付属資料

1. 第 1 回事前調査先方あてレター
2. 第 2 回事前調査 M/M（先方あて補足レター含む）
3. R/D
4. BAPLAN 組織図
5. FIELDTRIP REPORT
6. 各種プレゼンテーション資料

Jakarta, October 05, 2007

Dr.Ir.Yetti Rusli
Director General, BAPLAN
Ministry of Forestry, Republic of Indonesia

Dear Ibu Yetti,

Thank you for your attention and participation to the fact finding process of my Team this week. I am pleased to report back the summary of our findings and recommendations to you:

Background:

The Government of Indonesia (GoI) submitted an official request for the Project Support on Forest Resources Management through Leveraging Satellite Image Information to strengthen its forest resource assessment (FRA) and monitoring capacity in 2006. The Government of Japan (GoJ) has given a high priority to this initiative and authorized Japan International Cooperation Agency (JICA) to initiate the Project formulation.

As the background information and the details stated in the originally

submitted Application Form was not sufficient to kick off the formulation process, JICA, as the executing agency for GoJ's technical cooperation, decided to commission a "fact finding" mission titled "The First Preliminary Study Mission for the TCP for the Support on Forest Resources Management through Leveraging Satellite Image Information" from September 30 to October 5, 2007.

Assignments given to the Team:

The official text of the mission given to my Team by the GoJ reads:

1. To collect the information regarding the background of the project proposal, the trends of other donors and the condition of local resources, present situation and future plan of forest resources assessment in Indonesia and so on;

2. To collect the information how the forest resources assessment information is to be utilized and what kind of outputs are to be achieved after the implementation of the project; and

3. To write the report and submit to the authorities concerned.

Conclusion:

HN:hn
2007/10/05

Based on the fact finding and on the consultations with BAPLAN and with other relevant resources, the Team recommends both GoI and GoJ to start formulation of the Project under the following framework:

1) focus on a) technology transfer and introduction of PALSAR /MODIS technologies to BAPLAN's FRA and monitoring systems to upgrade their qualities; and b) professional training for its staff members both in the capital as well as in the regions;
2) close cooperation with the FOMAS process and its consortium to make this Project a part of a larger integrated framework such as in a) coordination with other relevant initiatives, b) development of integrated GIS, c) application of FRA information in decentralized forest management, etc.;
3) potential expansion of the upgraded systems to support carbon accounting such as the one under REDD;
4) financial contribution in the Project budget from JICA not exceeding 200 million yen and the duration of the Project for 3 years; and
5) mobilizing other financial resources of JICA for the post-graduate studies and remove the budget item from this Project.

For your information, those recommended items are the ones by the Team. The official stands of GoJ will subject to its internal consideration to take place after the Team's reporting to JICA and to other relevant authorities.

HN:hn
2007/10/05

JICA will advise you through its representation in Jakarta in case there will be deviation between the Team's recommendations and the positions of GoJ.

Preparation of Project Summary:

On behalf of JICA, I have the pleasure to request the Ministry of Forestry (Dephut) to submit proposed details of the Project by October 31, 2007 as the initial tool for the development of documentation for further consultation between GoI and GoJ and to meet the internal requirements within GoJ. Attached please find a sample "Project Summary" and "Project Development Matrix (PDM)" and follow the format. I would like to highlight that PDM is the key document for the considerations within GoJ.

Also, following supporting written information needs to be attached to the Summary:

- the justifications in case of any changes made from the original "Application Form" submitted (Attachment);
- specific training needs for BAPLAN and for its UPTs; and
- a chart concisely describing a) the list of the current FRA and monitoring information supplied by BAPLAN to each client DGs; b) their upgrade opportunities; and c) contribution of the Project for such

upgrade.

Suggested Next Steps:

Following timeline is suggested to both GoI and GoJ:

Timing	Activities	Responsibilities
End Oct. 2007	Submission of Project Summary and other supporting information from Dephut to JICA-id	Dephut
Jan. 2008	Joint Project formulation (Second Preliminary Study Mission)	Dephut/JICA
Mar.	Signing Project Agreement	Dephut/JICA
Mid. 2008	Project Start	Dephut/JICA

On behalf of JICA, the Team members wish you all "Selamat Idul Fitri ".

HN:hn
2007/10/05

Hiroshi Nakata

Team Leader,

Fact Finding Team

(The First Preliminary Study Mission for the TCP for the Support on Forest Resources Management through Leveraging Satellite Image Information)

Japan International Cooperation Agency (JICA)

Attachment:

1) Original "Application Form" submitted by GoI
2) A sample of Project Summary and Design Matrix (PDM)

Cc:

H.E.H.MS.Kaban (Minister of Forestry, Republic of Indonesia)

Dr.Ir.Boen M. Purnama (Sekjen – Dephut)

Ir.Yuyu Rahayu, M.Sc. (Kepala, KLN – Dephut)

Dr.Ir.Edi Effendi Tedjakusuma, M.A. (BAPPENAS)

Mr.Daiji Kawaguchi (Emb.of Japan – Indonesia)

Mr.Takashi Sakamoto (JICA - Indonesia)

HN:hn
2007/10/05

APPLICATION FORM FOR JAPAN'S TECHNICAL COOPERATION

1. Date of Entry: Day 30 Month 09 Year 2006
2. Applicant: The Government of Republic of Indonesia

3. Project Title: Support on Forest Resources Management through Leveraging Satellite Image Information

4. 4.1 Executing Agency:
Directorate General of Forestry Planning and Programming Agency
Address: Manggala Wanabakti Bld, Block 1, Senayan, Jakarta
Contact Person: Dr. Ir. Yetti Rusli, M.Sc.
Telp. No: 021-5730290 Fax No. 021-5734632
Email:
4.2 Implementing agency
Same as above.

5. Background of the Project
(Current conditions of the sector, Government s development policy for the sector, issues and problem to be so solved, existing development activities in the sector, etc)

Indonesian forest that contains precious species, area of which is in the third in the world, has been decreased 2% annually (FAO 2005) because of forest fire, illegal logging, and excessive conversion to agricultural land. This decrease and degradation of forest has a problem in the light of conservation of forest and biodiversity not only in a scope of Indonesian but also in a scope of international. This problem comes from inappropriate forest resource inventory; including the fact that annual allowable cut is not determined by scientific measurement of annual increase of the forest. The problem should be solved by making appropriate forest rescurce inventory whose making process is scientific, transparent, and open to public. Since area of Indonesian forest is so large that on site measurement cannot cover all the forest area, inventory making through leveraging satellite image is necessary. This project is to make inventory by using MOAA and MODIS, which was already introduced to the Ministry of Forestry, and by using additional satellite images if available.

6. Outline of the Project

(1) Overall Goal

(Development effect expected as a result of achievement of the "Project Purpose" in several years after the end of the project period)

Forest resource is managed in a sustainable manner in Indonesia.

(2) Project Purpose

(Objective expected to be achieved by the end of the project period. Elaborate with quantitative indicators if possible)

Forest resource inventory is made in a scientific manner and system is established to use the forest resource inventory for policy implementation.

(3) Outputs

Objectives to be realized by the "Project Activities" in order to achieve the "Project Purpose").

1. Forest resource inventory is made by using satellite image.
2. Ministry of Forestry has management ability to use the forest resource inventory made by satellite image.
3. The forest resource inventory made by satellite image is accessible from the public and monitoring for revising the inventory will continue.

(4) Project Activities

(Specific action intended to produce "Output" of the project by effective use of the "Input").

1. Forest resource inventory is made by NOAA/MODIS and annual change is analyzed in the inventory. Forest resource inventory should include the data of natural/planted, species, area, height, volume, topography, soil, canopy density and so forth.

2. Additional data collection is made through on-site measurement and the other satellite image if available,
3. Base on the annual change in the inventory, annual increment is estimated and appropriate annual allowable cut is calculated.
4. The calculated annual allowable cut is used for providing permission of forest management including providing HPH ;and inventory information, annual increment, and annual allowable cut are accessible from public such as though website.
5. Information sharing on inventory information, annual increment, and annual allowable cuts is conducted among related divisions of Ministry and related organizations.
6. OJT (on the job training) about making and managing the inventory is implemented.

(5) Input from the Recipient Government

(Counterpart personnel (identify the name and position of Project manager), support staff, office space, running expenses, vehicles, equipment, etc.)

- Coordination among related Ministries.
- Coordination within related divisions of the Ministry of Forestry.

(6) Input from Japanese Government

(Number and qualification of Japanese experts, training (in Japan and in country) courses, seminars and workshops, equipment, etc.)

- Long term experts (2 person)
  - Chief Advisor / forest planning
  - Satellite image analysis / coordinator
- Short term expert (5 persons / 3 years)
  - Database management
- Counterpart training in Japan
- Local expenses

(7) Implementation Schedule

Month 04 Year 2007 to Month 03 Year 2010

(8) Implementing Agency

(Budget, staffing, etc.)

Counterpart budget will be provided by the implementation agency, annually.

(9) Related Activities

(Activities in the sector by the recipient government, others donors and NGOs)

Forestry Agency, Ministry of Agriculture, Forestry, and Fisheries, already carried out inventory making in some parts of Indonesia. This project should cooperate with Forestry Agency's project.

