARD office space allows easy access to Government of Indonesia counterparts and good day to day communication.

2. Technical Assistance Team

The NRM/ARD long-term advisory team was fully mobilized throughout the year although there were some changes and additions (see Annex 8). The long-term Forestry Advisor resigned in September 1992 and was replaced in June 1993. Three additional positions were approved, one for a Foundation Development Advisor working with Bappenas and USAID on the

proposed USAID-Japanese supported Biodiversity Foundation and a second for a Community Development Advisor working specifically on developing NRM project activities with NGOs and local communities in Bunaken. These two advisors started working on short-term contracts and then moved on to the long-term positions in June-July 1993 respectively. The third position, an NRM/ARD Team Leader/Forestry Advisor in West Kalimantan, was filled earlier, in October 1992. The aim of this position is to provide coordination of the NRM/ARD team in Bukit Baka-Bukit Raya, assistance on the forestry research side and in the construction and running of the Bukit Baka research station. For most of the year the NRM/ARD team in West Kalimantan was stationed in Bukit Baka in June 1992 but it was decided to move the team to Pontianak where they already had houses in order to provide better liaison with local government. This move does not change the pattern of activities as the team members still spend up to three weeks a month in the Bukit Baka-Bukit Raya area. The three Bunaken advisors continue to work out of the NRM project office in the PHPA Manado sub office. A total of twenty seven short-term consultants were mobilized utilizing 60 short manmonths of efforts in wide range of fields including I/O modelling, environmental and educational awareness, potable water systems, community development, regional planning for National Parks as well as macroeconomists and other specialists for the macro policy studies work (see Annex 9 for details).

3. Language Training

No intensive Indonesian language training was provided during the year as all three new advisors already had adequate Bahasa Indonesia. However all the NRM/ARD advisors are encouraged to continue to upgrade their language capabilities.

4. Local Staff

Additional local staff were recruited for the Policy Secretariat and for the Pontianak and Manado offices. These included an assistant accountant, and a secretary at the Policy Secretariat, a project assistant and a secretary for Pontianak office, and a secretary and boatman for the Manado office. Three existing positions (administrative specialist for training and publications, project assistant for procurement and a receptionist were filled on the departure of earlier recruitment staff (see for details Annex 10). Two project assistants continued to be employed in Bukit Baka to assist short-term and long-term consultants throughout the year and a third, an agronomist, started work in early August 1993. A total of seventeen temporary project assistants were employed on the macro policy studies in the Policy Secretariat

(see Annex 11). These assistants are generally well qualified (S1/S2 in economics and/or management) but unfortunately can only be employed on a temporary basis. However the PCC has requested that information is kept on their performance and availability for future government related work.

5. Reporting Procedures

In agreement with GOI the NRM/ARD follow the reporting procedures laid out in the ARD contract with USAID. Quarterly reports are submitted to the Chairman of the Project Coordinating Committee (PCC) as well as to USAID at the end of each quarter. In addition an annual report is submitted on behalf of the NRM/ARD team in August each year. All long-term advisors also provide monthly and quarterly reports as part of the reporting requirement to the NRM/ARD Chief of Party. To ensure smooth coordination in West Kalimantan agreement was reached in early 1992 with the Kanwil MoFr in Pontianak to provide them with a quarterly report in Indonesian on the activities of the NRM/ARD advisors and consultants in Bukit Baka. In 1992/93 four quarterly reports were submitted to the Kanwil copied to the PHPA and Litbang. All short-term consultants in the field present their findings at seminars to the local government counterparts in North Sulawesi and Pontianak and then again to the central Government (Bappenas and MoFr) and USAID in Jakarta before they finalize their reports. Finalized reports are then submitted to the Chairman of PCC and USAID and distributed to members of the PCC, to the Kanwil and suboffices of PHPA and Litbang in West and Central Kalimantan and to the Kanwil/PHPA in Manado (see Annex 12 for a full list of project reports - 1991/93).

6. Management Information System (MIS)

A draft project Management Information System (MIS) was designed for the project in January 1993 and went through extensive revision in July/August 1993. The aim of the system is to provide a comprehensive but usable mechanism to track all project activities. This includes providing the mechanism to check progress in meeting the outputs specification in the log frame for the project in the project paper. Monthly reports from the NRM/ARD advisors are linked into the system and once it is fully operational it should provide valuable information on which future project activities can be based.

7. Publications

A NRM/ARD brochure was published in English and Bahasa Indonesia in later 1992 and distributed widely throughout the

project including GOI counterpart offices as well as being given to visitors to the Policy Secretariat and other NRM offices. Work was begun on a NRM project newsletter with the first edition due to be published at the end of September 1993. This will become a regular publication covering developments in the project and including articles in English and Bahasa Indonesia from GOI counterparts and others who work on the project. Brochures will be prepared in late 1993/early 1994 for the two pilot project areas.

8. Library

The library was reorganized with the help of the short-term consultant (Cartwright, 1992). Although it was not possible to link this in with the Bappenas system which is not yet computerized but it is compatible in MoFr system. By August 1993 it had the total of 769 books and reports catalogued.

9. Procurement

Procurement to support the project activities was carried out throughout the year. The second major procurement was processed from the USA and delivered to Indonesia in December 1992 with the items purchased for GOI counterparts distributed (see Annex 13.A.). The third major procurement was ordered in March 1993 (see Annex 13.B.) and is expected to arrive in Indonesia and be delivered to the project sites as well as to GOI counterparts by the end of 1993. In addition authorization was given for the local procurement of computers, three motorcycles, boats, printers, maps for Bukit Baka and Bunaken, and generators for immediate project use. In Bukit Baka-Bukit Raya a four bedroom temporary dormitory was constructed for use of the NRM/ARD long-term to alleviate some of the pressures on the concessionaires space.

H. Meetings/Seminars

1. International Meetings

NRM/ARD staff attended a number of international seminars during the year including:

- What Do Environmentalists Need from Economists, at the University of Tufts, Boston, November 11-14, 1992. This was attended with a paper given by the NRM/ARD Resource Economist (Clive Hamilton).
- Harvesting and Silviculture for Sustainable Forestry in the Tropics, Kuala Lumpur, Malaysia in October 5-9, 1992.

This was attended with a paper jointly given by NRM/ARD short-term Forestry Research consultant (Lisa Curran) and Ir. Nana Suparna from SBK.

- Study on the Quality of Life in the Asia Pacific Region, UNDP, Bangkok, February 26-28, 1993. This was attended by the NRM/ARD Macroeconomist (Erik Scarsborough)
- Tropical Rainforest Research Current Issue Conference, Brunei, April 9-17, 1993. This was attended by the West Kalimantan NRM/ARD Team Leader (Roy Voss)

2. In-country meetings

NRM/ARD advisors attended a number of in-country meetings and seminars relating to their areas of specialization. These included:

- Strategy for the Conservation and Management of Coral Reefs (Terumbu Karang), State Minister for Population and the Environment, August 7-8, 1992 (Colin MacAndrews, Graham Usher and R.M. Rompas)
- Employment Effects of the Wood-Based Processing Industry, Palembang, Bappenas-ILO, September 25, 1992 (Erik Scarsborough)
- Application of Research Results for Dipterocarpaceae Development, Samarinda, November 8-13, 1992 (Lisa Curran & Dwi Astiani (UNTAN))
- Peranserta Masyarakat Local dalam Pengelolaan Hutan di Indonesia, University of Indonesia & MoFr, February 9, 1993 (Mering Ngo)
- Strategi Nasional dan Aksi Mangrove di Indonesia, LIPI, February 11, 1993 (Erik Scarsborough and Colin MacAndrews)

I. Visitors

There were a considerable number of visitors to the NRM Policy Secretariat during the year. This included visitors from the World Bank, UNDP, ADB, FAO, GTZ, donor agencies and NGOs. To support the NRM/ARD technical team visits were also made by the following home office ARD staff: Dr. George Burrill - President of ARD - October 1992 and April 1993; Ms. Ruth Cahill - Financial Controller - June 1993.

J. Liaison with Universities, Research Institutions and Other projects

During the year close contact was kept with universities, research institutions and other projects carrying out work related to the NRM project. In Jakarta meetings have held to discuss commonalities between activities and possible collaboration with the Center for Policy and Implementation Studies (CPIS), with Jakarta based university groups and with major donor projects including the ODA Forestry project and the CIDA-EMDI and EPSS projects. In West Kalimantan and North Sulawesi close contact was kept with local university with staff and students being actively involved in the NRM project activities. This included using university staff as consultants and university students as field research assistants to support the project.

K. Constraints Faced During 1992/1993

As with any large scale project there were a number of constraints that needed to be faced during the year. Some progress was made in dealing with all of these but they also slowed down the planned development of the project. These constraints included:

1. Development of the NRMP Policy Secretariat

A major constraint in the development of the NRM Policy Secretariat is that, while three GOI counterparts staff have been assigned part-time, the planned four to six full-time GOI counterpart policy analysts were still not available. Until these positions are filled with full-time counterpart staff little progress can be made toward building up the NRM Policy Secretariat as a semi self-financing body which is, at present, a major output of the project. The problem on the governments side is a general lack of qualified staff available for secondment and the limits that it has to follow in the level of payments which in effect means that they are unable to contract for high quality policy analysts from the private sector. However the Secretariat has employed a number of national consultants and research assistants on the policy studies. It will continue to build up local expertise establishing a pool of potential future staff members.

2. Development of the Bukit Baka Research Station and Activities in the National Park

The delay in the construction of the Bukit Baka research station still continues to make the implementation of project activities difficult. This not only effects the living conditions of the NRM/ARD team and short term consultants but puts a continued load on the SBK facilities. Fortunately SBK has been very supportive.

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3. Counterparts

While there was some improvement in the provision of counterparts from the GOI side there are still no MoFr counterparts in the field at Bukit Baka. Some DIP money had been provided for MoFr counterparts in Pontianak to travel to Bukit Baka but until the GOI counterparts (involved with managing the Bukit Baka-Bukit Raya National Park) are resident in Bukit Baka, hopefully in 1994/95, no real progress can be made in developing good field working relationships or adequately transferring knowledge. However it should be noted that the project has been working closely with local communities and the SBK concessionaire staff since the technical assistance team was mobilized in October 1991. This will be continued and preliminary collaboration has been started with local NGOs to assist the project's activities.

4. Training

While considerable progress was made on all aspects of training there are two constraints in the area of international training. The first remains the problem of identifying enough women candidates for Masters degree training in the US. With one of the existing women participants dropping out, three places needed to be filled in early 1993 for women participants. Bappenas again sent a circular around but to date only one potential woman participant has been identified. It was decided, however, in July 1993 that given that the GOI had tried hard to find suitable women participants to make up the quota of eight women out of twenty two candidates as scheduled in the project agreement male candidates could be considered for the last places. In the case of international short-term training, the delays in the processing of candidates owing to USAID regulations (the English ALIGU test and the medical) remains a problem. In addition it is not possible to predetermine candidates a year ahead so in most cases funds do not exist in the GOI budgets for potential participants to come to Jakarta for these tests. Unfortunately many of the nominated participants in 1993 failed the ALIGU test. Reflecting these constraints funds allocated earlier to international short-term training have now been reduced by reallocation to other parts of the project in agreement with the PCC.

5. Procedural Delays

There are a number of delays in the year in working with MoFr due to the slowness in getting clearance letters as well as delays in awarding contracts and carrying out NRM project activities under DIP system. The NRM/ARD team work constantly to try to improve coordination but the design of the project

particularly in MoFr and West Kalimantan makes effective coordination often difficult. At the same time problems have arisen, both in West Kalimantan and in Manado, with the lack of clarity on who has responsibility for the National Parks. While in West Kalimantan this was resolved with an internal MoFr decision that the MoFr Kanwil will act as the general coordinator for the NRM project, matters were not so clear in Manado. This is due to the fact that in Manado there is still a lack of clarity as whether the National Park is the responsibility of the local government and thus the Governors office/BAPPEDA or of the MoFr represented by the Kanwil.

6. Coordination with Central Kalimantan

With the location of the Bukit Baka research station in Central Kalimantan the project has to follow Indonesian Government procedures and liaise with the Central Kalimantan authorities. Although a number of visits were made there is still not enough time to fully develop these relationships. In addition, although requested a number of times, MoFr has still not allocated any Indonesian budget funds to assist the NRM project in Central Kalimantan.

L. Main Objectives for 1993/94

1. Policy Secretariat

In the Policy Secretariat the project aims to complete the ten policy studies, carry out the planned Bappenas seminars and training of policy analysts. At the same time it will continue to build up the network of project consultants and assistants used on the various policy studies. However in 1993/94 a serious examination of the Policy Secretariat's role is required as clearly it is unlikely to become a semi-independent research centre as originally designed in the NRM project paper. This does not diminish its utility; what is required is the redefinition of the role and the aims of the project in supporting the Policy Secretariat.

2. MoFr

Emphasis will be put in 1993/94 on improving coordination between all sections of MoFr that the project has to work with. The Management Plans will be completed for both the Bukit Baka-Bukit Raya National Park and the Bunaken National Park. The competitive award system will be started on the pilot basis and the work of the consultants mobilized in the 1992/93 will be followed up and the work with NGOs will be expanded.

TABLE 2 – ARD CONTRACT TASKS

August 1992 – August 1993

COMPONENTS	LISTED CONTRACT OUTPUTS	PROGRESS TO DATE
POLICY ANALYSIS	<ol style="list-style-type: none"> 1. Assist the Policy Working Group (PWG) in identifying policy issues for analysis under the project, and advice the PWG on applications of analyses. Results of analysis should be suitable as inputs and/or recommendations for national economic development plans. 2. Work closely with counterparts in (a) conducting selected policy analysis; (b) competing, awarding and administering sub-contracts for policy studies (fully funded by USAID); (c) assisting counterparts to compete and award Host Country contracts (jointly funded by USAID and the GOI) for policy analysis/pre-feasibility studies; and (d) assisting the GOI to compete and award contracts (fully funded by GOI) for policy analysis/pre-feasibility studies. 3. Train counterparts in policy analysis techniques. 4. Provide office space and technical/administrative support for the operation of a policy Secretariat (comprised of approximately 4–6 policy analysts from key agencies) and assist in developing procedures aimed at generating income to cover the Secretariat's operating costs. 	<ol style="list-style-type: none"> 1. Actions continued in providing Bappenas with help in identifying improval natural resource policies for the Sixth Repelita and the Twenty Five Year Plan. 2. Work continued on the input/output modelling activity with the final draft report completed in late June with 18 supporting working papers/manuals completed. Work continues on the first macro policy study on trade and exchange rate policy. Work was also started on preparing the framework for the employment sector study and the marine sector study in July. Five topics have been selected for Bappenas seminar series for regular seminars over the remainder of 1993. Host country contracting procedures for the five host country contracting of 1991/92 were completed with the award of the contracts. A new committee has been formed for the processing of the second five studies from the 1992/93 DIP. 3. Short courses run on I/O modelling techniques and on trade and exchange rate policy analysis techniques for research assistants at Policy Secretariat. The three GOI policy analysts occasionally attend meetings. 4. Expansion to NRM office completed. Further expansion to the Policy Secretariat office space in late 1993 under consideration now that the policy studies are fully underway. Contacts made with other centres involved in policy studies including CPIS and the University of Indonesia.

COMPONENTS	LISTED CONTRACT OUTPUTS	PROGRESS TO DATE
MULTI-PURPOSE MANAGEMENT OF PROTECTED AREAS	<p>5. Train GOI staff in Host Country contracting procedures.</p> <p>6. Assist MOFr staff in designing and implementing management plans for three protected areas, including the development of improved policies and practices which involve local communities in the design and implementation of management plans.</p>	<p>5. See 2 above. Help continued to be given to GOI counterparts on host country contracting procedures. Technical assistance provided by the NRM/ARD team as required.</p> <p>6. Assistance provided to PHPA in finalizing Twenty Five Year draft management plan for Bukit Baka–Bukit Raya National Park. Draft plan discussed extensively at all spaces throughout the year with GOI counterparts. One and five year operational plans being formulated. Environmental awareness and education strategy for Bukit Baka, with the assistance of local NGOs and local communities, completed. Draft Twenty Five Year management plan for the Bunaken National Park extensively discussed with local/central government with expected final approval in October 1993. One and Five Year Operational Plans being prepared.</p>
MANAGEMENT OF NATURAL PRODUCTION FORESTS	<p>7. Work closely with counterparts in MOFr and from the participating forest concessionaire to develop improved practices and policies for managing natural production forest, including: revising the management plan for the forest concession as appropriate, preparing training materials/case studies and training staff.</p> <p>8. Train scientists in applied research techniques aimed at supporting the management of natural production forests and protected areas.</p>	<p>7. Memorandum of Understanding (MoU) signed between SBK and MoFr to cover NRM Project activities in April 1993. Meeting carried out with SBK to discuss NRM project's activities for 1993/4 in Pontianak in late June 1993 including forestry management issues. To assist MoFr (PH) and SBK, short-term consultants will be mobilized to work on improved practices for the management of natural production forestry in mid August through November 1993. Once again in April–June 1994.</p> <p>8. Taxonomy work restarted in late June with mobilization of technical assistance under the subcontract with Harvard University.</p>

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COMPONENTS	LISTED CONTRACT OUTPUTS	PROGRESS TO DATE
D. APPLIED RESEARCH	9. Assist MOFr and BAPPENAS to design and implement activities aimed at promoting public awareness of sound natural resources management.	9. Public awareness and environmental education strategy completed for Bukit Baka and Bunaken. Follow up work will be undertaken over the remainder of 1993/94.
	10. Assist and train MOFr staff in (a) identifying applied research needs for pilot management activities under the project, (b) developing procedures for completing and awarding applied research grants, and (c) evaluating the progress of research.	10. Applied research plan on the management of natural production forests at Bukit Baka–Bukit Raya being followed up in the field as laid out in the Joint Implementation Plan. The setting up of competitive awards system postponed to October and will follow recommendations of the short–term consultancy report of January 1993.
	11. Work closely with MOFr and forest concession holder to establish operating procedures for field research and training station, and conduct applied research and training.	11. Minihydro electricity/water supply system completed at Bukit Baka. Once the station is constructed in early 1994 the system will be activated. Operational protocols for station already completed.
E. TRAINING	12. Prepare training plan for degree and short–term training, and support/implement training accordingly.	12. Twelve candidates admitted to USA universities to date. Eight candidates identified and approved for admission in January 1994. One candidate dropped due to poor English. Two other candidates, preferably female still remain to be nominated to the PCC. Intensive English training provided to candidates needing to raise Toefl scores. International short–term training plan approved by PCC in December 1992 with training provided to 13 participants for attending courses in US and Asia. Incountry local training under the Joint Implementation Plan continued with 701 mandays of training completed.

COMPONENTS	LISTED CONTRACT OUTPUTS	PROGRESS TO DATE
F. PROJECT ADMINISTRATION	13. Install a project Management Information System.	13. Project MIS system in place and additional work to finalize system carried out in late July– August 1993.
	14. Prepare commodity procurement plan and procure commodities accordingly.	14. Phase III procurement being processed in USA and expected to arrive in late 1993. Local procurement of two motorcycles, two boat hulls and area maps for Bunaken approved and currently being purchased. One additional Daihatsu and Landsat imagery being purchased for Bukit Baka.
	15. Support overall project implementation, including the preparation of annual work and financial plans by the GOI and provide administrative support to the implementation units in BAPPENAS and MOFr.	15. Joint Implementation Plan 1991/92–1994/95 with the SFM project reviewed, approved by PCC in April 1993, and distributed.
	16. Prepare annual work plans for the technical assistance team and submit quarterly (and annual summary) reports describing progress on implementing the above tasks.	16. Quarterly reports submitted to USAID and GOI. Workplans for 1993/94 for NRM/ARD long–term advisors approved by USAID and GOI.

ANNEXES

**IMPLEMENTATION SCHEDULE
POLICY ANALYSIS STUDIES IMPLEMENTED
BY NRMP POLICY SECRETARIAT**

NO	POLICY STUDIES	1993												1994							
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
1.	Overall Development Strategy																				
2.	Fiscal and Monetary Policy *																				
3.	Trade and Exchange Rate Policy *																				
4.	Foreign Direct Investment Policy *																				
5.	Forestry Sector Policy																				
6.	Marine Sector Policy																				
7.	Employment Effects of Natural Resources Management Policy																				
8.	Impacts of Export Marketing Boards on the Natural Resource Base																				
9.	Policy Toward Protected Areas																				
10.	Construction of Input-Output Model Incorporating Natural Resource Variables																				

* Addresses how policymaking in this area impacts natural resource parameters.

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**STAFF WORKING ON THE MACRO POLICY STUDIES 1992/93
IN POLICY SECRETARIAT**

A. I/O MODELLING

(December 1992–April 1993)

Consultants

Faye Duchin	– I/O New York
Glen–Marie Lange	– I/O New York
Sean Foley	– Agricultural Sector
Soegolo	– Water Sector

Research Assistants

Suharno
Clarita Ligaya
Aida Umay
Jaka Setiawan
Agus Sutiadi
Irebella
Marlianis

B. TRADE & EXCHANGE RATE

(February–September 1993)

Consultants

Meyer Siahaan	– Banking Policy
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Research Assistants

Bagus T. Nugroho
Gunadi
Rudianto
D. Simbolon
Nabiha Z. Muhamad
Triasi S. Sibuea
Erhash
Tonny Sinaga
Evelina Hartanti
Mangasa Sitanggang

C. EMPLOYMENT EFFECT

(July 1993)

Ken Leathers	– Resource Economist
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D. MARINE SECTOR

(July 1993)

Andrea Katz	– Marine Specialist
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INPUT/OUTPUT MODELLING REPORTS, WORKING PAPERS AND MANUALS**A. NRMP-IEA Input-Output Reports**

- 1 *Environment and Development in Indonesia: An Input-Output Analysis of Natural Resource Issues -- Interim Report* (Natural Resources Management Project, Jakarta, February 1993)
- 2 *Environment and Development in Indonesia: An Input-Output Analysis of Natural Resource Issues -- Final Report* (Natural Resources Management Project, Jakarta, June 1993)

B. NRMP-IEA Input-Output Working Papers

- 1 Faye Duchin and Glenn-Marie Lange, 'Case Study of Households and Industry' *NRMP-IEA Input-Output Working Paper No. 1* (Institute for Economic Analysis, New York University, New York, September 1992)
- 2 Faye Duchin and Glenn-Marie Lange, 'Case Study Methodology' *NRMP-IEA Input-Output Working Paper No. 2* (Institute for Economic Analysis, New York University, New York, November 1992)
- 3 Faye Duchin, 'Present and Prospective Future Water Use in Indonesia: Guidelines for a Case Study' *NRMP-IEA Input-Output Working Paper No. 3* (Institute for Economic Analysis, New York University, New York, December 1992)
- 4 Clive Hamilton and Edison Hulu, 'Macroeconomic Projections for the NRMP-IEA Input-Output Model' *NRMP-IEA Input-Output Working Paper No. 4* (Natural Resources Management Project, Jakarta, February 1993)
- 5 Clive Hamilton, 'Case Study of the Forestry Sector' *NRMP-IEA Input-Output Working Paper No. 5* (Natural Resources Management Project, Jakarta, February 1993)
- 6 Sean Foley, 'Case Study of the Rice Sector' *NRMP-IEA Input-Output Working Paper No. 6* (Natural Resources Management Project, Jakarta, February 1993)
- 7 Sean Foley, 'Case Study of the Non-rice Food Crops Sector' *NRMP-IEA Input-Output Working Paper No. 7* (Natural Resources Management Project, Jakarta, February 1993)

- 8 Sean Foley, 'Case Study of the Estate Crops Sector' *NRMP-IEA Input-Output Working Paper No. 8* (Natural Resources Management Project, Jakarta, February 1993)
- 9 Sean Foley, 'Case Study of the Livestock Sector' *NRMP-IEA Input-Output Working Paper No. 9* (Natural Resources Management Project, Jakarta, February 1993)
- 10 Clive Hamilton and Clarita Iskandar, 'Case Study of the Pulp and Paper Industry' *NRMP-IEA Input-Output Working Paper No. 10* (Natural Resources Management Project, Jakarta, April 1993)
- 11 Sean Foley and Aida Umaya, 'Case Study of the Cement Industry' *NRMP-IEA Input-Output Working Paper No. 11* (Natural Resources Management Project, Jakarta, March 1993)
- 12 Sean Foley and Erabella Siswondo, 'Case Study of the Chemicals Sector' *NRMP-IEA Input-Output Working Paper No. 12* (Natural Resources Management Project, Jakarta, April 1993)
- 13 Sean Foley, Aida Umaya and Suharno, 'Case Study of the Food, Beverages and Tobacco Sector' *NRMP-IEA Input-Output Working Paper No. 13* (Natural Resources Management Project, Jakarta, April 1993)
- 14 Clive Hamilton and Clarita Iskandar, 'Case Study of the Textiles, Leather and Wearing Apparel Sector' *NRMP-IEA Input-Output Working Paper No. 14* (Natural Resources Management Project, Jakarta, April 1993)
- 15 Clive Hamilton, 'Projecting Energy Scenarios for Indonesia' *NRMP-IEA Input-Output Working Paper No. 15* (Natural Resources Management Project, Jakarta, April 1993)
- 16 Sean Foley, 'Case Study of the Basic Iron and Steel Sector' *NRMP-IEA Input-Output Working Paper No. 16* (Natural Resources Management Project, Jakarta, April 1993)

C. NRMP-IEA Manuals

- 1 Glenn-Marie Lange, 'Training Manual for Dynamic Input-Output Model Using "Mathematica"' (Institute for Economic Analysis, New York, November 1992)
- 2 Clive Hamilton, 'Procedures for Carrying Out Technological Case Studies' (Natural Resources Management Project, Jakarta, November 1992)