(10) Gender Consideration

(Any relevant information of the project from gender perspective)

There is no gender discrimination regarding to gender perspective.

(11) Environmental and social Considerations

(Please fill in the attached screening format)

(12) Beneficiaries

(Population for which positive changes is intended directly and indirectly by implementing the project and gender disaggregated data, if available).

- Government

(13) Security Conditions

No problem.

(14) Others

Ministry of Forestry has already introduced NOAA system and will introduce MODIS system by fiscal 2006. This project will have privilege to use satellite images through NOAA and MODIS system.

(Sample)
Project Summary

I. BACKGROUND OF THE PROJECT

Forest fire is mainly caused by human activities. It affects not only environmental damage but also people's health. Haze caused by forest fire becomes a serious problem both in Indonesia and in the other ASEAN countries. The Government of Indonesia has been coping with forest fire control in collaboration with the Government of Japan by conducting Forest Fire Prevention Management Project Phase 2 (FFPMP2). However, considering the situation of Indonesia where forest fire still occurs frequently, another comprehensive action is needed to prevent forest fires.

The Ministry of Forestry has been implementing 3 forest fire management policies: 1) development of institution called Manggala Agni; 2) fire suppression and post fire handling; and 3) local community empowerment.

FFPMP2 has helped implement the first and second forest fire management policy. The Ministry of Forestry still needs technical assistance in the light of implementing the third policy to realize forest fire prevention. For this purpose, the Government of Indonesia would like to request to formulate forest fire prevention project collaborated with villager's initiative focusing on local community empowerment.

II. TITLE OF THE PROJECT

Forest Fire Prevention Project by Initiative of people in Buffer Zone

III. OVERALL GOAL

Forest fire prevention activities by the collaboration between forest fire brigade (Manggala Agni) and villagers will be extended in the all area of target provinces.

IV. PROJECT PURPOSE

Villagers in target forest buffer zone start conducting forest fire prevention activities in collaboration with forest fire brigade (Manggala Agni).

V. OUTPUTS OF THE PROJECT

1. A Forest Fire Prevention Plan for prevention, mitigation and control in national

level is compiled and the budget plan that enables the Forest Fire Prevention Plan to be implemented is prepared by the Department of Forest Fire, the Ministry of Forestry.

2-A. Agreements for prevention, mitigation and control are made among forest fire brigade (Manggala Agni), regional/local government and villagers.

2-B. Budget plan that enables the Forest Fire Prevention Plan in regional level to be implemented is prepared by regional offices of the Ministry of Forestry.

3. Villagers' action on forest fire prevention is initiated such as greenbelt building, training, providing control burning in collaboration with forest fire brigade (Manggala Agni).

VI. ACTIVITIES OF THE PROJECT

1. Bureau of Forest Fire Control, the Ministry of Forestry compiles Forest Fire Prevention Plan in national level in the light of the guidelines by selecting target area.

2-A. All Stakeholders including villagers share common understanding of forest fire prevention policy through collaboration mechanism.

2-B. The regional offices of the Ministry of Forestry compile Forest Fire Prevention Plan in regional level in model village or in selected target area with villagers' participation.

3. The regional offices of the Ministry of Forestry develop technology on forest fire prevention and apply the technology as a trial in accordance with the situation of the region.

PDM1, as of 6 March 2007 ANNEX II

Project Name: Forest Fire Prevention Project by initiative of people in buffer zones
Period of Cooperation: 3 years (2006/12- 2009/11
Implementing Agency in Beneficiary Country: DG-Forestry Protection and Nature Conservation (PHKA), Ministry of Forestry (MOF)
Project Area: Target provinces are Riau, Jambi, and Kalimantan Barat. Target Manggala Agni's are 1) Siak, 2) Dumai, 3) Rengat, 4) Jambi, 5) Batanghari, 6) Rasau

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Overall Goals Forest fire prevention activities by the collaboration between forest fire brigade (Manggala Agni) and villagers will be extended in the all area of target provinces.	1. Prevention of forest fire is confirmed by decreasing the number of forest fire and by decreasing the size of damaged area of forest fire. 2. It is confirmed that local people participate in MANGGALA AGNI (forest fire brigade)..	Official report of MOF	1. Good collaboration will be maintained among all levels of government including central, provincial, district, sub-district and village levels. 2. There will be no significant reduction in counterpart budget for forest fire prevention and management activities. Also there is no significant government organizational reform in central and local governments. 3. There are no extreme climate change and environment disruption throughout Indonesia after the completion of the project.
Project Purpose Villagers in target forest buffer zone start conducting forest fire prevention activities in collaboration with forest fire brigade (Manggala Agni).	1. It is confirmed that forest fire prevention activities are implemented. 2. It is confirmed that local people who live surrounding of target conservation forest systematically contribute to implement these forest fire prevention activities.	Questionnaire to J/E, C/P, and the concerned beneficiaries; interview with J/E, C/P, the concerned beneficiaries; review of project reports.	1. There is neither significant change in forest policy nor organizational reform in central/local government concerning forest fire prevention and management.
Outputs 1. A Forest Fire Prevention Plan for prevention, mitigation and control in national level is compiled and the budget plan that enables the Forest Fire Prevention Plan to be implemented is prepared by the Department of Forest Fire, the Ministry of Forestry.	1a. The forest fire prevention plan in national level is made. 1b. Budget allocation plans are made according to the forest fire prevention plan in national level.	Official document of MOF such as Minister's decree, official letter of budget allocation. Questionnaire	1. Related projects (e.g. the other JICA's projects for MOF) would not be drastically changed.

2-A. Agreements for prevention, mitigation and control are made among forest fire brigade (Manggala Agni), regional/local government and villagers. 2-B. Forest Fire Prevention Plan in regional level is facilitated to be made by regional offices of the Ministry of Forestry.	2-1a. Mutual understanding is identified between regional/local government and local people. 2-1b. Mutual understanding is formulated as a stakeholder's agreement. 2-2a. The forest fire prevention plan in regional/local level is made.	to J/E, C/P, and the concerned beneficiaries; interview with J/E, C/P, the concerned beneficiaries; review of project reports.	
3. Villagers' action on forest fire prevention is initiated such as greenbelt building, training, providing control burning in collaboration with forest fire brigade (Manggala Agni).	3. It is identified that local people apply specific technologies for preventing forest fire.		

Activities

1. Bureau of Forest Fire Control, the Ministry of Forestry compiles Forest Fire Prevention Plan in national level in the light of the guidelines by selecting target area.

1-1 Bureau of Forest Fire Control reviews the system for forest fire prevention established by FFPMP2 such as early warning by NOAA/MODIS, initial suppression, awareness, and enlightenment. Based on the result of the review Bureau of Forest Fire Control provides follow-up especially for management of NOAA/MODIS system.
1-2 Bureau of Forest Fire Control compiles data/information on forest fire prevention plan in all Indonesia and ASEAN region, and provides the data/information for stakeholders.
1-3 Bureau of Forest Fire Control evaluates the situation of forest fire brigade (MANGGALA AGNI), and conducts institutional strengthening and capacity building.
1-4 Bureau of Forest Fire Control reviews the contents of forest fire prevention guideline for national park (hereinafter called "guideline in national park version", which was developed by FFPMP2.
1-5 Bureau of Forest Fire Control revises guideline in national park version for making extended guideline, which includes national park and protection forest outside of national park. (Hereinafter called "guideline in extended version".)
1-6 Bureau of Forest Fire Control makes the guideline in extended version into Minister's decree.
1-7 Bureau of Forest Fire Control makes budget allocation plan in order to implement the guideline in extended version as Minister's decree.
1-8 Bureau of Forest Fire Control implements the guideline in extended version as Minister's decree.
1-9 Bureau of Forest Fire Control carry out capacity building as OJT through the process from 1-1 to 1-8.

2-A. All Stakeholders including villagers share common understanding of forest fire prevention policy through collaboration mechanism.

2-1 DAOPS and national park offices choose focal provinces and focal implementation areas, where forest fire prevention plans in regional level are made, and decide the time-frame of making the forest fire prevention plans in regional level.

Inputs

Japan:
1. Experts
   1) long term expert (2 persons)
      - Chief Advisor (forest policy and forest fire prevention planning)
      3 years
      - Coordinator (local people's participation)
      3 years
   2) shot term expert (3 persons)
   - Forest fire prevention technology extension:
     1 month / year
   - Forest fire early warning:
     1 month / year
   - Forest fire prevention training:
     1 month / year
   3) local program officer
2. Training of counterpart personnel in the third country such as in Thailand.
3. Provision of equipment for the Project activities.

Indonesia:
1. Government Staff as counterpart personnel and Project staff as needed for the Project
   1) Project Director:
      Director, Bureau of Forest Fire Control
   2) Project Manager:
      Sub-director for Forest Fire Control System Development, Bureau of Forest Fire Control
   3) Counterpart personnel for:

Pre-conditions:

1. Local communities are not opposed to the Project.
2. Community members and local governments participate in the Project.
3. Landowners do not stand against establishment of green belts in their land for the Project.
4. National park staff or protection forest staff does not stand against involvement of local people.

2-2 DAOPS and national park offices organize local people by community stakeholder profiling for making the guideline in extended version. 2-3 DAOPS and national park offices creates consensus on forest fire prevention among MOF, regional organization, national park, MANGGALA AGNI, local people, and stakeholders. 2-B. The regional offices of the Ministry of Forestry help provincial governments to compile Forest Fire Prevention Plan in regional level in model village or in selected target area with villagers' participation. 2-4 DAOPS and national park offices help provincial governments to make forest fire prevention plan in regional level in the form of provincial governor's decree under the consensus of the region. 2-5 DAOPS and national park offices makes budget allocation plan in order to implement the forest fire prevention plan in regional level. 2-6 DAOPS and national park offices help provincial governments to implement the forest fire prevention plan in regional level. 2-7 DAOPS and national park offices evaluate the impact of the forest fire prevention plan in regional level, and outcome of the evaluation should be reflected to the guideline in extended version as a Minister's decree. 2-8 DAOPS and national park offices carry out capacity building as OJT through the process from 2-1 to 2-8. 3. The regional offices of the Ministry of Forestry develop technology on forest fire prevention and apply the technology as a trial in accordance with the situation of the region. 3-1 MOF reviews organization system and warning technology to implement initial suppression in focal implementation areas by using early warning and detection system that was developed by FFPMP2. [Supported by Forest fire early warning expert.] 3-2 MOF provides training for local people's fire brigade based on forest fire prevention plan in regional level. [Supported by Forest fire prevention technology expert.] 3-3 MOF applies such technology of IGB and SALT as was developed by FFPMP2 to the focal implementation areas, and extends the technology to stakeholders. [Supported by Forest fire prevention technology expert.] 3-4 MOF provides consolidated training of local people's brigade and MANGGALA AGNI, and establishes a system of consolidated initial suppression among local people, national park staff, and regional office staff. [Supported by Forest fire suppression training expert.] 3-5 Local people initiate forest fire prevention activities. 3-6 MOF carries out capacity building as OJT through the process from 3-1 to 3-5.	(1) Forest policy and forest fire prevention planning (2) Local people's participation 4) Administrative personnel for: (1) Field Staff (2) Driver (3) Other necessary support staff. 2. Administrative and operational costs. 3. Provision of land, buildings, facilities and equipment for the Project.	

MINUTES OF MEETINGS
BETWEEN
THE SECOND JAPANESE PRELIMINARY STUDY TEAM AND
AUTHORITIES CONCERNED OF
THE GOVERNMENT OF THE REPUBLIC OF INDONESIA
ON
JAPANESE TECHNICAL COOPERATION FOR
THE PROJECT FOR SUPPORT ON FOREST RESOURCES MANAGEMENT
THROUGH LEVERAGING SATELLITE IMAGE INFORMATION

The Second Japanese Preliminary Study Team (hereinafter referred to as "the Team"), organized by Japan International Cooperation Agency (hereinafter referred to as "JICA"), headed by Mr. Hiroshi Nakata, was dispatched to the Republic of Indonesia(hereinafter referred to as "Indonesia") from February 3 to 22, 2008 for the purpose of working out the details of Record of Discussions (hereinafter referred to as "R/D") for the Project for the Support on Forest Resources Management through Leveraging Satellite Image Information (hereinafter referred to as "the Project").

During its stay in Indonesia, the Team exchanged views with the authorities concerned of the Government of Indonesia (hereinafter referred to as "GOI") through a series of discussions and field surveys on the Project.

As a result of the discussions and field surveys, the Team and the Indonesian authorities concerned agreed to the matters referred to in the document attached hereto.

Jakarta, Indonesia, February 14, 2008

Dr. Ir. Yetti Rusli, M.Sc.
Director General
Forestry Planning Agency
Ministry of Forestry
Republic of Indonesia

Mr. Hiroshi Nakata
Team Leader
The Second Preliminary Study Team
Japan International Cooperation Agency
Japan

ATTACHMENT

1. Background of the Project

Out of 190 million ha of Indonesia's land, more than 120 million ha is considered as forestland. To manage the existing forests in a sustainable way, the state and conditions of the forests should be assessed and their changes should be periodically monitored.

Although, the increasing need of forestland for various purposes, illegal logging and trade and other issues often hampered the sustainable forest management. In addition, the Reducing Emissions from Deforestation in Developing Countries (REDD) became currently one of the highest priority in the forestry sector in Indonesia as the Indonesia Forest Climate Alliance launched the REDDI in 2007.

Remote sensing methods and spatial analysis (e.g. GIS) are proven to be an efficient and effective means to monitor and assess such large forestland area. Forestry in Indonesia has long history on the use of remote sensing images, starting with aerial photographs in 1950's followed by Landsat MSS in 1980 and continuing with Landsat TM and ETM+ in recent years.

National Forest Inventory has started in 1986, aimed at getting information of forest resources through forest resource monitoring (3 yearly repeated observations using Landsat images), forest resource assessment (establishment of Permanent and Temporary Sample Plot and re-measurement of the Permanent Sample Plot), and development of GIS and DIAS (development of hardware, software and brain ware).

Currently, new development and the advancement in spatial analysis have occurred. Better resolution new satellite (optical and radar based) images are available. On the other hand, the need to improve the existing methods is increasing (e.g. increasing the frequency of observation by using alternative images such as lower resolution images).

Many aspects that have not been taken into consideration in the past (i.e. are not included in NFI design) have also emerged, such as analyzing biomass, bio-diversity and carbon accounting. For this reason, a new forest resource monitoring and assessment system that incorporates the new needs should be developed, in line with increasing the capacity (i.e. h/w, s/w) and the human resource capability.

2. Draft Framework of the Project

The draft framework of the Project stated below may be modified and finalized over the course of discussions prior to the official signing of the R/D. The current draft of R/D, including a master plan, is shown in Annex 2.

2.1 Project Title

The Project title is "Support on Forest Resources Management through Leveraging

Satellite Image Information".

2.2 Project Purpose

Forestry Planning Agency(BAPLAN)'s capacity to conduct more reliable forest resources monitoring and assessment is upgraded through transfer of technology and training.

2.3 Period of Cooperation

The period of cooperation will be three (3) years.

2.4 Project Sites

The Project sites will be Jakarta and UPTs(BPKHs)

2.5 PDM and PO

A Project Design Matrix (hereinafter referred to as "PDM") is usually used for Japanese technical cooperation projects to manage and implement the projects efficiently and effectively. The tentative PDM shown in Annex 3 will be applied to the Project with the following understanding:

a) PDM is logically designed matrix that defines the initial understanding of the framework for the Project and indicates the logical steps towards the achievement of the Project Purpose.
b) PDM is to be flexibly revised according to the progress and achievement of the Project upon discussion between Indonesian side and Japanese side.

As tentative schedule of the Project, tentative Plan of Operations (hereinafter referred to as "PO") is shown in Annex 4.

3. Administration of the Project

a) Director, Forest Inventory and Mapping Center, Forestry Planning Agency, as the Project Director, will bear overall responsibility for the administration and implementation of the Project.
b) Deputy Director of Remote Sensing Division, Forest Inventory and Mapping Center, as the Project Manager, will be responsible for the managerial and technical matters of the Project.

4. The Contribution of the Project in the Future

The outcomes from this Project are expected to contribute widely to Sustainable Forest Management in the field, development of accounting methodologies for carbon

accounting, and forest resource information system. Support to such activities could be extended outside the framework of the Project upon consultation.

5. Relevance to climate change

The contribution of the emissions from deforestation to global anthropogenic greenhouse gas emissions is significant. Ministry of Forestry and JICA may wish to recommend their respective authorities to consider the relevant activities, including the application of the PALSAR/MODIS technology to carbon accounting, under this Project as their joint methodological contribution to addressing issues in climate change in the UNFCCC process. Collaboration with the relevant initiatives may need to be considered.

6. Long list of the Equipment

Forestry Planning Agency and the Team identified long list of the Equipment desired to run this Project in Annex 1. Specific allocation of budget will be determined after the Project starts. There are several determining factors, such as priorities within the Project activities, availabilities of budget allocation from GOI and alternative funding sources, and so on.

7. Steps to Be Taken Before the Commencement of the Project

1. R/D of the Project shall be signed between Forestry Planning Agency and JICA Indonesia Office as soon as after appraisal of the Project by JICA Headquarters.