HOST COUNTRY CONTRACTS AWARDED IN 1993

NO.	TITLE OF STUDY	CONTRACTOR	ADDRESS	PHONE NUMBER (S)	PERSON RESPONSIBLE
1.	DEVELOPMENT OF A PROCEDURE FOR EVALUATING THE POTENTIAL OF NATURE-BASED TOURISM DEVELOPMENT WITH TEST APPLICATION IN NORTH SULAWESI	PT. UNISYSTEM	JL. FAHRUDIDIN KAV.11/13 NO.11-12	3806876 3806900	DRS. SURATMAN SURYOSUDARMO MA
2.	EVALUATING INSTITUTIONAL ARRANGEMENT AND POLICIES FOR MULTIPLE-USE CONSERVATION AREA MANAGEMENT: PILOT APPLICATIONS FOR THE BUKIT BAKA/BUKIT RAYA AND THE BUNAKEN NATIONAL PARKS	PT. INDOCONSULT	JL. ADITYAWARMAN NO.42, KEBAYORAN BARU, JAKARTA SELATAN	7393631	SOEMARNO SOEDAR-SONO
3.	DEVELOPING REGULATIONS AND GUIDELINES FOR PROTECTED AREAS IN INDONESIA	PT. INDRA DEVELOPMENT CONSULTANT	JL.ASEM 22, CIPETE SELATAN JAKARTA 12410	761108	AGNI WARDOYO
4.	ENHANCING THE ROLES OF LOCAL COMMUNITIES IN THE DEVELOPMENT OF FORESTRY RESOURCES	PT. ARDES PERDANA	JL. LIMAU 1/3, KEBAYORAN BARU, JAKARTA SELATAN	-	NANANG SUPANGAT PHD.
5.	DESIGN OF A HUMAN RESOURCES DEVELOPMENT STRATEGY TO SUPPORT IMPROVED ENVIRONMENTAL AND NATURAL RESOURCES MANAGEMENT	PT. NAKARYA SEMBADA CONSULTANTS	JL. BRAWIJAYA NO.37, KEBAYORAN BARU, JAKARTA SELATAN	710933 717938	A. HIDAYAT BERMAWI

COOPERATIVE AGREEMENT**MINISTRY OF FORESTRY
AND
PT. SARI BUMI KUSUMA**

The Natural Resources Management (NRM) Project
The Sustainable Forest Management and Human Resources Development
(SFM) Project

Today, on Friday, March the fifth, year one thousand nine hundred ninety three, the undersigns of this document are:

- First party : Ir. Bambang Soekartiko, Head, Bureau of Foreign Cooperation and Capital Investment, Ministry of Forestry
- Second party : Ir. Mamat Mulyana, Manager of Forest Utilization of PT. Sari Bumi Kusuma (PT. SBK)

In Consideration of:

1. Supporting the sustainable economic development in Indonesia by continuously developing improved policies on the economic and efficient utilization of natural resources;
2. Further improving the Ministry of Forestry's ability to develop policies and practices in forest management through research and training programs in collaboration with the private sector;
3. Further developing concession holders' ability, through the Ministry of Forestry, in research, nature conservation and sustainable forest management activities, and
4. The establishment of the Bukit Baka research and training station, which will be located in the PT SBK forest concession and adjacent to the Bukit Baka-Bukit Raya National Park.

In reference to:

1. The Forestry Laws No. 5/1967.
2. The Laws No. 5/1990 regarding the Biodiversity and Ecosystem Conservation.
3. The Presidential Decree No. 21/1970.
4. The Presidential Decree No. 28/1985.
5. The Presidential Decree No. 32/1990.
6. The Forestry Agreement for PT. SBK No. 233/Kpts - IV/86 dated pril 11, 1986.
7. The Grant Agreement between the Government of the Republic of Indonesia with the Government of the United States on the Natural Resources Management Project dated July 27, 1990.
8. The Agreement between the Government of the Republic of Indonesia with the International Tropical Timber Organization on the Sustainable Forest Management and Human Resources Development Project, dated February 13, 1991.

Both parties herewith agree to implement collaborative activities as described in the following articles:

Article 1

The collaborative activities under the Ministry of Forestry's NRM and SFM projects cover the following :

- (1) Sustainable management of natural production forests,
- (2) Management of protected areas in the Bukit Baka-Bukit Raya area of West/Central Kalimantan,
- (3) Development of facilities and construction of a research and training station in the PT SBK forest concession,
- (4) Local community development, and
- (5) Human resources development through training and education.
- (6) Forestry Research and Development

Article 2

Implementation of the NRM and SFM projects is phased into two stages:

- (1) First stage: Project Preparation, to implement project activities to achieve the following outputs:
 - (a) A research and training station complex constructed, approximately two kilometers from Camp 54 within the PT SBK forest concession.
 - (b) Availability of research facilities in the research station complex, such as: micro-hydro power plant, water distribution system, radio communication network and land and river transportation facilities.
- (2) Second stage: Project Implementation, to implement the NRM and SFM project activities stated in the Article 1, and to achieve the following outputs:
 - (a) Management plan for Bukit Baka-Bukit Raya National Park developed and implemented, including plans to develop the buffer zones surrounding the park;
 - (b) Improved policies and practices for managing natural production forests tested in the PT. SBK's forest concession;
 - (c) PT SBK's staff trained in techniques on management of sustainable natural production forests;
 - (d) Participation of local communities in collaboration with the second party, in testing improved practices for the sustainable use of natural resources;
 - (e) Local farmers trained in agro-forestry, environment awareness and nature conservation.
 - (f) At least ten (10) applied research activities conducted to address critical problems facing the management of natural production forests for sustained yields and nature conservation.

Article 3

Tasks and responsibility of the first party:

- (1) To coordinate the design and procedures for the implementation of activities stated in

Article 1, including the development of annual work plans for activities at the site for the review and concurrence of the second party.

- (2) Provide funds and manpower to support the implementation of activities stated in Article 1.
- (3) To implement training and education in Indonesia and out-of-country for second party's staff, and as needed, for other concession holders.
- (4) Together with the second party implement, monitor, and evaluate project activities stated in Article 1.
- (5) As a Government agency, provide permits for researchers and visitors to the research and training station at Bukit Baka-Bukit Raya.

Article 4

Tasks and responsibilities of the second party in stage one: project preparation:

- (1) Provide temporary facilities for the advisors, implementing staff and official visitors as stated in Article 2.
- (2) Participate in the construction of the research and training station as specified and agreed to in subsequent documents.

Article 5

Tasks and responsibilities of the second phase: project implementation are to assist and collaborate with the first party to:

- (1) Provide counterpart staff in planning and implementation of project activities stated in Article 1 to achieve objectives described in Article 2.
- (2) Provide pilot plots for applied research activities to develop improved forest management practices, either as a special experiment or as part of the ongoing management activities of the second party.
- (3) Provide inputs for establishing guidance and rules for visitors to the research and training station, and to the Bukit Baka-Bukit Raya National Park.
- (4) Participate in the maintenance and protection of facilities used during project implementation as agreed to in the annual work plan, including the access road to the

research station; applied research plots to enable monitoring of the results for at least 10 years (or until the termination of PT. SBK concession); and project facilities such as track/trail for research, guard posts, boundary poles/marks.

- (5) Coordinate provision of logistical supports for operating the research station, including transportation of fuel for vehicles, preparation of workshops as agreed to in annual work plans, radio communication facilities, et cetera.
- (6) As needed and in accordance with the capability of the second party and as agreed to in the annual work plan, provide additional facilities for project purposes.

Article 6

- (1) Through the support of the NRM project, the first party will provide four (4) long-term technical advisors (three expatriates and one Indonesian) to implement project activities stated in Article 2 Section 2, as follows:
 - (a) one advisor for agroforestry/forest management to assist the second party,
 - (b) one applied research advisor to assist the Ministry of Forestry operate the Bukit Baka research and training station,
 - (c) one advisor for nature conservation to assist the Ministry of Forestry in managing the Bukit Baka-Bukit Raya National Park, and
 - (d) one advisor in social forestry to assist both parties in working with local communities in the Bukit Baka-Bukit Raya areas.

and short-term consultants subject to project needs and availability of funds.

- (2) Through the support of the SFM project, the first party will provide funding for the construction and operation of the research and training station, and support for the management of the Bukit Baka-Bukit Raya National Park.

Article 7

Both parties will jointly review and evaluate implementation progress and this collaboration at least once a year.

Article 8

The two parties will deliberate conflicts in implementation of this collaboration. If no agreement is reached, cases will be brought to the court in West Kalimantan.

Article 9

This cooperative agreement applies starting from the signing date, and is amendable based on the joint agreement of the two parties.

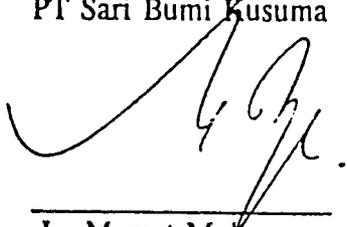
Article 10

- (1) This agreement serves as an umbrella agreement between both parties, and therefore the existing agreement between the Agency for Forest Research and Development (LITBANG), Ministry of Forestry and PT. SBK No. 679/VIII-TL11/91 is complementary.
- (2) Necessary changes and or other matters not yet included in this agreement will be further discussed.

Jakarta, 5 March, 1993

Second Party,

Manager of Forest Utilization
PT Sari Bumi Kusuma



Ir. Mamat Mulyana

First Party,

Head, Bureau of Foreign
Cooperation &
Investment (KLN & PM)
Ministry of Forestry



Ir. Bambang Soekartiko

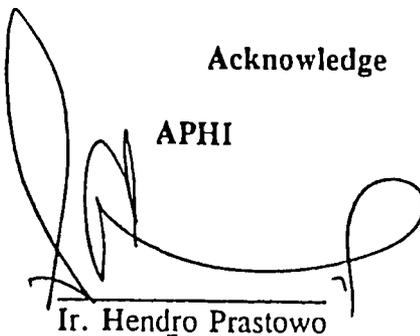
Acknowledge

USAID



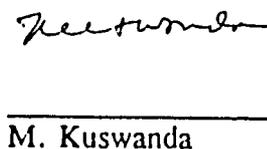
Jerry Bisson

APHI



Ir. Hendro Prastowo

ITTO



M. Kuswanda

ANNEX 6.A.

ENVIRONMENTAL ASSESSMENT - TERMS OF REFERENCE

A. Overview

This assessment will evaluate potential environmental impacts of field activities to be implemented under the Natural Resources Management (NRM) and the Sustainable Forest Management (SFM) projects aimed at developing improved policies and approaches for managing natural production forests and protected areas. Accordingly, it will recommend design modifications and/or mitigation measures as appropriate. The assessment will examine the potential impacts of project-funded activities to be implemented in cooperation with the P.T. Sari Bumi Kusuma and P.T. Kurnia Kapuas Plywood forest concession holders, located in the Bukit Baka area of West and Central Kalimantan. It will also review the proposed approach for developing and implementing multi-purpose management plans for (1) the Bukit Baka/Bukit Raya National Park located in West/Central Kalimantan and the Gunung Palung National Park, located in West Kalimantan, and (2) the Bunaken-Manado Tua Marine National Park, located in North Sulawesi.

B. Rationale

The design and review of the NRM project paper identified the need to carefully examine the environmental impacts of field activities. The project's Initial Environmental Examination specified that this assessment will be conducted before the implementation of project-supported plans for the management of natural production forests and protected areas. This assessment is aimed at minimizing the potential negative environmental impacts of the project's field activities. Implementation of this assessment will also serve as an opportunity to train Government of Indonesian officials, private sector staff, community leaders and local NGOs in environmental assessment procedures. Thus, the experience of this assessment may be useful in assessing the environmental impacts of other proposed forest management and nature conservation activities.

C. Role of Assessment in Overall Project Implementation

This assessment will be conducted as a key component in preparing the project's overall implementation plan, for both policy analysis and field activities. The project's long-term advisors and short-term consultants will assist Government of Indonesian officials, private sector staff, local communities, and environmental NGOs in developing the project's implementation plan. NRM project advisors will assist this process by laying the groundwork for this exercise approximately two months before the

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environmental assessment team arrives. This process will help provide the assessment team with information about field conditions and begin the planning process. It is essential that the planning work of the long-term advisors and the environmental assessment be well coordinated. This will help ensure that the results of the assessment are readily incorporated into the project's implementation plan.

D. Tasks

The environmental impact assessment (EA) team will examine potential environmental impacts of project-funded activities based on the specific conditions at each of the three sites. The EA team will implement the following tasks:

- Hold environmental scoping sessions;
- Conduct environmental impact analysis;
- Examine project design options, alternatives and needed mitigation measures;
- Prepare draft report and present findings; and
- Prepare a final EA report (including Environmental Impact Management Plan and Monitoring Plan).