2. Japanese expert(s) will be dispatched for the Project after the commencement of the Project.

Annex 1	Long list of the Equipment
Annex 2	Final Draft of RECORD OF DISCUSSIONS
Annex 3	Tentative Project Design Matrix (PDM_1)
Annex 4	Tentative Plan of Operation (PO_1)

Annex 1

Long list of the Equipment

Hardware	
1. PC Workstation (Windows) Double Xeon, 4GB RAM, 500-1,000GB HD, 20" twin LCD monitors	5 pieces (highest priority, 3 pieces)
2. External HD 2TB	4 pieces (2nd highest priority, 2 pieces)
3. Network Attached Storage (NAS) 10TB Compatible to RAID 1	1 piece
4. DVD device 4GB	3 pieces
5. DLT tape system	1 piece
Software	
*Image processing software Ex. Erdas Imagine (or PCI)	1 set
1. Professional module	
2. Rader module	
3. GIS module	
4. Ortho-rectification module	
5. Feature extraction module	
*Version up of current software	
1. Erdas Imagine	2 sets
2. PCI	2 sets

Annex 2

[FINAL DRAFT]
RECORD OF DISCUSSIONS
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
AUTHORITIES CONCERNED OF THE GOVERNMENT OF
THE REPUBLIC OF INDONESIA
ON
JAPANESE TECHNICAL COOPERATION
FOR
THE PROJECT FOR THE SUPPORT ON FOREST RESOURCES MANAGEMENT THROUGH LEVERAGING SATELLITE IMAGE INFORMATION

Japan International Cooperation Agency (hereinafter referred to as "JICA") had a series of discussions through the Resident Representative of JICA in the Republic of Indonesia (hereinafter referred to as "Indonesia"), with the Indonesian authorities concerned with respect to desirable measures to be taken by JICA and the Government of Indonesia for the successful implementation of the above-mentioned Project.

As a result of the discussions, the JICA and the Indonesian authorities concerned agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

Jakarta, March@@, 2008

Dr. Ir. Yetti Rusli, M.Sc.	Mr. Takashi Sakamoto
Director General	Resident Representative
Forestry Planning Agency	JICA Indonesia Office
Ministry of Forestry	Japan International Cooperation Agency
Republic of Indonesia	Japan

THE ATTACHED DOCUMENT

I. COOPERATION BETWEEN JICA AND THE GOVERNMENT OF INDONESIA

1. The Government of Indonesia will implement the Project for the Support on Forest Resources Management through Leveraging Satellite Image Information (hereinafter referred to as "the Project") in cooperation with JICA.

2. The Project will be implemented in accordance with the Master Plan which is given in Annex I.

II. MEASURES TO BE TAKEN BY JICA

In accordance with the laws and regulations in force in Japan, JICA will take, at its own expense, the following measures according to the normal procedures under the Colombo Plan Technical Cooperation Scheme.

1. DISPATCH OF JAPANESE EXPERTS
JICA will provide the services of the Japanese experts as listed in Annex II.

2. PROVISION OF MACHINERY AND EQUIPMENT
JICA will provide such machinery, equipment and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project as listed in Annex III. The Equipment will become the property of the Government of Indonesia upon being delivered C.I.F. (cost, insurance and freight) to the Indonesian authorities concerned at the ports and/or airports of disembarkation.

3. TRAINING OF INDONESIAN PERSONNEL IN JAPAN
JICA will receive the Indonesian personnel connected with the Project for technical training in Japan.

III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF INDONESIA

1. The Government of Indonesia will coordinate relevant initiatives/stakeholders.

2. The Government of Indonesia will take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the period of Japanese technical cooperation, through full and active involvement in the Project by all related authorities, beneficiary groups and institutions.

3. The Government of Indonesia will ensure that the technologies and knowledge acquired by the Indonesian nationals as a result of Japanese technical cooperation will contribute to the economic and social development of Indonesia.

4. The Government of Indonesia will grant in Indonesia privileges, exemptions and benefits to the Japanese experts referred to in II-1 above and their families, which are no less favorable than those accorded to experts of third countries working in Indonesia under the Colombo Plan Technical Cooperation Scheme.

5. The Government of Indonesia will ensure that the Equipment referred to in II-2 above will be utilized effectively for the implementation of the Project in consultation with the Japanese experts referred to in Annex II.

6. The Government of Indonesia will take necessary measures to ensure that the knowledge and experience acquired by the Indonesian personnel from technical training in Japan will be utilized effectively in the implementation of the Project.

7. In accordance with the laws and regulations in force in Indonesia, the Government of Indonesia will take necessary measures to provide at its own expense :

(1) Services of the Indonesian counterpart personnel and administrative personnel as listed in Annex IV ;

(2) Office and facilities necessary for the implementation of the Project as listed in Annex V ;

(3) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the Equipment provided by JICA under II-2 above ;

(4) Means of transport and travel allowances for the Japanese experts for official travel within Indonesia; and

(5) Suitably furnished accommodation for the Japanese experts and their families.

8. In accordance with the laws and regulations in force in Indonesia, the Government of Indonesia will take necessary measures to meet :

(1) Expenses necessary for transportation within Indonesia of the Equipment referred to in II-2 above as well as for the installation, operation and maintenance thereof ;

(2) Customs duties, internal taxes and any other charges, imposed in Indonesia on the Equipment referred to in II-2 above ; and

(3) Running expenses necessary for the implementation of the Project.

IV. ADMINISTRATION OF THE PROJECT

1. Director, Forest Inventory and Mapping Center, Forestry Planning Agency, as the

Project Director, will bear overall responsibility for the administration and implementation of the Project.

2. Deputy Director of Remote Sensing Division, Forest Inventory and Mapping Center, as the Project Manager, will be responsible for the managerial and technical matters of the Project.

3. The Japanese Chief Advisor will provide necessary recommendations and advice to the Project Director and the Project Manager on any matters pertaining to the implementation of the Project.

4. The Japanese experts will give necessary technical guidance and advice to the counterpart personnel on technical matters pertaining to the implementation of the Project.

5. For the effective and successful implementation of technical cooperation for the Project, a Joint Coordinating Committee will be established whose functions and composition are described in Annex VI.

V. JOINT EVALUATION

Evaluation of the Project will be conducted jointly by JICA and the Indonesian authorities concerned, during the last six months of the cooperation term in order to examine the level of achievement.

VI. CLAIMS AGAINST JAPANESE EXPERTS

The Government of Indonesia undertakes to bear claims, if any arises, against the Japanese experts engaged in technical cooperation for the Project resulting from, occurring in the course of, or otherwise connected with the discharge of their

official functions in Indonesia except for those arising from the willful misconduct or gross negligence of the Japanese experts.

VII. MUTUAL CONSULTATION

There will be mutual consultation between JICA and Indonesian Government on any major issues arising from, or in connection with this Attached Document.

VIII. MESURES TO PROMOTE UNDERSTANDING OF AND SUPPORT FOR THE PROJECT

For the purpose of promoting support for the Project among the people of Indonesia, the Government of Indonesia will take appropriate measures to make the Project widely known to the people of Indonesia.

IX. TERM OF COOPERATION

The duration of the technical cooperation for the Project under this Attached Document will be three (3) years from [June@@], 2008 to [June@@], 2011.

ANNEX I	MASTER PLAN
ANNEX II	LIST OF JAPANESE EXPERTS
ANNEX III	LIST OF MACHINERY AND EQUIPMENT
ANNEX IV	LIST OF INDONESIAN COUNTERPART AND ADMINISTRATIVE PERSONNEL
ANNEX V	LIST OF OFFICES AND FACILITIES
ANNEX VI	JOINT COORDINATING COMMITTEE

ANNEX I

MASTER PLAN

1. Project Title: The Project for the Support on Forest Resources Management through Leveraging Satellite Image Information

2. Framework of the Project

(1) Objective

Overall Goal: Sustainable Forest Management (SFM) is promoted in Indonesia through the upgraded forest resources monitoring and assessment.

Project Purpose: BAPLAN's capacity to conduct more reliable forest resources monitoring and assessment is upgraded through transfer of technology and training.

(2) Outputs

1 Forest resources monitoring and assessment conducted by BAPLAN is more reliable.

2 Capacity of BAPLAN and its UPTs is upgraded.

(3) Activities

1. The PALSAR/MODIS technology is introduced to BAPLAN's forest resources monitoring and assessment system.

1.1 The global trends of forest resources monitoring and assessment related methodologies, such as FRA 2010, carbon accounting under REDD, and technologies are compiled.

1.2 The comparative advantages of PALSAR/MODIS technology are shared.

1.3 Institutional Arrangements for the upgraded forest resources monitoring and assessment system is made at BAPLAN.

1.4 The PALSAR/MODIS Technology is transferred to BAPLAN and introduced in its forest resources monitoring and assessment system.

1.5 BAPLAN's upgraded forest resources monitoring and assessment system is tested.

1.6 The potential opportunities for the upgraded system are tested such as carbon accounting, integrated GIS, etc.

1.7 The results of the transfer of the PALSAR/MODIS technology are compiled and assessed.

1.8 Options for use of the upgraded forest resources monitoring and assessment information are identified by BAPLAN and promoted.

2. Forest resources monitoring and assessment related trainings are conducted for BAPLAN.

2.1 Training needs in BAPLAN-HQ are identified.

2.2 The training targets and programmes for BAPLAN-HQ are determined.

2.3 The training programmes are executed for BAPLAN-HQ.

2.4 Training needs in BAPLAN-UPTs are identified.

2.5 The training targets and programmes for BAPLAN-UPTs are determined.

2.6 The training programmes are executed for BAPLAN-UPT.

2.7 Training needs outside BAPLAN are identified.

2.8 The results from the training programmes are compiled and assessed.

(4) Project sites

Target Sites: Jakarta and UPTs (BPKHs)

Project Office: Project offices will be provided inside the buildings of Ministry of Forestry

Note: In case in which the Master Plan should be changed due to the situation of the Project, JICA and the Government of Indonesia will agree to and confirm the changes by exchanging minutes of meetings.

ANNEX II

LIST OF JAPANESE EXPERTS

1. One (1) or two (2) long-term expert(s) and some short-term experts will be dispatched as needed.

2. The fields of experts will be decided as needed and including the following fields:

   (1) Chief Advisor / Forestry Planning;
   (2) Satellite Image Analysis;
   (3) Database Management ;
   (4) SAR Interpretation; and
   (5) GIS

Note: Additional experts not listed above would be dispatched in accordance with the needs for the effective implementation of the Project.

ANNEX III

LIST OF MACHINERY AND EQUIPMENT

Part of machinery and equipment necessary for the effective implementation of the Project will be provided by the Japanese side within the budget allocated for technical cooperation. Main items of machinery and equipment to be provided are as follows:

1. PCs;

2. Software; and

3. Other necessary equipment for the implementation of the Project.

Note: Contents, specification and quantity of the above-mentioned equipment will be decided through mutual consultations within the allocated budget of the Japanese fiscal year.

ANNEX IV

LIST OF INDONESIAN COUNTERPART AND ADMINISTRATIVE PERSONNEL

1. Counterpart personnel
   (1) Project Director: Director, Forestry Inventory and Mapping Center, Forestry Planning Agency
   (2) Project Manager: Deputy Director of Remote Sensing Division, Forestry Inventory and Mapping Center
   (3) Other staff:
       Section Chiefs, Remote Sensing Division
       Section Chief, Mapping Division

2. Administrative personnel
   (1) Secretary
   (2) Drivers
   (3) Other Clerical Staff

ANNEX V

LIST OF OFFICES AND FACILITIES

1. Office and facilities necessary for the Project

2. Room space and necessary infrastructure facilities for installation and storage of the equipment

3. Offices and basic logistics facilities for the JICA experts

4. Other facilities mutually agreed upon as necessary

ANNEX VI

JOINT COORDINATING COMMITTEE

1. Functions

   The Joint Coordinating Committee (hereinafter referred to as "JCC") will meet at least once a year or whenever the necessity arises, in order to fulfill the following functions:

   (1) To approve an annual work plan of the Project based on the Plan of Operation within the framework of the Record of Discussions;
   (2) To monitor and review the overall progress of the Project carried out under the above-mentioned annual work plan; and
   (3) To exchange views and ideas on major issues those arise during the implementation of the Project.

2. Members of the JCC

   The JCC will be composed of the chair, the members and the observers. The chair may declare closed sessions against the observers. The rules and guidelines for the management of the JCC will be determined at the initial stage of the Project.

   (1) Co-chairperson:
   - Secretary General, Ministry of Forestry
   - Director General, Forestry Planning Agency, Ministry of Forestry

   (2) Indonesian side
   - Director, Bureau of International Cooperation, Secretariat General
   - Director, Center of Forestry Training and Education, Secretariat General
   - Secretary to Director General, BAPLAN
   - Director, Center for Forestry Inventory and Mapping, BAPLAN
   - Director, Center for Forest Area Management, BAPLAN
   - Director, Conservation Area, PHKA

- Director, Watershed Areas Management, RLPS
- Director, Production Forest Utilization Planning, BPK
- Officials appointed by DG of Forest Research and Development Agency
- BAPPENAS
- Ministry of Environment
- LAPAN
- Local Governments

(3) Japanese side
- JICA Expert(s) of the Project
- Representative from JICA Indonesia Office

Note: Official(s) of Embassy of Japan may attend the JCC meeting as observer(s). The co-chairperson can name new members or request the attendance of other participants, as necessary, upon agreement of the JCC. Participation from broader relevant organizations will be encouraged.

Annex 3

Tentative Project Design Matrix (PDM_1)

Project Name: The Project for the Support on Forest Resources Management through Leveraging Satellite Image Information
Project Sites: Jakarta and UPTs(BPKHs)
Duration: From [June@@], 2008 to [June@@], 2011 (three years)
Target Beneficiaries: Staff of Forestry Inventory and Mapping Center (FIMC), Forestry Planning Agency (BAPLAN), Ministry of Forestry (MoF) and its UPTs (BPKHs)

As of February 14, 2008

Narrative Summary	Objectively Verifiable Indicators	Means of Verifications	Important Assumptions
Overall Goal: Sustainable Forest Management (SFM) is promoted in Indonesia through the upgraded forest resources monitoring and assessment.	-Development of national and other sectoral policies and plans by using forest resources monitoring and assessment information from the upgraded systems is realized. -Use of the upgraded forest resources monitoring and assessment information ant the management at the management unit level plans is realized. -Application of the upgraded forest resources monitoring and assessment information to the REDD accounting, monitoring of illegal activities, is realized.	-Reports of related ministries -Reports of MoF and local governments -Reports of MoF	-PALSAR images are continuously provided.
Project Purpose: BAPLAN's capacity to conduct more reliable forest resources monitoring and assessment is upgraded through transfer of technology and training.	-Reliability of forest resources monitoring and assessment information is improved. -Capacities of UPTs are enhanced.. -Opportunities for further uses, such as REDD accounting system, are increased.	-Interview with other DGs, local governments, donors, private companies and NGOs -Interview with BAPLAN, other DGs, local governments, donors, private companies and NGOs -Reports of MoF, project reports	- There is no particular change in government's policies on nature conservation. - There is no particular change in natural conditions of Indonesia. - Activities of other donors continue.
Outputs: 1 Forest resources monitoring and assessment conducted by BAPLAN are more reliable. 2 Capacity of BAPLAN and its UPTs is upgraded.	-Level of disturbance from the cloud cover in the forest resources monitoring and assessment information is lowered -Frequency of monitoring is increased. - Some items improved through the trainings	-Project reports -Project reports -Project reports, Interview	- There is no significant organizational change in BAPLAN affecting implementation of the Project.
Activities:	**Input:**		

1. The PALSAR/MODIS technology is introduced to BAPLAN's forest resources monitoring and assessment system. 1.1 The global trends of forest resources monitoring and assessment related methodologies, such as FRA 2010, carbon accounting under REDD, and technologies are compiled. 1.2 The comparative advantages of PALSAR/MODIS technology are shared. 1.3 Institutional Arrangements for the upgraded forest resources monitoring and assessment system is made at BAPLAN. 1.4 The PALSAR/MODIS Technology is transferred to BAPLAN and introduced in its forest resources monitoring and assessment system. 1.5 BAPLAN's upgraded forest resources monitoring and assessment system is tested. 1.6 The potential opportunities for the upgraded system are tested such as carbon accounting, integrated GIS, etc. 1.7 The results of the transfer of the PALSAR/MODIS technology are compiled and assessed. 1.8 Options for use of the upgraded forest resources monitoring and assessment information are identified by BAPLAN and promoted. 2. Forest resources monitoring and assessment related trainings are conducted for BAPLAN	**Japanese Side** **Experts** - Chief Advisor / Forestry Planning - Satellite Image Analysis - Database Management - Programming - GIS - Other experts necessary for the implementation of the Project **Machinery and Equipment** - PC, Software - Other materials necessary for the implementation of the Project **Training of Indonesian personnel in Japan**	**Indonesian Side** **Counterparts & Administrative personnel** - Project Director - Project Managers - Other Counterparts and administrative personnel **Office Space and Facilities** - Office space - Other facilities necessary for the implementation of the Project **Administration and operational costs**	- Commitment by Government of Indonesia and cooperation by authorities concerned are maintained. - Counterparts are not transferred to other departments and/or agencies. **Pre-conditions** - There is no particular change in government's

2.1 Training needs in BAPLAN-HQ are identified. 2.2 The training targets and programmes for BAPLAN-HQ are determined. 2.3 The training programmes are executed for BAPLAN-HQ. 2.4 Training needs in BAPLAN-UPTs are identified. 2.5 The training targets and programmes for BAPLAN-UPTs are determined. 2.6 The training programmes are executed for BAPLAN-UPTs. 2.7 Training needs in outside BAPLAN are identified. 2.8 The results from the training programmes are compiled and assessed..			policies on nature conservation

Tentative Plan of Operation (PO_1)

Project Name: The Project for the Support on Forest Resources Management through Leveraging Satellite Image Information
Project Sites: Jakarta and UPTs(BPKHs)
Duration: From [June@@], 2008 to [June@@], 2011 (three years)
Target Beneficiaries: Staff of Forestry Inventory and Mapping Center(FIMC), Forestry Planning Agency(BAPLAN), Ministry of Forestry(MoF) and its UPTs(BPKHs)