The assessment of potential environmental impacts is divided into three parts: (1) activities to improve the management of natural production forests with two participating forest concession holders at Bukit Baka, and the management of the Bukit Baka/Bukit Raya National Park in West and Central Kalimantan; (2) the management of the Gunung Palung National Park, West Kalimantan; and (3) the management of the Bunaken Marine National Park in North Sulawesi.

1. Hold Environmental Assessment Sessions

The EA team will hold three environmental assessment sessions: an overall session in Jakarta on the assessment, one in Pontianak for project-funded activities in Kalimantan, and one in Manado for project-funded activities in North Sulawesi. These sessions will bring together key actors to discuss the planned activities and potential environmental impacts. This is an opportunity to define the scope of the study in more detail, determine priority questions to be answered by the assessment, and identify the information needed.

The team will review the Government of Indonesia's environ-

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mental assessment procedures to ensure that recommendations are acceptable to the GOI.

2. Conduct Environmental Analysis

The EA team will address the key concerns/questions identified by the scoping session. The team will collect background information on existing environmental conditions (e.g., climate, topography water and land resources). Analysis will focus on identifying potential environmental impacts of project-funded activities (both direct and indirect).

3. Examine Project Design Options, Alternatives and Needed Mitigation Measures

Based on the above analysis, the EIA team will examine alternatives to the project, including no project, as well as recommend design modifications, implementation guidelines and mitigation measures.

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Natural Resources Management Project
Environmental Action Plan

2. SUMMARY OF THE ENVIRONMENTAL ASSESSMENT OF THE BUKIT.BAKA - BUKIT
RAYA PROJECT SITE June 28, 1993

2.2.1. FOREST UTILIZATION

1. Cooperation with SEK

a. Waste Utilization and Harvesting Methods:

Recommendation: "... that in conjunction with the pilot testing of low-cost skidding techniques, NRMP seek authorization to test the manual conversion of logging waste into cants and roughsawn boards in collaboration with local communities..."

".... that NRMP facilitate a study tour to the Philippines for MOF and SBK staff to observe operating skyline and other cable logging systems and to assess their feasibility for application at the project site..."

Action: The project plans to support a feasibility study (scheduled for late 1993/early 1994) to explore the possible utilization of logging waste by local communities to improve their incomes. The study will examine feasible mechanisms in converting the waste to a usable raw material for wood production.

The recommendation on study tour will be integrated into the 94/95 joint Implementation Plan.

b. Post-Logging Thinning Treatments/Taxonomy:

Recommendation: "... that NRMP seek authorization to pilot test a postponement of pembebasan (liberation) thinning treatments until the fifth year after logging to avoid unnecessary negative impacts on biodiversity. endorses the proposed study of forest-tending treatments.... and the training in species identification and herbarium development at Tanjungpura University (UNTAN) ..."

Action: A study is scheduled to begin in August/September, 1993 to review the current TPTI techniques and provide recommendations in improvement of the logging methods and post-harvest treatments. A forest taxonomist is assessing biological diversity conservation approaches in production forests, identifying species from timber inventories conducted by the forest concession holder, and establishing herbariums for research and instruction. Two herbariums have been established (one at UNTAN and one at the Bukit Baka site).

c. Road Building and Hydrology:

Recommendation: "... endorses the recommendations ... for reducing the length of skid roads and secondary roads. However, the recommendation that mainline roads follow more even gradients should be reviewed, ... might entail ... earth-moving, with corresponding negative impacts. ... endorses the proposed hydrological studies in collaboration with UNTAN ... , the impact of improved logging practices should be systematically monitored in order to demonstrate positive impacts of NRMP interventions. Both economic and ecological data should be collected and analyzed ... could be incorporated into guidelines for other concessionaires.

Action: These technical recommendations will be reviewed and further integrated into workplans for short term advisors in natural production forest management. These advisors are scheduled to begin work in late 1993. In addition, staff from SBK traveled to the U.S. as part of a Ministry of Forestry-U.S. Forest Service study tour on the design and construction of logging roads. A reciprocal study tour by U.S. experts is planned at the SBK forest concession in August, 1993.

d. Industrial Forest Estate:

Recommendation: "... that NRMP seek a review of these plans by appropriate Ministry officials, with a view toward obtaining an exemption from the requirement that a HTI-Trans project be implemented in the SBK concession ... "

Action: The MOF has transferred the proposed HTI-Trans project to a grassland site within an SBK forest concession area in West Kalimantan.

2. Cooperation with the ITTO-funded SFMP

Recommendation: "... In contrast to the potential for project-supported activities to mitigate the adverse environmental impacts of logging in the SBK concession, the EA team identified no significant potential for similar benefits to be derived from cooperation with KKP. ... as villagers do not at present distinguish SFMP from NRMP, SFMP cooperation with KKP as envisioned in the JIP could have a negative impact on local community members' perceptions of the NRMP. ... Since SFMP activities have not yet initiated in the KKP concession, (nor had a formal memorandum of understanding been concluded ...) ... One alternative to be considered by the PCC is reprogramming ITTO funds to assist the MOF prepare the ITTO's "Year 2000" guidelines. ... "

Action: The PCC meeting in December 1992 did not approve the recommendation to reprogram ITTO funds for a study on meeting the "Year 2000" guidelines. However, project advisors

have conducted a study on the feasibility of timber certification and labeling. Seminar held on May 18, 1993 to discuss findings and policy recommendations.

3. Compliance with U.S. Government Legislation Concerning Assistance for Commercial Timber Extraction

Recommendation: "... that NRMP's collaboration with PT. SBK be deemed in compliance with the provisions of U.S. Government legislation and Congressional guidance ... to ensure continuing compliance, NRMP support for the pilot testing of improved harvesting methods should be subject to periodic review and assessment. The NRMP Natural Forest Management Advisor should be responsible for preparing a brief statement asserting compliance for each project-supported activity not specifically endorsed by the EA team that could be construed as involvement "in the use of logging equipment". These statements should be reviewed by the USAID Project Officer and made available to future project evaluation teams."

"... assistance to production forest activities in collaboration with KKP would not be in compliance with U.S. Government legislation. ... any activities on the part of NRMP advisors that could be deemed "assistance" to commercial timber extraction in the KKP concession would be subject to those provisions. ... the March 1992 JIP are vague ... recommends that the JIP be revised to clarify that all proposed collaborative activities are in compliance with relevant legislation."

Action: The 1993/94 Joint Implementation Plan clarifies that the relationship of project advisors with the KKP forest concession is limited to information exchange regarding the location of the boundary for the Bukit Baka-Bukit Raya National Park, community development programs and nature conservation. The NRMP advisors' workplans incorporate these activities.

2.2.2. COMMUNITY DEVELOPMENT PROGRAM

1. Community-Managed Concession

Recommendation: "... endorses the exploratory efforts ... regarding the feasibility of a community-managed forest concession. ... will require an intensive, long-term community organization effort, preferably in collaboration with an appropriate NGO. ... that NRMP consult with the staff of the GTZ-supported Social Forestry Development Project ... learning from relevant experience and developing modes of cooperation between the two projects."

Action: The project is currently implementing the following activities:

i) Advisors have visited the GTZ project site. Project advisors consult with GTZ staff on a regular basis.

- ii) Completed assessment of potential NGOs to work with the project in planning, implementing, monitoring, and following up project activities. A well-established and capable Java-based NGO with expertise in income-generating activities is planned to strengthen the capability of local NGOs in community development.
- iii) The social forestry advisor is currently working with selected women community in village gardening activity as part of the agroforestry development program.
- iv) A short term consultant in environmental education worked with local NGOs and communities in developing strategies and producing environmental education extension materials to support project implementation.
- v) A concept paper on Traditional Forest Areas has been developed by project advisors for further review by MOFr.
- vi) Meetings were held with the GTZ project staff, Agro-forestry

2. Agroforestry/Soil Conservation

Recommendation: "... The EA team endorses NRMP's strategic use of cross visits and study tours to expose farmers and extension staff to new ideas. ... NRMP could play a potentially significant role in assisting Central Kalimantan villagers to intensify the management of their rattan gardens."

Action: In 1992, the project conducted a short-term training for the local communities on reviewing agro-forestry practices in the neighboring sites. The training proved to be useful in exchange of information and knowledge on farming activities. Additional study tours are scheduled for 1994 that will benefit farmers in Central Kalimantan.

3. Fire Control

Recommendation: "... With the cessation of annual burning, the natural regeneration of secondary forest would be facilitated, ... also lift current constraints on investments in tree crops ... However, ... will impose additional costs on wealthier, cattle owning households ... Resolution of inter-village conflict, ... will require coordination at the district level. ... community leaders will need to enlist the support of authorities... "

Action: Studies are planned to better understand grassland management practices. Testing of community-based fire control techniques planned for 1993. U.S. Forest Service trainers for fire mitigation training visited the site and training courses scheduled for 1993 and in 1994.

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4. Potable Water:

Recommendation: " ... no significant adverse environmental impacts from construction are envisioned."

Action: Seven potable water supply systems completed, earth moving was minimal. Communities were actively involved in designing and constructing systems. Communities contributed sand, rock and labor; SBK contributed pipes and cement, and USAID provided technical assistance.

5. Cooperation with the SBK Bina Desa Program

Recommendations: " ... that NRMP mobilize additional human and institutional resources, particularly NGOs and female staff, for field implementation of agroforestry/community development activities. ... Investment should be made in developing the capacity of cooperating institutions such as NGOs, rather than hiring additional individual project staff members."

Action: Selected NGOs are involved in project implementation and the project continues to seek ways to strengthen NGO capability and participation.

6. Compliance with U.S. Government Regulations Concerning Assistance for Pesticide Use

Recommendation: " ... NRMP should be deemed in compliance with relevant regulations. To ensure continuing compliance, ... continue to avoid direct involvement with the promotion or use of pesticides in the context of cooperation with the SBK Bina Desa Program."

Action: Current agro-forestry programs carried out by the long-term advisors include introduction of organic fertilizers and improved pest management practices. The strategy aims at eliminating dependency of the local community on the supply of expensive, imported chemical inputs.

2.2.3. NATIONAL PARK MANAGEMENT PLANNING AND IMPLEMENTATION

1. Plan Development

Recommendation: " ... the plan elaborates three sub-programs: 1) Resource Protection and Management, ... 2) Extension and Human Use of Natural Resources, ... and 3) Tourism, Interpretation, and Environmental Awareness, ... the team identified three issues related to the formulation of the national park management plan: constraints on collaborative planning posed by the remoteness of the site and the lack of counterparts; the lack of field-based

ecological and social data on which to base the zonation system; and the lack of access to comprehensive maps of the area. ... recommends that NRMP take additional steps to work around these constraints."

Action: The NRMP has taken the following steps to address the above constraints:

- a) conducted regular working level discussions among parties involved in the project planning: MOFr - central and provincial officials, ITTO, USAID, NRMP advisors, NGOs, university personnel, and private sectors.
- b) PHPA is in the process of contracting for a biodiversity survey in the Bukit Baka portion of the park. LIPI scientists are scheduled to begin the survey in September 1993. Forest taxonomist presently working on the identification of important species within the park, and plans to involve local para-taxonomist in a follow-on survey.
- c) NRMP project staff explored the availability of maps locally, and the project will procure SPOT images for Bukit Baka-Bukit Raya National Park from BAKOSURTANAL (National Coordination Agency for Survey and Mapping), and fund the procurement of aerial photography for the Bunaken National Park. U.S. Forest Service trained.

2. Plan Implementation

Recommendation: " ... that NRMP advisors give higher priority to promoting the active participation of community members in park planning and preparation for playing roles in park management. ... NGOs and/or other intermediary institutions should be mobilized to assist in the community organization necessary for this process. ... recommends that the construction of any infrastructure ... be preceded by a systematic process of consultation with affected communities."

Action: Completed assessment of potential NGOs to work with the project in planning, implementing, monitoring, and following up project activities. A well-established and capable Java-based NGO with expertise in income-generating activities is planned to strengthen the capability of local NGOs in community development. Training also provided to local communities and schools on environmental education.

3. Compliance with U.S. Government Legislation and Regulations Concerning Endangered Species

Recommendation: " ... U.S. Government legislation and regulations ... require that projects having an effect on an endangered or threatened species or critical habitat be subject to an Environmental Assessment ... NRMP's impact on endangered species at the Bukit Baka -

Bukit Raya project site is likely to be positive. ... Construction of the research station ... on a previously disturbed site minimizes the likelihood of damage to remaining critical habitat."

Action: No specific mitigation actions required.

2.2.4. RESEARCH STATION AND APPLIED RESEARCH PROGRAM

1. Research Station and Mini-Hydropower Installation

Recommendation: " ... While the construction and operation of the research station will inevitably result in some direct adverse environmental impacts, it is the EA team's judgement that these impacts will be for the most part temporary, and marginal ... The EA team recommends that the Research Advisor should also be responsible for designing a simple water quality monitoring system to ensure continuing compliance during subsequent operation and maintenance of the station. ... The most significant potential environmental impact of the station will be the significant erosion from the initial road rehabilitation and ongoing maintenance necessary to ensure access to the site. Major earth-moving activities during the rainy season would cause unacceptable level of sedimentation, ... The EA team recommends that the construction, road rehabilitation, and regular maintenance activities for the proposed research station and its access road be limited to the dry season months."