As of February 14, 2008

Outputs		Activities		Year 1				Year 2				Year 3				Responsible Organization(s)
				1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
1	Forest resources monitoring and assessment conducted by BAPLAN are more reliable.	1	The PALSAR/MODIS technology is introduced to BAPLAN's forest resources monitoring and assessment system.													
		1.1	The global trends of forest resources monitoring and assessment related methodologies, such as FRA 2010, carbon accounting under REDD, and technologies are compiled.	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	**BAPLAN** FIMC
		1.2	The comparative advantages of PALSAR/MODIS technology are shared.	■												**BAPLAN** FIMC
		1.3	Institutional Arrangements for the upgraded forest resources monitoring and assessment system is made at BAPLAN.		■	■										**BAPLAN** FIMC
		1.4	The PALSAR/MODIS Technology is transferred to BAPLAN and introduced in its forest resources monitoring and assessment system.		■	■	■	■	■	■	■					**BAPLAN** FIMC
		1.5	BAPLAN's upgraded forest resources monitoring and assessment system is tested.					■	■	■	■	■	■	■		**BAPLAN** FIMC
		1.6	The potential opportunities for the upgraded system are tested such as carbon accounting, integrated GIS, etc.						■	■	■	■	■	■		**BAPLAN** FIMC
		1.7	The results of the transfer of the PALSAR/MODIS technology are compiled and assessed.						■	■	■	■	■	■		**BAPLAN** FIMC
		1.8	Options for use of the upgraded forest resources monitoring and assessment information are identified by BAPLAN and promoted.						■	■	■	■	■	■	■	**BAPLAN** FIMC
2	Capacity of BAPLAN an its UPTs is upgraded.	2	Forest resources monitoring and assessment related trainigs are conducted for BAPLAN													
		2.1	Training needs in BAPLAN-HQ are identified.	■	■											**BAPLAN** FIMC
		2.2	The training targets and programmes for BAPLAN-HQ are determined.		■	■			■	■						**BAPLAN** FIMC
		2.3	The training programmes are executed for BAPLAN-HQ.			■	■			■	■					**BAPLAN** FIMC
		2.4	Training needs in BAPLAN-UPTs are identified.	■	■	■										**BAPLAN** FIMC, UPTs
		2.5	The training targets and programmes for BAPLAN-UPTs are determined.			■	■					■	■			**BAPLAN** FIMC, UPTs
		2.6	The training programmes are executed for BAPLAN-UPTs.					■	■	■			■	■		**BAPLAN** FIMC, UPTs
		2.7	Training needs in outside BAPLAN are identified.	■	■	■										**BAPLAN** FIMC
		2.10	The results from the training programmes are compiled and assessed			▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	**BAPLAN** FIMC, UPTs

Legends

- ■ Activities that must take place at a given time
- ▨ Occasional activities
- □ Activities that will be continued over the given time, but in low intensity

Jakarta, February 21, 2008

Dr.Ir.Yetti Rusli, MSc.
Director General - BAPLAN
Ministry of Forestry, The Republic of Indonesia

Dear Ibu Yetti,

First of all, thank you very much for your attention and participation for us to fulfill our mission assigned by GoJ this time.

As a brief reporting of our field visits, I am please to inform you that we are quite impressed by the enthusiasm, hardworking and technical maturity of the UPTs we visited this week and its staff members. This certainly was quite encouraging and enough to believe in outstanding outcomes from our joint efforts to come. I believe most of the land cover types for the PALSAR interpretation, for the exception of natural forest and palm plantation, should be available in those areas we visited.

In consonance with this, through this message, I have the pleasure to suggest a few things to make sure that "the Project" starts well:

1) Timeline
We should not wait until the Project official starts. I would suggest that we should start get things ready. My suggestion is to prepare draft timeline before March 31, 2008 so that more detail workplan can be agreed as soon as the Project officially starts. Let JICA draft a proposed timeline for "PALSAR technology transfer". May I ask you to arrange preparing one for "the training components and timeline for the implementation" by BAPLAN ? This should include your considerations regarding "what can be practically achievable in three years", "which area of training should be the priorities" and "which group of UPTs should receive the priorities". Naturally, "training on practical use of PALSAR technology in BAPLAN's forest resources monitoring and assessment system" will be the number one priority for the Project. Based on those, either of us could prepare a merged-timeline for further consultation. For the time being, I would suggest Mr.N.Iwai/Ms.Rika N. to be the focal point until the Project will start.

2) Procedural Issues
I would also like to take this opportunity to suggest you to arrange getting the paper works ready so that JICA will be able to send a Team as soon as the Project starts. Attached please find the Form A-1. GoJ needs to officially receive dully filled ones for "Chief Advisor/Forest Planning" and "Satellite Image Analysis" through GoI desirably before March 31, 2008. Mr.N.Iwai/Ms.Rika N. will be happy to assist you in case you have any questions on this. I would also like to remind you to kindly negotiate the room in Blok7/6F next to the current working space allocated for JICA for the Project activities, as it was discussed with Pak Hermawan on Wednesday last week during the meeting with KLN, BAPPENAS and SEKNEG.

HN:hn
2008/02/21

I wish you all another busy but successful year 2008 and a pleasant trip to Canberra. My best wishes to Dr.Gary Richards as well.

Best regards,

Hiroshi Nakata
On behalf of JICA

Cc:

Dr.Ir.Boen M. Purnama	(Sekjen – Dephut)
Ir.Yuyu Rahayu, M.Sc.	(KLN – Dephut)
Ir. Basah Hemowo, MA	(BAPPENAS)
Mr.Daiji Kawaguchi	(Emb.of Japan – Indonesia)
Mr.Takashi Sakamoto	(JICA - Indonesia)
Mr.Hideki Miyakawa	(KLN-JICA, Dephut)

Attachment: Form A-1

HN:hn
2008/02/21

RECORD OF DISCUSSIONS
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
AUTHORITIES CONCERNED OF THE GOVERNMENT OF
THE REPUBLIC OF INDONESIA
ON
JAPANESE TECHNICAL COOPERATION
FOR
THE PROJECT FOR THE SUPPORT ON FOREST RESOURCES MANAGEMENT THROUGH LEVERAGING SATELLITE IMAGE INFORMATION

Japan International Cooperation Agency (hereinafter referred to as "JICA") had a series of discussions through the Resident Representative of JICA in the Republic of Indonesia (hereinafter referred to as "Indonesia"), with the Indonesian authorities concerned with respect to desirable measures to be taken by JICA and the Government of Indonesia for the successful implementation of the above-mentioned Project.

As a result of the discussions, the JICA and the Indonesian authorities concerned agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

Jakarta, September 10, 2008

Dr. Ir. Yetti Rusli, M.Sc.
Director General
Forestry Planning Agency
Ministry of Forestry
Republic of Indonesia

Mr. Takashi Sakamoto
Resident Representative
JICA Indonesia Office
Japan International Cooperation Agency
Japan

THE ATTACHED DOCUMENT

I. COOPERATION BETWEEN JICA AND THE GOVERNMENT OF INDONESIA

1. The Government of Indonesia will implement the Project for the Support on Forest Resources Management through Leveraging Satellite Image Information (hereinafter referred to as "the Project") in cooperation with JICA.

2. The Project will be implemented in accordance with the Master Plan which is given in Annex I.

II. MEASURES TO BE TAKEN BY JICA

In accordance with the laws and regulations in force in Japan, JICA will take, at its own expense, the following measures according to the normal procedures under the Colombo Plan Technical Cooperation Scheme.

1. DISPATCH OF JAPANESE EXPERTS

JICA will provide the services of the Japanese experts as listed in Annex II.

2. PROVISION OF MACHINERY AND EQUIPMENT

JICA will provide such machinery, equipment and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project as listed in Annex III. The Equipment will become the property of the Government of Indonesia upon being delivered C.I.F. (cost, insurance and freight) to the Indonesian authorities concerned at the ports and/or airports of disembarkation.

3. TRAINING OF INDONESIAN PERSONNEL IN JAPAN

JICA will receive the Indonesian personnel connected with the Project for technical training in Japan.

III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF INDONESIA

1. The Government of Indonesia will coordinate relevant initiatives/stakeholders.

2. The Government of Indonesia will take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the period of Japanese technical cooperation, through full and active involvement in the Project by all related authorities, beneficiary groups and institutions.

3. The Government of Indonesia will ensure that the technologies and knowledge acquired by the Indonesian nationals as a result of Japanese technical cooperation will contribute to the economic and social development of Indonesia.

4. The Government of Indonesia will grant in Indonesia privileges, exemptions and benefits to the Japanese experts referred to in II-1 above and their families, which are no less favorable than those accorded to experts of third countries working in Indonesia under the Colombo Plan Technical Cooperation Scheme.

5. The Government of Indonesia will ensure that the Equipment referred to in II-2 above will be utilized effectively for the implementation of the Project in consultation with the Japanese experts referred to in Annex II.

6. The Government of Indonesia will take necessary measures to ensure that the knowledge and experience acquired by the Indonesian personnel from technical training in Japan will be utilized effectively in the implementation of the Project.

7. In accordance with the laws and regulations in force in Indonesia, the Government of Indonesia will take necessary measures to provide at its own expense :

(1) Services of the Indonesian counterpart personnel and administrative personnel as listed in Annex IV ;

(2) Office and facilities necessary for the implementation of the Project as listed in Annex V ;

(3) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the Equipment provided by JICA under II-2 above ;

(4) Means of transport and travel allowances for the Japanese experts for official travel within Indonesia; and

(5) Suitably furnished accommodation for the Japanese experts and their families.

8. In accordance with the laws and regulations in force in Indonesia, the Government of Indonesia will take necessary measures to meet :

(1) Expenses necessary for transportation within Indonesia of the Equipment referred to in II-2 above as well as for the installation, operation and maintenance thereof ;

(2) Customs duties, internal taxes and any other charges, imposed in Indonesia on the Equipment referred to in II-2 above ; and

(3) Running expenses necessary for the implementation of the Project.