Action: SBK improved the road during the dry season to minimize negative environmental impacts. Recommendations to minimize negative environmental impacts are included in the Research Advisor's workplan.

2. Applied Research Studies

Recommendation: " ... The EA team recommends that researchers be encouraged to employ local research assistants, and to share research results with local communities."

Action: Project-funded activities include the participation of local research assistants, such as in forest inventories, socio-economic surveys and agroforestry development.

3. SUMMARY OF THE ENVIRONMENTAL ASSESSMENT OF THE BUNAKEN PROJECT SITE

3.2.1. Interagency Coordination

Recommendation: " ... Interagency coordination related to park management is currently constrained at the provincial level by polarization among various government agencies regarding jurisdictional authority over the park. There is some danger that private interests ... will exploit this ambiguity, leading to ecologically and socially unsound developments ..."

"The EA team recommends that NRMP:

seek immediate, policy level intervention from MOFr officials in Jakarta to prevent irreversible developments ...

support the formation of an informal working group among the various stakeholders in park management ...

facilitate team- and consensus-building through the sponsorship of study tours ... examples of coastal resource management in the Southeast Asian region."

" ... The EA team recommends that NRMP staff and advisors continue to use every opportunity to go on record as being against resettlement alternatives for island residents. ... traditional use can be consistent with sustainable community resources management in the long term."

Actions: These recommendations are incorporated in the Joint Implementation Plan and the advisors' workplans, including:

- a) Planned project activities in the Joint Implementation Plan approved by the Project Coordinating Committee (PCC) include provision of support to PHPA in clarifying PHPA's responsibility for managing the Bunaken National Park.
- b) The project is providing assistance in forming a network of local NGOs concerned with supporting the management of the Bunaken national park. The network aims at encouraging the active participation of local NGOs, such as testing of alternative income generating alternatives and conservation extension services. Project advisors also continue to explore the formation of a private sector marine tourism trade association.
- c) Study tour scheduled for 1994.
- d) Facilitating provincial-level workshop to promote community participation in the management of the park. The workshop is scheduled for September, 1993.

3.2.2. Community Participation

Recommendation: " ... The EA team recommends that NRMP expand its collaboration with NGOs to include organizations with community development experience, and support a program of field-based community organizers to facilitate meaningful participation in park planning and management. ... The EA team recommends that NRMP add a full-time, internationally-recruited specialist in community development and communication to the project advisory team."

Action: The project has fielded a long-term Indonesian advisor to promote community development and participation in the management of the park. One of his primary tasks is to improve the capabilities of local NGOs in supporting park management. Training planned for NGOs in community development techniques.

3.2.3. Harmonization of Objectives with Resources

Recommendation: "... the scope of activities envisioned in the management plan are too ambitious to be addresses effectively all at once. The EA team recommends that NRMP set sectoral and geographical priorities for the phased implementation of park management activities. The EA team suggests that: ... initially limit its focus to increasing local participation in marine resource management ... and ecotourism development, starting with Manado Tua and Bunaken Islands, ... support the placement of researchers and/or community organizers in communities on Mantehage and Nain Islands to collect data on current patterns of marine and mangrove resource use to provide baseline data for planning eventual expansion to those islands."

Action: The recommendations are integrated into the Joint Implementation Plan and the advisors' workplans.

3.2.4 Specific recommendations for Zoning, Tourism, and Mitigation of Adverse Social Impacts

Recommendation: "... The EA team recommends that:

- * the marine zonation system be simplified to community-managed sanctuary and sustainable-use zones developed in consultation with current users ...
- * the regulations regarding buffer zones in deep water ... take into account the placement of Fish Aggregating Device (FAD's), ...
- * the land zonation system be limited to a tourism zone on Liang Beach, Bunaken Island. NRMP should assist in the development of guidelines for shoreline development ...
- * NRMP assist in the formulation of policies and regulations supportive of small-scale, locally owned and managed tourism facilities.
- * gleaning should be regulated with great care ...
- * any livelihood enhancement activities should be targeted to households most likely to be negatively affected by resource use restrictions ...

Action: Recommendations are included in the draft management plan for the park.

3.2.5. Park Infrastructure and Law Enforcement

Recommendation: " ... the EA team recommends that construction of any park infrastructure ... and any use of patrol boats for law enforcement activities preceded by a systematic process of consultation with affected communities. In addition, NRMP should facilitate the training of current MOF staff assigned to the national park in participatory approaches to park management."

Action: These recommendations are accepted by PHPA staff and included in the advisors' workplans.

3.2.6. Applied research

Recommendation: " ... The EA team recommends that the planned biodiversity survey be designed so that monitoring can build on the initial database and use the same data collection methods, and should be used as an opportunity to train a survey team from UNSRAT. ... The recently completed social survey should form the basis for long-term monitoring of social impacts. Results of surveys and monitoring should be shared with local communities ... "

Action: PHPA plans to implement a biodiversity survey which will include the development of a monitoring system.

3.2.7. Compliance with U.S. Government Legislation and Regulations Concerning Endangered Species

Recommendation: " ...NRMP's impact on endangered species at the Bunaken project site is likely to be positive. ... The project's strategy ... will provide a framework for controlling the exploitation of endangered species and disturbance of critical habitat."

Action: No specific action is required.

4. SUMMARY OF THE REVISED INITIAL ENVIRONMENTAL EXAMINATION OF THE PROPOSED GUNUNG PALUNG PROJECT SITE

4.2. Implication for NRMP

Recommendation: " ... The EA team recommends that, prior to the formulation of a management plan, NRMP support diagnostic research on resource use by people in

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surrounding communities, their attitude and social organization, and the nature of their interactions with park staff. Given the sensitivity of illegal forest product exploitation, this information will be difficult to obtain through short-term studies. Based on the results of the diagnostic research, a revised management plan could be prepared. The EA team recommends that the revised plan include strategies for park management to:

- * cooperate with local officials and line agencies to prevent the inappropriate sitting ...;
- * revise the park boundary, ...;
- * negotiate exclusive exploitation rights for local communities ...;
- * cooperate with local communities in the monitoring of wildlife ...;
- * train existing and future park personnel in participatory resource management approaches;
- * develop community-based tourism, ... ;
- * cooperate with the Cabang Panti Research Station in applied research of direct relevance to park management issues."

" ... The EA team recommends that NRMP not initiate activities in the Gunung Palung reserve unless long-term resident advisors can be fielded to ensure the environmental and social soundness of project-supported interventions.

Action: The recommendation is accepted. A preliminary socio-economic survey planned for 1994 to review the existing management plan.

5. *INSTITUTIONAL AND MANAGEMENT ISSUES*

5.1. The link to policy makers at BAPPENAS and the Ministry of Forestry

Recommendation: " ... NRMP advisors and USAID Mission staff should continue to cultivate periodic dialogue with policy-makers in BAPPENAS and MOFr through the Project Coordinating Committee and the Policy Working Group. ... "

Action: The Project Coordinating Committee (PCC) continues to meet on a regular basis to discuss field experiences and their policy implications. Other project coordinating meetings are also held frequently and the Policy Working Group is scheduled to meet in late 1993.

5.2. The role of the Ministry of Forestry

Recommendation: " ... the Ministry has been slow to assume ownership of the project and take the initiative in directing field activities. ... The lack of sustained focus on NRMP on the part of MOFr officials in Jakarta and Bogor has proven frustrating to Ministry staff in the provincial capitals and NRMP advisors at the project sites. ... the NRMP advisory position based in the Ministry of Forestry in Jakarta have been adjusted to give more emphasis to facilitating the involvement of MOFr officials in project-supported activities, and particularly the linkage between field implementation and policy. The EA team recommends that this role be given priority ... "

Action: New Forest Economist/Research Advisor began work in late June, 1993 with key tasks to link field activities with policy analysis. Short-technical assistance planned to help the Directorate General of Forest Utilization (Direktorat Jendral Pengusahaan Hutan) to review the existing national policies and regulations on natural production forest management and test improved practices in the field. The first short-term advisor is scheduled to begin work in September 1993.

5.3. Institutional Resources for Field Implementation

Recommendation: " ... NRMP advisors are reaching the limits of their effectiveness working as direct implementors of project activities. The EA team recommends that their roles be reoriented toward the facilitation of the involvement of other actors. ... facilitating of involvement of other institutions as planners and implementors of project activities such as community organization. ... implications:

- * ... to commit significant financial and staff resources to developing the capacity of provincial NGOs ...
- * In the short run, ... need to devote proportionally more of their time to developing plans with prospective MOFr, NGO, and other ...
- * ... to establish an identity independent of SBK at the Bukit Baka - Bukit Raya site. ...
- * ... enable project staff, advisors, and NGO and other counterparts to adequately prepare for, participate in, and follow up to visits from short-term consultants.

Action: The following actions were taken:

- * The project strategy encourages involvement and active participation of local NGOs, universities and private sector in implementing project field activities. A short term consultant completed assessment on potential local NGOs to participate in the project

implementation. A collaborative effort with a Jakarta-based NGO is being established to provide training to local NGOs in community development techniques.

- Advisors are working closely with NGOs, local communities and the private sector in supporting project implementation.
- SBK has constructed a dormitory for the project advisors.
- This recommendation is incorporated into the Joint Implementation Plan and the advisors' workplans.

5.4. Monitoring

Recommendation: " ... Several indicators of the ecological and social impacts of NRMP have been identified that could provide useful information for project management and evaluation. ... The EA team recommends that planned biodiversity surveys at the Bukit Baka - Bukit Raya and Bunaken project sites be designed and implemented in such a way as to put into place long-term monitoring capacity at the local level. ... In Bukit Baka - Bukit Raya, changes in household livelihood and community land-use strategies should be monitored, ... In Bunaken, monitoring should focus the impact of project interventions related to fisheries management and tourism development on household incomes. ... "

Action: These recommendations are incorporated into the project's Management Information System as well as in the terms of references for planned biodiversity and socio-economic surveys.

6. POLICY ISSUES

6.1. Labor-intensive waste utilization

Recommendation: " ... constraints on the utilization of logging waste by concessionaires and local communities. A study of these constraints would complement the pilot testing of labor-intensive waste utilization proposed in Section 2.2.1.1 ... "

Action: A terms of reference prepared and the 1993/94 Joint Implementation Plan includes this policy study.

6.2. Industrial Timber Plantation (ITI)

Recommendation: " ... NRMP could play a useful role by surveying the planning and implementation of ITIs in Kalimantan and elsewhere in Indonesia, and analyzing existing policy governing the program. ... "

Action: This study is being considered for future policy analysis.

6.3. Wood Certification

Recommendation: " ... The EA team endorses the proposal ... that the project invest in the development of an Indonesian wood certification or "sustainable labelling" process. ... "

Action: Project advisors worked closely with the Ministry in conducting this study, seminar held in May, 1993 to discuss results.

6.4 HPH Bina Desa Hutan Program

Recommendation: " ... MOF officials have recognized problems in the implementation of the Bina Desa program, and in 1992 promulgated a new policy requiring concessionaires to undertake diagnostic research efforts to determine community needs prior to the initiation of Bina Desa interventions. ... NRMP should build on work ... to survey the Bina Desa efforts of concessionaires elsewhere in Kalimantan and Indonesia, and to analyze existing policies governing the national program. ... "

Action:

Policy studies planned on this topic to build on project-funded activities in the field as well as other experiences, both in Indonesia and in Asia.

6.5 National Park Staffing

Recommendation: Civil service rules regulating the hiring of staff for national parks severely limit the opportunities for local community members, accordingly, a study is recommended to "clarify current policies governing the staffing of national parks."

Action:

The Ministry of Forestry awarded a contract, in May, 1993, for a study to evaluate the institutional arrangements and policies for managing national parks. Follow on work planned under the technical assistance contract.

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6.6 Legal Status of Communities Within National Parks

Recommendation: The project should analyze the legal and administrative options for recognizing community resource rights.

Action:

This is clearly a very important issue that project assistance intends to address. Initial activities are focused on understanding community rights and options at the Bukit Baka-Bukit Raya and Bunaken sites. A broader analysis of community rights within protected areas may be possible and more appropriate in 1995 or 1996.

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**NATURAL RESOURCES MANAGEMENT PROJECT
GRADUATE DEGREE SCHOLARSHIP OPPORTUNITIES
REQUIREMENT FOR MASTERS PARTICIPANTS**

Announcement

BAPPENAS and the Departemen Kenutanan wish to announce graduate degree scholarship opportunities available under the USAID/ supported Natural Resources Management Project.

Description of the NRM Project

The Natural Resources Management Project is designed to strengthen Indonesia's capabilities to analyze and develop improved policies in the field of natural resources management. An important component of this project is overseas graduate degree training.