IV. ADMINISTRATION OF THE PROJECT

1. Director, Forest Inventory and Mapping Center, Forestry Planning Agency, as the Project Director, will bear overall responsibility for the administration and implementation of the Project.

2. Deputy Director of Remote Sensing Division, Forest Inventory and Mapping Center, as the Project Manager, will be responsible for the managerial and technical matters of the Project.

3. The Japanese Chief Advisor will provide necessary recommendations and advice to the Project Director and the Project Manager on any matters pertaining to the implementation of the Project.

4. The Japanese experts will give necessary technical guidance and advice to the counterpart personnel on technical matters pertaining to the implementation of the Project.

5. For the effective and successful implementation of technical cooperation for the Project, a Joint Coordinating Committee will be established whose functions and composition are described in Annex VI.

V. JOINT EVALUATION

Evaluation of the Project will be conducted jointly by JICA and the Indonesian authorities concerned, during the last six months of the cooperation term in order to examine the level of achievement.

VI. CLAIMS AGAINST JAPANESE EXPERTS

The Government of Indonesia undertakes to bear claims, if any arises, against the Japanese experts engaged in technical cooperation for the Project resulting from, occurring in the course of, or otherwise connected with the discharge of their

official functions in Indonesia except for those arising from the willful misconduct or gross negligence of the Japanese experts.

VII. MUTUAL CONSULTATION

There will be mutual consultation between JICA and Indonesian Government on any major issues arising from, or in connection with this Attached Document.

VIII. MESURES TO PROMOTE UNDERSTANDING OF AND SUPPORT FOR THE PROJECT

For the purpose of promoting support for the Project among the people of Indonesia, the Government of Indonesia will take appropriate measures to make the Project widely known to the people of Indonesia.

IX. TERM OF COOPERATION

The duration of the technical cooperation for the Project under this Attached Document will be three (3) years from September 11, 2008 to September 10, 2011.

ANNEX I	MASTER PLAN
ANNEX II	LIST OF JAPANESE EXPERTS
ANNEX III	LIST OF MACHINERY AND EQUIPMENT
ANNEX IV	LIST OF INDONESIAN COUNTERPART AND ADMINISTRATIVE PERSONNEL
ANNEX V	LIST OF OFFICES AND FACILITIES
ANNEX VI	JOINT COORDINATING COMMITTEE
ANNEX VII	PROJECT DESIGN MATRIX (PDM)
ANNEX VIII	PLAN OF OPERATIONS (PO)

ANNEX I

MASTER PLAN

1. Project Title: The Project for the Support on Forest Resources Management through Leveraging Satellite Image Information

2. Framework of the Project

(1) Objective

Overall Goal: Sustainable Forest Management (SFM) is promoted in Indonesia through the upgraded forest resources monitoring and assessment.

Project Purpose: BAPLAN's capacity to conduct more reliable forest resources monitoring and assessment is upgraded through transfer of technology and training.

(2) Outputs

1 Accuracy of forest resources monitoring and assessment data utilizing satellite image information is improved.

2 Capacity of BAPLAN and its UPTs is upgraded.

(3) Activities

1.1 The global trends of forest resources monitoring and assessment related methodologies, such as FRA 2010, carbon accounting under REDD, and technologies are compiled.

1.2 The comparative advantages of PALSAR/MODIS technology are shared.

1.3 The technical assessment on the current forest resources monitoring and assessment system is conducted.

1.4 The PALSAR/MODIS Technology is transferred to BAPLAN and introduced in its forest resources monitoring and assessment system.

1.5 The potential opportunities for the upgraded system are tested such as carbon accounting, integrated GIS, etc.

1.6 The upgraded system is operated.

2.1 The current level of BAPLAN-HQ staff capacity regarding satellite image interpretation and analysis technology is evaluated and an improvement plan is proposed.

2.2 The training programs for the improved system are executed for BAPLAN-HQ.

2.3 The current method of forest resources monitoring and assessment by BAPLAN-UPTs is evaluated and an improvement plan is proposed.

2.4 The training programs for the improved method and implementation are executed for BAPLAN-UPTs.

2.5 OJT for complementing the forest resources information based on satellite image with monitoring and assessment by BAPLAN-UPTs is conducted.

(4) Project sites

Target Sites: Jakarta and UPTs (BPKHs)

Project Office: Project offices will be provided inside the buildings of Ministry of Forestry

Note: Project Design Matrix is shown in ANNEX VII and Plan of Operations is shown in ANNEX VIII.

Note: In case in which the Master Plan should be changed due to the situation of the Project, JICA and the Government of Indonesia will agree to and confirm the changes by exchanging minutes of meetings.

ANNEX II

LIST OF JAPANESE EXPERTS

1. One (1) or two (2) long-term expert(s) and some short-term experts will be dispatched as needed.

2. The fields of experts will be decided as needed and including the following fields:
   (1) Chief Advisor / Forestry Planning;
   (2) Satellite Image Analysis;
   (3) Database Management;
   (4) SAR Interpretation; and
   (5) GIS

Note: Additional experts not listed above would be dispatched in accordance with the needs for the effective implementation of the Project.

ANNEX III

LIST OF MACHINERY AND EQUIPMENT

Part of machinery and equipment necessary for the effective implementation of the Project will be provided by the Japanese side within the budget allocated for technical cooperation. Main items of machinery and equipment to be provided are as follows:

1. PCs;

2. Software; and

3. Other necessary equipment for the implementation of the Project.

Note: Contents, specification and quantity of the above-mentioned equipment will be decided through mutual consultations within the allocated budget of the Japanese fiscal year.

ANNEX IV

LIST OF INDONESIAN COUNTERPART AND ADMINISTRATIVE PERSONNEL

1. Counterpart personnel

(1) Project Director: Director, Forestry Inventory and Mapping Center, Forestry Planning Agency

(2) Project Manager: Deputy Director of Remote Sensing Division, Forestry Inventory and Mapping Center

(3) Other staff:

Section Chiefs, Remote Sensing Division

Section Chief, Mapping Division

2. Administrative personnel

(1) Secretary

(2) Drivers

(3) Other Clerical Staff

ANNEX V

LIST OF OFFICES AND FACILITIES

1. Office and facilities necessary for the Project

2. Room space and necessary infrastructure facilities for installation and storage of the equipment

3. Offices and basic logistics facilities for the JICA experts

4. Other facilities mutually agreed upon as necessary

g. Director, Watershed Areas Management, RLPS
h. Director, Production Forest Utilization Planning, BPK
i. Officials appointed by DG of Forest Research and Development Agency
j. BAPPENAS
k. LAPAN
l. Local Governments

(3) Japanese side

a. JICA Expert(s) of the Project
b. Representative from JICA Indonesia Office

Note: Official(s) of Embassy of Japan may attend the JCC meeting as observer(s). The co-chairperson can name new members or request the attendance of other participants, as necessary, upon agreement of the JCC. Participation from broader relevant organizations will be encouraged.

ANNEX VI

JOINT COORDINATING COMMITTEE

1. Functions

The Joint Coordinating Committee (hereinafter referred to as "JCC") will meet at least once a year or whenever the necessity arises, in order to fulfill the following functions:

(1) To approve an annual work plan of the Project based on the Plan of Operation within the framework of the Record of Discussions;
(2) To monitor and review the overall progress of the Project carried out under the above-mentioned annual work plan; and
(3) To exchange views and ideas on major issues those arise during the implementation of the Project.

2. Members of the JCC

The JCC will be composed of the chair, the members and the observers. The chair may declare closed sessions against the observers. The rules and guidelines for the management of the JCC will be determined at the initial stage of the Project.

(1) Co-chairperson:
   a. Secretary General, Ministry of Forestry
   b. Director General, Forestry Planning Agency, Ministry of Forestry

(2) Indonesian side
   a. Director, Bureau of International Cooperation, Secretariat General
   b. Director, Center of Forestry Training and Education, Secretariat General
   c. Secretary to Director General, BAPLAN
   d. Director, Center for Forestry Inventory and Mapping, BAPLAN
   e. Director, Center for Forest Area Management, BAPLAN
   f. Director, Conservation Area, PHKA

Project Design Matrix (PDM) Ver1.0

Project Name : The Project for the Support on Forest Resources Management through Leveraging Satellite Image Information
Project Sites : Jakarta and UPTs (BPKHs)
Duration : From September 11, 2008 to September 10, 2011 (three years)
Target Beneficiaries : Staff of Forestry Inventory and Mapping Center (FIMC), Forestry Planning Agency (BAPLAN), Ministry of Forestry (MoF) and its UPTs (BPKHs)

Narrative Summary	Objectively Verifiable Indicators	Means of Verifications	Important Assumptions
Overall Goal: Sustainable Forest Management (SFM) is promoted in Indonesia through the upgraded forest resources monitoring and assessment.	• Development of forestry sector policies and plans by using forest resources monitoring and assessment information from the upgraded systems is realized. • Use of the upgraded forest resources monitoring and assessment information and the management at the management unit level plans is realized. • Application of the upgraded forest resources monitoring and assessment information to the carbon accounting from forest, monitoring of illegal activities, is realized.	• Reports of related ministries • Reports of MoF and local governments • Reports of MoF	• PALSAR images are continuously provided.
Project Purpose: BAPLAN's capacity to conduct more reliable forest resources monitoring and assessment is upgraded through transfer of technology and training.	• Reliability of forest resources monitoring and assessment information is improved. • Capacities of UPTs are enhanced. • An estimation of a carbon amount in forest is tested.	• Interview with other DGs, local governments, donors, private companies and NGOs • Interview with BAPLAN, other DGs, local governments, donors, private companies and NGOs • Reports of MoF, project reports	• There is no particular change in government's policies on nature conservation. • There is no particular change in natural conditions of Indonesia. • Activities of other donors continue.
Outputs: 1. Accuracy of forest resources monitoring and assessment data utilizing satellite image information is improved. 2. Capacity of BAPLAN and its UPTs is upgraded.	• Disturbance from the cloud cover in the forest resources monitoring and assessment information is eliminated. • Frequency of updating forest resources information is increased. • Consistency between the result of satellite image interpretation and the real situation in the field is upgraded. • Accuracy of forest resources monitoring and assessment data is improved.	• Project reports • Project reports • Project reports, Interview	• There is no significant organizational change in BAPLAN affecting implementation of the Project.