Description of the Scholarship Awards

The NRM scholarships will provide full funding for Masters degree in the U.S. Scholarships will include international airfare, tuition, living stipend and allowances, insurance, and so on. Successful applicants will be expected to begin their study in the U.S. in January, 1993. They will have the opportunity to return to Indonesia to carry out field work associated with their degree.

Intensive English language training in Indonesia may also be offered if required. The intensive English program will begin in April, 1992.

Fields of Study to be Supported

The NRM Project will support training in the following fields:

1. Forest Management
2. Forest Economics
3. Forest Biology
4. Marine Management
5. Environmental Science
6. Research Management
7. Biometrics
8. Wildlife Management
9. Resource Economics
10. Macro Economics
11. Institutional Management

12. Policy Planning
13. Environmental Planning

Eligibility Requirements

Qualified candidates for NRM scholarships must meet the following initial criteria:

- A. An S1 or Equivalent in a Relevant Field of Study
- B. A Grade Point Average of 2.5 or better
- C. Graduate Degree Objective from the Above List
- D. Must be Sponsored by a Public or Private University an Environmentally Oriented NGO, or an Environmentally Oriented Private Sector Business
- E. Advanced English Proficiency will be preferred
- F. Maximum Age 35 Years Old at December 31, 1992

Application Procedures

Applicants should submit the following documents with the enclosed Application Form to the Head, NRM Project Coordinating Committee (PCC).

- A. Letter of Expression of Interest stating study objective
- B. Curriculum Vitae
- C. Photocopy of Undergraduate Transcript
- D. Letter of Sponsorship from university, NGO, or business
- E. Result of International/Individual TOEFL/GRE Tests already taken.

Applicants who meet the basic criteria will be sent a preliminary application form to complete. Applicants will be required to take the Tes Potensi Akademik and the Institutional or Official TOEFL (to be arranged by the NRM Project).

Application Deadline - MAY 1, 1992

All applicants should submit the above materials to the NRM by May 1 at the latest.

Address correspondence to:

Prof. Dr. Herman Haeruman
Head, Project Coordinating Committee
Natural Resources Management Project
c/o Bureau of Natural Resources and
Environmental Management
BAPPENAS
Jl. Taman Surapati No. 2
Jakarta Pusat
Telephone : 334.187 Fax No. : 310.5374

(4)

**Masters Degree Participants Admitted into US Universities
(1992 – 1993)**

NAME	UNIVERSITY	FIELD	DEPARTURE
1. Sigit Pramono	PURDUE University	Forest & Natural Resources	August 1992
2. Agus Sutito	NORTH DAKOTA University	Natural Resources	August 1992
3. Adi Susmianto	MICHIGAN University	Natural Resources Management	August 1992
4. Asep Sugiarta	University of NEW MEXICO	Wildlife Management	August 1992
5. Sri Yanti W.	CARNEGIE MELLON University	Resource Economics	January 1993
6. Sri Winenang	LOUISIANA STATE University	Wildlife Management	August 1993
7. Diana A. Barus	University of CENTRAL FLORIDA	Environmental Sciences	August 1993
8. Rahayu Riana	MICHIGAN University	Forestry	August 1993
9. Humala Pangaribuan	University of MAINE	Forestry	August 1993
10. Emmy Endah Suwarni	University of MAINE	Wildlife Management	August 1993
11. Joko Pramono	IOWA STATE University	Forestry	August 1993
12. Oktavianus Lingkubi	NORTH DAKOTA University	Natural Resources Management	August 1993

PARTICIPANTS UNDER SELECTION FOR MASTERS DEGREE TRAINING – 1992/93

Page 1

NAME	BIRTH DATE	SEX	FIELD OF STUDY	GPA	TOEFL	INSTITUTION	ACADEMIC PROGRAM STATUS	EXPECTED COMPL. DATE
I. <u>MINISTRY OF FORESTRY</u>								
A. US ADMISSIONS DEFERRED								
1. Emmy Endah Suwarni	01/11/61	F	Wildlife Management	2.53	567	Ditjen. PHPA Kutacane	Admitted Fall'93/Univ. of Maine	
2. Rahayu Riana	14/04/65	F	Forestry	2.69	523	Birocan/Setjen.	Admitted Fall'93/Michigan State Univ.	
3. Sri Winenang	19/12/60	M	Wildlife Management	2.33	567	TN Dumoga Bone	Admitted Fall'93/Louisiana State University	
4. Oktavianus Lingkubi	09/10/56	M	Natural Resources Mgmt.	7.5	523	Kanwil Manado	Fall'93/ North Dakota State University	
5. Sumardjo	06/03/56	M	Forest Biology	2.75	543	RRL Sulsel	Application Not Yet returned	
6. Joko Pramono	10/17/60	M	Forestry	3.12	500	BIPHUT Palen.Sang	Fall'93/ Iowa State University	
7. Rusydi	29/9/57	M	Forest Inventory	2.51	543	Kanwil Padang	Pending for Spring 1994	
II. <u>BAPPENAS/DALAM NEGERI MASTERS CANDIDATES</u>								
A. PHD PROGRAMS								
1. Dedy Riyadi		M	Agriculture and Resource Economics			BAPPENAS	Oregon State University University in July 1992	July.20 '92
2. Mohammed Prakosa		M	Forestry Economics			U.Bengkulu	University of California/Berkeley	Dec. 31 '93
B. MASTERS PROGRAMS								
1. Wahyuringsih Darajati	24/12/58	F	Environmental Science	3.30	503	BAPPENAS	Conditionally Admitted to U.of Illinois for Spring'94	
2. Tamtama S.B. Poerwowinoto	14/02/63	M	Environmental Planning	2.49	510	BAPPENAS	Recommended placement for Spring'93 due to low test scores	
3. Humala Pangaribuan	24/05/63	M	Forestry	3.03	560	Bappeda Kalleng	Admitted tFall'93/University of Maine	

NAME	BIRTH DATE	SEX	FIELD OF STUDY	GPA	TOEFL	INSTITUTION	ACADEMIC PROGRAM STATUS	EXPECTED COMPL. DATE
4. Suraya A. Afiff	10/01/59	F	Coastal Marine Ecosystem	2.63		WALHI	Spring 1994	
5. RESERVED FOR BAPPENAS/DALAM NEGERI/NGO		F						
III. UNIVERSITIES/ NGO/ PRIVATE SECTORS/ OTHERS								
A. RECOMMENDED TO PCC FOR NRM SCHOLARSHIPS								
1. Agustinus Harahap	23/08/62	M	Biological Science	3.67	623	Unsrat Manado	Fall 1993/Pending at U.of Rhode Island, Louisiana State, Mississippi State, Auburn U. & U.of Florida	
2. Ahmad Perwira Mulia	17/04/66	M	Marine Management	3.31	513	USU Medan	Spring 1994	
3. Diana Alemin Barus	29/07/66	F	Environmental Science	3.32	540	USU Medan	Fall'93/Conditionally Admitted to U.Central Florida	
4. Gusti Hardiansyah*	30/11/67	M	Forest Economics	3.5	467*)	Sari Bumi Kusuma	Spring 1994	
5. Makinuddin	15/10/65	M	Rainforest Management	2.92	537	Consultant	Pending	
IV.								
1. RESERVED FOR BAPPENAS/DALAM NEGERI/NGO		F					Nomination pending	
2. RESERVED FOR BAPPENAS/DALAM NEGERI/NGO		F					Nomination pending	
3. RESERVED FOR BAPPENAS/DALAM NEGERI/NGO		F					Nomination pending	

* No longer participants

PARTICIPANTS UNDERTAKING INTENSIVE ENGLISH COURSES 1992/93

Page 1

	BIRTH DATE	SEX	FIELD OF STUDY	GPA	TOEFL	INSTITUTION	ENGLISH STATUS
FORESTRY							
1. Rahayu Riana	14/04/65	F	Forest Resources	2.65	523	Birocan/Setjen	Joining OTO EAP-II program (26/4/93-26/7/93)
2. Oktavianus Lingkubi	09/10/56	M	Watershed Management	7.5	523	Kanwil Manado	Completed EAP-II at ALT Jakarta (Feb.1-Apr.15, 1993)
3. Sumardjo	06/03/56	M	Forest Biology	2.75	543	RRL Sulsel	Sent letters directly to Sumardjo or through Pusdiklat. Received no response. He's recommended to take semi-intensive ELT.
4. Joko Pramono	10/17/60	M	Forest Management	3.12	500	BIPHUT Palembang	Completed EAP-II at ALT Jakarta (Feb.1-Apr.15, 1993)
5. Rusydi	29/9/57	M	Forestry Inventory	2.51	543	Kanwil Padang	Completed EAP-II at ALT Jakarta (Feb.1-Apr.15, 1993)
BAPPENAS							
1. Wahyuningsih Darajati	24/12/58	F	Environment	3.30	503	BAPPENAS	Joining OTO EAP-II program (26/4/93-26/7/93)
2. Tamtama SB Poerwowinoto	14/02/63	M	Environmental Planning	2.49	490	BAPPENAS	Completed at British Council (Dec.14, 1992 - March 19, 1993). Joining OTO EAP-II program (26/4/93-26/7/93)
3. Humala Pangaribuan	14/02/63	M	Environmental Planning	3.03	560	Bappeda Kalteng	Finished EL1 at PPIA Jakarta (Oct. 18-Dec. 18, 1992) and returned to Palangka Raya in Dec.'92. He is waiting for decision on admission.
UNIVERSITIES/ NGO/ PRIVATE SECTORS/ OTHERS							
1. Ahmad Perwira Mulia	17/04/66	M	Marine Management	3.31	513	USU Medan	Completed OTO EAP-I program (Feb.1-March 19, 1993) Joining OTO EAP-II (26/4/93-26/7/93)
2. Diana Alemin Barus	29/07/66	F	Environmental Science	3.32	540	USU	Completed semi-intensive ELT at USU .
3. Gusti Hardiansyah	30/11/67	M	Forest Economics	3.5	467*	Sari Bumi Kusuma	Completed OTO EAP-I program (Feb.1-March 19, 1993). Joining OTO EAP-II program (26/4/93-26/7/93)
4. Makinuddin	15/10/65	M	Rainforest Management	2.92	537	Consultant	Completed EAP-II program at ALT Jakarta (Feb.1-April 15, 1993)

PARTICIPANTS CURRENTLY IN ENGLISH LANGUAGE TRAINING PROGRAM

Page 2

	BIRTH DATE	SEX	FIELD OF STUDY	GPA	TOEFL	INSTITUTION	ENGLISH STATUS
1. Rahayu Riana	14/04/65	F	Forest Resources	2.65	523	Birocan/Setjen.	Joining OTO EAP-II program (26/4/93-26/7/93)
2. Wahyuningsih Darajati	24/12/58	F	Environment	3.30	503	BAPPENAS	Joining OTO EAP-II program (26/4/93-26/7/93)
3. Tamtama SB Poerwowinoto	14/02/63	M	Environmental Planning	2.49	490	BAPPENAS	Completed at British Council (Dec.14, 1992 - March 19, 1993). Joining OTO EAP-II program (26/4/93-26/7/93)
4. Ahmad Perwira Mulia	17/04/66	M	Marine Management	3.31	513	USU Medan	Completed OTO EAP-I program (Feb.1-March 19, 1993) Joining OTO EAP-II (26/4/93-26/7/93)
5. Gusti Hardiansyah	30/11/67	M	Forest Economics	3.5	467*	Sari Bumi Kusuma	Completed OTO EAP-I program (Feb.1-March 19, 1993). Joining OTO EAP-II program (26/4/93-26/7/93)

**PROPOSED GUIDELINES FOR NRM/ARD MASTERS DEGREE
PARTICIPANTS IN DOING FIELD RESEARCH**

1. Research proposals should be submitted at least three months in advance of the planned start date, to allow for completion of the review process in Indonesia.
2. Research projects should be developed within the framework of the 24-month period allocated for master's degree study (reference USAID/Jakarta's December 1992 policy letter). The total amount of time devoted to research should not exceed three months.
3. It is preferable that research be carried out at one of two NRM project sites in Indonesia. Proposals should state the relevance of research to NRM project sites.
4. The total cost of research should not exceed \$10,000, inclusive of international travel. Any proposal exceeding this ceiling will be scrutinized by USAID, the Government of Indonesia (GOI), and Associates in Rural Development (ARD).
5. Whenever possible, research activity should be limited to that which can be accomplished by the participant on his/her own.
6. USAID funds should not be used for salaries of researchers and research assistants.
7. Equipment procurement should be carefully evaluated and kept at a minimum.
8. Equipment purchased under the NRM project must be placed on the project's inventory and accounted for, ie., it becomes the property of the project.
9. Participants will be responsible for maintaining equipment while conducting in-country research and must return this equipment to the ARD office before returning to the U.S. for thesis defense.
10. Participants conducting research in Indonesia will not receive maintenance and book allowances during the research period. If working away from home base, consideration will be given to providing a per diem allowance at GOI rates.

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INTERNATIONAL TRAINING – SHORT TERM TRAINING PLAN

		Location	From	To	Target Institutions	Nos. of Participants	Duration Days
1.	Workshop on Policy and Legislation in Community Forestry	Asia	27/01/93	29/01/93	BAPPENAS, LITBANG	2	8
2.	Integrated Coastal Resources Management	Asia	March		PHPA, KANWIL, UNSRAT	4	56
3.	Study Tour – Comparative Logging Systems	Asia	May		PH, KANWIL, Dinas Kehutanan, Concessionaires	4	48
4.	Agroforestry Extension and Training	USA	10/05/93	14/06/93	PHPA, KANWIL, Concessionaires	3	93
5.	Summer Institute in Coastal Management	USA	June		KANWIL, PHPA, UNSRAT	2	50
6.	Coral Reef Management	USA	June		PHPA	4	120
7.	Agroforestry	Asia	June		PHPA, PH, KANWIL, Concessionaires	3	165
8.	Innovative Approaches for Protecting the Environment	USA	14/06/93	25/06/93	BAPPENAS	2	24
9.	Management for Sustainable Natural Resources...	USA	27/06/93	23/07/93	KANWIL, PHPA, LITBANG, Concessionaires	3	78
10.	Reforestation Planning and Plantation Establishment	Asia	August		PH, KANWIL, Concessionaires	3	168
11.	Natural Resources Policy	USA	02/08/93	27/08/93	BAPPENAS	2	52
12.	Int'l Seminar on Forest Admin and Management	USA	12/09/93	11/10/93	PHPA, KANWIL	3	90
13.	Wildlife Conservation Management	Asia	To be determined		LITBANG, PHPA, KANWIL	3	135
14.	Study Tour – Marine Tourism Development	Asia	September		BAPPEDA, KANWIL, Dinas Pariwisata, Government's office, Concessionaires	5	80
15.	Forest Land Use Management	Asia	October		PH, KANWIL	4	196
16.	Forestry for Community Development	Asia	November		KANWIL, PHPA, Universities, NGOs, Concessionaires	4	180
TOTAL						51	1,543

INTERNATIONAL SHORT-TERM TRAINING PROGRAMS
STATUS REPORT – JUNE 1993

NO	TITLE	PLACE	DATES	SELECTION DEADLINE	PARTICIPANTS	INSTITUTION	ALIGU/ TOEFL	REMARKS
<u>January – March 1993</u>								
1.	Workshop on Policy and Legislation in Community Forestry	Bangkok, Thailand	27 – 29 January 1993	29/12/92	Mr. Adjat Sudradjat	RRL	Exemption	Presenting paper
2.	Integrated Coastal Resources Management	Songkhla, Thailand	22 Mar. – 14 Apr. 1993	28/02/93	Mr. Sentot Subagyo Mr. Hendra Djayusman Ms. Henneke Pangkey	RRL Diklat UNSRAT	187 165 540	Approved by PCC Approved by PCC Approved by PCC
<u>April – June 1993</u>								
3.	Tropical Rainforest Research Current Issues	Brunei	9 – 17 April 1993	01/03/93	Mr. Setia Budhi	UNTAN	530	Approved by PCC
4.	Agroforestry	UPLB, Philippines	16 June – 10 Aug. 1993	15/03/93	Mr. Sutono	DG PHPA	480/165	Approved by PCC
5.	Reforestation Planning and Plantation Establishment and Management	UPLB, Philippines	19 May – 13 July 1993	15/05/93	Mr. Nandang Sunarya	Dit. Ind. Forest Plantation	173	Approved by PCC
6.	Modern Methods of Estimating Tree and Log Volume and Increment	West Virginia, USA	14 – 16 June 1993		Mr. Endang Suhendang	IPB	Exemption	Presenting paper
7.	Environmental Impact Assessment	Istanbul, Turkey	19 – 26 June 1993		Dr. Dedi Riyadi	BAPPENAS	Exemption	Presenting paper
8.	1993 Annual Conference of ASAE	Spokane, USA	20 – 23 June 1993		Dr. Tineke Mandang	IPB	Exemption	Presenting paper
9.	Management for Sustainable Natural Resources and Environmental Protection	Tennessee, USA	27 June – 23 July 1993	01/04/93	Mr. Maidiward Mr. Teguh Rahardja Mr. Tachrir Fathoni	DG Forest Utilization Int.Coop. & Investment Bureau DG PHPA	543/225 262 221	Approved by PCC Approved by PCC Approved by PCC
<u>Training carried out in 1991 but not recorded</u>								
	Forest Administration and Management	USA	October 1991*		Mr. Koesnan Maryono* Mr. Yaya Mulyana	MoFr MoFr		Approved by PCC Approved by PCC

* Training earlier with payment in June 1993

NRM/ARD LOCAL TRAINING AUGUST 1992 – AUGUST 1993

ANNEX 7C

1. POLICY SECRETARIAT (JAKARTA)				
SITE	TRAINING ACTIVITY	DURATION	PARTICIPANTS	TRAINERS
Jakarta	Training course in I/O modelling and data manipulation	Dec. 92 – Jan.93 (7 days)	I/O Case Study Team (5 persons)	Clive Hamilton
Jakarta	Training in data analysis and manipulation – Macro Study on Trade & Exchange Rates	Mar. 93 (7 days)	Macro Policy Study Team (5 persons)	Erik Scarsborough
Jakarta	BPS I/O Training Course	27/28/29 Apr. 93	Government Departments (20 persons)	Clive Hamilton
Jakarta	Training in data analysis and manipulation – Macro Study on Trade & Exchange Rates	14–17 Feb. 93	Macro Policy Study Team (5 persons)	Erik Scarsborough
Jakarta	Training in data analysis and manipulation – Macro Study on Foreign Direct Investment	12–15 Apr. 93	Macro Policy Study Team (5 persons)	Erik Scarsborough
			Sub–Total M/D	170 m/d
2. WEST KALIMANTAN				
Pontianak	Fruit tree grafting (Durian & Jackfruit)	28 Feb. 93	Extension farmers from BB (4 persons)	Mering Ngo
Pontianak	National Park Plan Training Workshop	1 Mar. 93	NGO, GOI, Villagers (16 persons)	Fernando Potess
Pontianak	Home gardens and tree crops	2/3 Mar. 93	Extension farmers from BB (4 persons)	Fernando Potess
Bukit Baka	Field Follow–up on home garden and tree crops training	5–7 Mar. 93	Villagers in BB (20 persons)	Fernando Potess
Bukit Baka	Conservation awareness NGO Trainer training	7–17 Mar. 93	NGO members (16 persons)	Nancy Bergau Roy Voss Fernando Potess Mering Ngo
Sungkup	Participatory Sketch Mapping	19–20 Mar. 93	Local People (8 persons)	Mering Ngo
Pontianak	Global Positioning System	8–11 Jun. 93	NRMP, SBKSDA, MoFr., BIPBUT, SBK (17 persons)	D. Luepke C. Sumpster
			Sub–Total M/D	295 m/d
3. NORTH SULAWESI				
Bunaken	Installation & use of mooring buoys	15–16 Feb. 93	Diving operators PHPA (8 persons)	G. Usher
Bunaken	Installation & use of mooring buoys	12 Mar. 93	Diving operators PHPA (10 persons)	G. Usher
Tangkoko	Field skills for PHPA staff in North Sulawesi	25 Apr. – 8 May 93	PHPA (12 persons)	T. O'Brien M. Kinnaird G. Usher
Manado	Global Positioning System	9–11 Jun. 93	NRMP, SBKSDA, BIPHUT IV (10 persons)	T. Jasumbach R. Hallman
			Sub–Total M/D	236 m/d
			TOTAL	701 mandays

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NRM/ARD TECHNICAL ASSISTANCE TEAM – LONG TERM ADVISORS (AUGUST 1992 – AUGUST 1993)

ANNEX 8

NO.	NAME	POSITION	LOCATION	M/M	1992					1993					
					A	S	C	N	D	J	F	M	A	M	J
1.	COLIN MACANDREWS	CHIEF OF PARTY	BAPPENAS	22.2											
2.	ERIK SCARBOROUGH	MACROECONOMIST	BAPPENAS	19.5											
3.	CLIVE HAMILTON***	RESOURCE ECONOMIST	BAPPENAS	19.0											
4.	KEN LEATHERS	SENIOR RESOURCE ECONOMIST	BAPPENAS	0.25											
5.	THOMAS MCKENZIE*	FOREST ECONOMIST	FORESTRY	10.0											
6.	CHRIS BENNETT	FOREST ECONOMIST	FORESTRY	1.0											
7.	JAMES TAYLOR	FOUNDATION ADVISOR	JAKARTA	5.5											
8.	FERNANDO POTES	NATURE CONSERVATION ADV.	BUKIT BAKA	23.0											
9.	ROY VOSS	RES. STATION ADV./TEAM LEADER	BUKIT BAKA	10											
10.	JOE PROFFITT**	NATURAL FOREST MANAGEMENT ADV.	BUKIT BAKA	3.8											
11.	ELMO DRILLING	AGROFORESTER	BUKIT BAKA	15.0											
12.	MERING NGO	SOCIAL FORESTRY ADVISOR	BUKIT BAKA	20.0											
13.	GRAHAM USHER	MARINE CONSERVATION ADVISOR	MANADO	21.5											
14.	R.M. ROMPAS	MARINE CONSERVATION ADVISOR	MANADO	21.5											
15.	ARIEF WICAKSONO	COMMUNITY DEVELOPMENT ADVISOR	MANADO	4.5											
TOTAL				196.8											

Summary 196.5 manmonths

* Replaced by No.6 Chris Bennett

** Replaced by No.11 Elmo Drilling

*** Replaced by No. 4 Ken Leathers

NO.	NAME	POSITION	STARTING DATE	END OF DATE
JAKARTA				
1.	ESTHY JONATHAN	OFFICE MANAGER	18/11/91	4/08/94
2.	MARTINI SUGIARTI	EXEC. SECRETARY	23/12/91	4/08/94
3.	MAYA KUSUMAHATI	SECRETARY	1/12/92	4/08/94
4.	SRI HUDOYO	ACCOUNTANT	14/11/91	4/08/94
5.	SETIABUDHI SYAADILLAH	ADMINISTRATIVE SPECIALIST	23/09/91	4/08/94
6.	ISMAIL MAZ	ADMINISTRATIVE SPECIALIST	25/11/91	4/08/94
7.	JOJO RAHARDJO*	ADMINISTRATIVE SPECIALIST	25/11/91	25/09/92
8.	RANDY WENAS*	ADMINISTRATIVE SPECIALIST	4/11/91	25/09/92
9.	NIKE SUDARMAN	ADMINISTRATIVE SPECIALIST	14/12/92	4/08/94
10.	A. GANI SIREGAR	PROJECT ASSISTANT	26/11/92	4/08/94
11.	SAPTADJI MARGABARATA	PROJECT ASSISTANT	1/08/92	4/08/94
12.	RITA A. WAHAB*	RECEPTIONIST	29/08/91	25/09/92
13.	NANCY CHRISTINA PANJAITAN	RECEPTIONIST	18/11/92	4/08/94
14.	REZKI WAHYUDI*	ASSISTANT ACCOUNTANT	1/08/92	1/4/93
15.	DESI ASDALINA	ASSISTANT ACCOUNTANT	03/06/93	4/08/94
16.	JOHAN SATARI	OFFICE BOY	31/08/91	4/08/94
17.	SRI RAHARJO	OFFICE BOY	20/02/92	4/08/94
18.	TRYANTORO	DRIVER	1/10/91	4/08/94
19.	ABBAS HAMID	DRIVER	14/10/91	4/08/94
20.	DARIMAN	DRIVER	2/09/91	4/08/94
21.	MASRI	GARDENER	10/10/91	4/08/94
22.	KARSIYO*	NIGHT GUARD	30/08/91	31/7/93
23.	YUSUF	DAY GUARD	1/9/92	4/08/94
PONTIANAK				
25.	SUKARMAN	ADMIN. ASSISTANT	9/12/91	4/08/94
26.	CORY SUSANA	SECRETARY	1/7/93	4/08/94
27.	SUWARSO	DRIVER – BUKIT BAKA	1/03/92	4/08/94
28.	SEGIAN	DRIVER – BUKIT BAKA	4/04/92	4/08/94
MANADO				
29.	SITI NURLAELI DJENAN	SECRETARY	1/7/93	4/08/94
30.	FRIETSE LOSUNG	DRIVER	4/04/92	4/08/94
31.	NYONG KIRAMAN	BOATMAN	1/7/93	4/08/94

* Resigned

**RESEARCH ASSISTANTS EMPLOYED ON MACRO STUDIES
IN POLICY SECRETARIAT**

Name	Degree	University	Age
A. I/O Modelling			
(December 1992 – April 1993)			
Suharno	Agribusiness	IPB – Bogor	32
Clarita Ligaya	Agriculture	IPB – Bogor	24
Aida Umayu	Economics	University of Indonesia	27
Jaka Setiawan	Economics	Gajah Mada University	26
Agus Sutiadi	Economics	University of Sriwijaya	25
Irebella	Economics	University of Indonesia	26
Marlianis	Economics	University of Indonesia	29
B. Trade & Exchange Rate			
(February – September 1993)			
Bagus T. Nugroho	Economics	Islamic Univ. of Indonesia	27
Gunadi	Economics/Management	UKI	24
Rudianto	Accounting	University of Brawijaya	27
D. Simbolon	Economics	University HKBP Nommensen	29
Nabiha Z. Muhamad	Mathematics	University of Indonesia	24
Triasi S. Sibuea	Mathematics	University of Sumatera Utara	24
Erhash	Economics	Tri Dharma Widya University	24
Tonny Sinaga	Economics	University of Indonesia	27
Evelina Hartanti	Economics/Management	University of Sebelas Maret	23
Mangasa Sitanggang	Accounting	University HKBP Nommensen	27

NRM/ARD CONSULTANCY REPORTS
November 1991 – July 1993

NO.	TITLE	AUTHOR
1.	Procurement Plan For Research Equipment at Bukit Baka and Equipment Installation at Samarinda Forestry Research Station	Roy Voss
2.	Agroforestry in Bukit Baka/ Bukit Raya	W.G. Granert
3.	Pengukuran dan Pemetaan Topografi Sebagian Daerah Taman Nasional Bukit Baka/Bukit Raya	Sahri Denny, cs
4.	Applied Research Recommendations for Production Forest Management An Economic and Ecological Review of the Indonesian Selective Cutting and Replanting System (TPTI)	Lisa Curran & Monica Kusneti
5.	Balancing Forest and Marine Conservation with Local Livelihoods in Kalimantan and North Sulawesi	Jill M. Belsky
6.	Proposal to the GOI and USAID for the Development of Comprehensive Environmental and Natural Resources Accounts (CENRA) for Economic Planning and Management	Henry Peskin & Joy Hecht
7.	Bukit Baka Mini-Hydraulic System Implementation Plan	Michael Johnson
8.	Final Report: Bukit Baka – Bukit Raya 1992	Roy Voss
	Station Protocol: Bukit Baka – Bukit Raya 1992	Roy Voss
	Research Protocol: Bukit Baka – Bukit Raya 1992	Roy Voss

NO.	TITLE	AUTHOR
9.	Environmental Education and Awareness in Bukit Baka (vol.1)	Nancy Bergau
	Environmental Education and Awareness in Bukit Baka Guide to Environment and Fire Campaign (vol.2)	Nancy Bergau
10.	Recommendations for Controlled Timber Harvesting in the SBK Forest Concession	John Hendrison
11.	Cruiser Identification at SBK and Local Uses of Trees by Local People	Jim Jarvie
12.	Community Water Supply Feasibility Study for Bukit Baka – Bukit Raya, Kalimantan	Rick McGowan & Alfonso C.B. Rieuwpassa
13.	Report on NRM Library Consultancy September – December 1992	Dachlan Cartwright
14.	Livelihood Strategies and Marine Resource Use Among Residents of Bunaken National Park, North Sulawesi: Recommendations for Local Involvement in Park Management	Jill M. Belsky
15.	A Competitive Awards Scheme for Applied Forest Management and Nature Conservation	Peter R. Burbridge
16.	Design of a Management Information System for the Natural Resources Management Project	Joy Hecht
17.	Environmental Education and Awareness Strategy for Bukit Baka – Bukit Raya National Park (volume 1)	Nancy Bergau
	NGO Training for a Local Environmental Education and Awareness Strategy (volume 2)	Nancy Bergau
18.	Water Supply and Sanitation (WS&S) Program in Bukit Baka – Bukit Raya, Kalimantan Program Status Report	Rick McGowan & Alfonso Rieuwpassa

NO.	TITLE	AUTHOR
19.	The Role of Non – Governmental Organizations (NGOs) in Supporting the Natural Resources Management Project in Bukit Baka – Bukit Raya National Park	Marcel de Brune
20.	Integration of Provincial Regional Development Planning into the Bukit Baka – Bukit Raya National Park Management Plan	E. Edwards McKinnon
21	Communications, Information, and Education Strategy for Bunaken National Park	Nancy Bergau
22	Report on the Preparation of a Design for a Study of the Natural Resource Impacts of Marine Sector Policy during the Second Long – term Development Plan Period	Andrea Katz

LIST OF PROCUREMENT AUGUST 1992 – AUGUST 1993

ANNEX 13A

STAGE 2 (Delivered Dec. 1992)	TYPE	QTTY	ITEMS	LOCATION	APPROVAL DATE	
1. Desktops	USA	1	486/33 desktop computer	Policy Secr. Jkt.	Feb. 1992	
		1	486/33 desktop computer	NRMP, Bukit Baka		
		9	486/20 desktop computer	Policy Secr. Jkt.		
		1	486/20 desktop computer	NRMP, Bukit Baka		
		1	486/20 desktop computer	NRMP, Manado		
		1	486/20 desktop computer	Bappenas, Jkt		
		1	486/20 desktop computer	SBKSDA, Pontianak		
		1	486/20 desktop computer	Litbang, Pontianak		
		1	486/20 desktop computer	SBKSDA, Manado		
		2. Laptops	Local USA	3		386/25 ALR desktop computers
6	ARL Laptop computer			Policy Secr. Jkt.		
1	ARL Laptop computer			NRMP, Pontianak	Feb. 1992	
2	ARL Laptop computer			NRMP, Manado		
1	ARL Laptop computer			Bappenas, Jkt.		
1	ARL Laptop computer			Planning, MoFr. Jkt.		
1	ARL Laptop computer			PH, MoFr. Jkt.		
1	ARL Laptop computer			PHPA, MoFr. Jkt.		
1	ARL Laptop computer			PHPA, MoFr. Bogor		
1	ARL Laptop computer			Litbang, MoFr. Bogor		
2	HP Laser IIP			Policy Secr. Jkt.		
2	Tandy 3810 HD notebook			Policy Secr. Jkt.		Nov. 1992
5	Epson LQ 570			Policy Secr. Jkt.		
1	Epson LQ 570			NRMP, Pontianak		Feb. 1992
1	Epson LQ 570			Bappenas, Jkt.		
1	Epson LQ 570	Planning, MoFr. Jkt.				
1	Epson LQ 570	PH, MoFr. Jkt.				
1	Epson LQ 570	PHPA, MoFr. Jkt.				
1	Epson LQ 570	PHPA, MoFr. Bogor				
1	Epson LQ 570	Litbang, MoFr. Bogor				
1	Epson LQ 570	Litbang, Pontianak				
1	Epson LQ 570	SBKSDA, Pontianak				
1	Epson LQ 570	SBKSDA, Manado				
13	HP Deskjet 500	Policy Secr. Jkt.				
1	HP Deskjet 500	NRMP, Pontianak				
2	HP Deskjet 500	NRMP, Manado				
3	HP Laserjet IIIP	Policy Secr. Jkt.	Nov. 1992			
1	Fax Machine	NRMP, Manado				
1	Fax Machine	NRMP, Pontianak	Feb. 1992			
4	Triplite OMNI 750	Policy Secr. Jkt.				
3	Triplite OMNI 750	NRMP, Pontianak				
1	Triplite OMNI 750	NRMP, Manado				
1	Triplite OMNI 750	Bappenas, Jkt.				
1	Triplite OMNI 750	Litbang, Pontianak				
1	Triplite OMNI 750	SBKSDA, Pontianak.				
1	Triplite OMNI 750	SBKSDA, Manado				
1	Westinghouse 2PK	Policy Secr. Jkt.		Feb. 1992		
3. Air conditioner	USA	1				

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STAGE 2 (Delivered Dec. 1992)	TYPE	QTTY	ITEMS	LOCATION	APPROVAL DATE
A. Research Equipment (Bukit Baka)	USA	2	Generator	NRMP, Bukit Baka	Feb. 1992
		3	Transformer	NRMP, Bukit Baka	
		1	Plotter	NRMP, Bukit Baka	
		3	Slide projector Kodak + screen	NRMP, Bukit Baka	
		1	Photocamera + carrying case	NRMP, Bukit Baka	
		3	various size of lenses	NRMP, Bukit Baka	
		2	Binoculars	NRMP, Bukit Baka	
		2	Altimeter	NRMP, Bukit Baka	
		2	Compasses	NRMP, Bukit Baka	
		2	Mountain bikes	Policy Secr. Jkt.	
		2	Bike racks for jeeps	NRMP, Bukit Baka	
		3	First aid kits	NRMP, Bukit Baka	
		4	Camping equipment	NRMP, Bukit Baka	
		4	Rain gear	NRMP, Bukit Baka	
		1	Camcorder	NRMP, Bukit Baka	
		1	VCR	NRMP, Bukit Baka	
		1	13" multi system monitor	NRMP, Bukit Baka	
		1	Public Address system	NRMP, Bukit Baka	
		2	Battery invertors	NRMP, Bukit Baka	
		B. Research Equipment (Manado)	USA	3	
4	Mask, fins & snorkels			NRMP, Manado	
4	Bootees			NRMP, Manado	
4	Regulators			NRMP, Manado	
4	BC/Backpack			NRMP, Manado	
8	Dive tanks			NRMP, Manado	
4	Weist belst, knives			NRMP, Manado	
2	Wrist compasses			NRMP, Manado	
4	Diving watches			NRMP, Manado	
1	Portable diving compressor			NRMP, Manado	
1	Hand bearing compass			NRMP, Manado	
1	Survey level tripods			NRMP, Manado	
1	Surveyor staff			NRMP, Manado	
1	Stereoscope			NRMP, Manado	
1	Planimeter			NRMP, Manado	
1	Pantograph			NRMP, Manado	
2	Stopwatches			NRMP, Manado	
1	Loud hailer/Megaphone			NRMP, Manado	
1	Underwater camera			NRMP, Manado	
4	various sizes of lenses			NRMP, Manado	
1	Underwater flash	NRMP, Manado			
8. Global Positioning System (GPS)		2	Handset units, Magellan	NRMP, Manado	Dec. 1992
		2	Handset units, Tremble	NRMP, Bukit Baka	
9. Boat	Local	1	Base station unit, Tremble	NRMP, Bukit Baka	May 1993
		2	Boat hulls	NRMP, Manado	
10. Motorcycles	Local	1	Boat trailer	NRMP, Manado	May 1993
		1	Vespa	NRMP, Pontianak	Dec. 1992
11. Photocopy Machine	Local	2	Suzuki TS125	NRMP, Manado	May 1993
		1	Xerox 5012	NRMP, Bukit Baka	Nov. 1992
12. Power generator	Local	1	Honda EX5500	Policy Secr. Jkt.	Nov. 1992
13. Vehicle	Local	1	Daihatsu Taft 4X4	NRMP, Bukit Baka	Feb. 1993

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LIST OF PROCUREMENT AUGUST 1992 – AUGUST 1993

ANNEX 13B

STAGE 3 (In Process)	TYPE	QTTY	ITEMS	LOCATION	APPROVAL DATE
1. Desktops	USA	7	486/20 desktop computer	Policy Secr. Jkt.	Mar. 1993
		1	486/20 desktop computer	NRMP, Bukit Baka	
		1	486/20 desktop computer	NRMP, Manado	
2. Laptops	USA	10	ARL Laptop computer	Policy Secr. Jkt.	
		2	ARL Laptop computer	NRMP, Pontianak	
		2	ARL Laptop computer	NRMP, Manado	
3. Printers	Local	2	Tandy 3810 HD notebook	Policy Secr. Jkt.	
	USA	3	HP Laserjet IIIP	Policy Secr. Jkt.	
		2	HP Laserjet IIIP	NRMP, Manado	
		1	HP Laserjet IIIP	NRMP, Pontianak	
		2	Epson LQ 1170	Policy Secr. Jkt.	
		2	Canon portable	NRMP, Manado	
		3	Canon portable	NRMP, Pontianak	
5. UPS	USA	3	Triplite OMNI 750	Policy Secr. Jkt.	
		1	Triplite OMNI 750	SBKSDA, Manado	
6. Air conditioner	USA	1	Split 1.5 PK	Policy Secr. Jkt.	
7.A. Research Equipment (Bukit Baka)	USA	1	Digitizer	NRMP, Bukit Baka	
		1	Plotter	NRMP, Bukit Baka	
7.B. Research Equipment (Manado)	USA	1	Underwater camera w/flash	NRMP, Manado	
		4	Scuba tanks	NRMP, Manado	
		1	Underwater camcorder	NRMP, Manado	
		1	VCR	NRMP, Manado	
		1	VCR 26" monitor	NRMP, Manado	
		4	Echo deep sounder	NRMP, Manado	
		1	Slide projector	NRMP, Manado	
		1	Overhead projector	NRMP, Manado	
		2	Current meter	NRMP, Manado	
		2	Vandorn water samplers	NRMP, Manado	
		8. Other equipment	USA	1	
1	VCR			Policy Secr. Jkt.	
1	VCR Monitor 20"			Policy Secr. Jkt.	
1	VCR Monitor 20"			Policy Secr. Jkt.	

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