Activities:	Input:		
1-1 The global trends of forest resources monitoring and assessment related methodologies, such as FRA 2010, carbon accounting under REDD, and technologies are compiled. 1-2 The comparative advantages of PALSAR/MODIS technology are shared. 1-3 The technical assessment on the current forest resources monitoring and assessment system is conducted. 1-4 The PALSAR/MODIS Technology is transferred to BAPLAN and introduced in its forest resources monitoring and assessment system. 1-5 The potential opportunities for the upgraded system are tested such as carbon accounting, integrated GIS, etc. 1-6 The upgraded system is operated. 2-1 The current level of BAPLAN-HQ staff capacity regarding satellite image interpretation and analysis technology is evaluated and an improvement plan is proposed. 2-2 The training programs for the operation of improved system are executed for BAPLAN-HQ. 2-3 The current method of forest resources monitoring and assessment by BAPLAN-UPTs is	**Japanese Side** **Experts** • Chief Advisor / Forestry Planning • Satellite Image Analysis • Database Management • Programming • GIS • Other experts necessary for the implementation of the Project **Machinery and Equipment** • PC, Software • Other materials necessary for the implementation of the Project **Training of Indonesian personnel in Japan**	**Indonesian Side** **Counterparts & Administrative personnel** • Project Director • Project Managers • Other Counterparts and administrative personnel **Office Space and Facilities** • Office space • Other facilities necessary for the implementation of the Project **Administration and operational costs**	• Commitment by Government of Indonesia and cooperation by authorities concerned are maintained. • Counterparts are not transferred to other departments and/or agencies. **Pre-conditions** • There is no particular change in government's policies on nature conservation

evaluated and an improvement plan is proposed. 2-4 The training programs for the improved method and implementation are executed for BAPLAN-UPTs. 2-5 OJT for complementing the forest resources information based on satellite image with monitoring and assessment by BAPLAN-UPTs is conducted.			

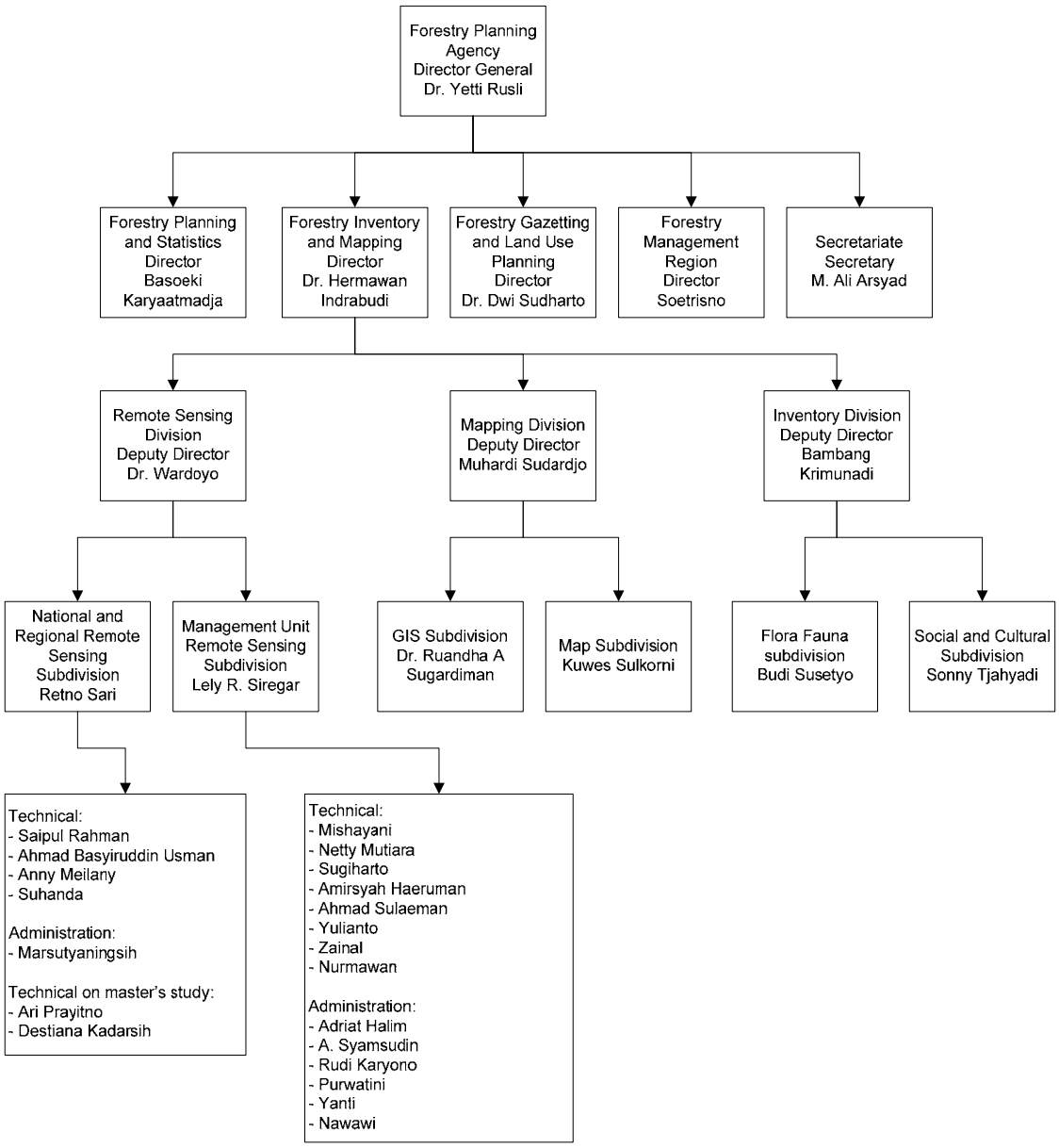
Plan of Operation (PO)

Project Name: The Project for the Support on Forest Resources Management through Leveraging Satellite Image Information
Project Sites: Jakarta and UPTs(BPKHs)
Duration: From September 11, 2008 to September 10, 2011 (three years)
Target Beneficiaries: Staff of Forestry Inventory and Mapping Center (FIMC), Forestry Planning Agency (BAPLAN), Ministry of Forestry (MoF) and its UPTs (BPKHs)

Outputs		Activities		Year 1				Year 2				Year 3				Responsible Organization(s)
				1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
1	Accuracy of forest resources monitoring and assessment data utilizing satellite image information is improved.	1,1	The global trends of forest resources monitoring and assessment related methodologies, such as FRA 2010, carbon accounting under REDD, and technologies are compiled.													BAPLAN FIMC
		1,2	The comparative advantages of PALSAR/MODIS technology are shared.													BAPLAN FIMC
		1,3	The technical assessment on the current forest resources monitoring and assessment system is conducted.													BAPLAN FIMC
		1,4	The PALSAR/MODIS Technology is transferred to BAPLAN and introduced in its forest resources monitoring and assessment system.													BAPLAN FIMC
		1,5	The potential opportunities for the upgraded system are tested such as carbon accounting, integrated GIS, etc.													BAPLAN FIMC
		1,6	The upgraded system is operated.													BAPLAN FIMC
2	Capacity of BAPLAN an its UPTs is upgraded.	2,1	The current level of BAPLAN-HQ staff capacity regarding satellite image interpretation and analysis technology is evaluated and an improvement plan is proposed.													BAPLAN FIMC
		2,2	The training programs for the operation of improved system are executed for BAPLAN-HQ.													BAPLAN FIMC
		2,3	The current method of forest resources monitoring and assessment by BAPLAN-UPTs is evaluated and an improvement plan is proposed.													BAPLAN FIMC, UPTs
		2,4	The training programs for the improved method and implementation are executed for BAPLAN-UPTs.													BAPLAN FIMC, UPTs
		2,5	OJT for complementing the forest resources information based on satellite image with monitoring and assessment by BAPLAN-UPTs is conducted.													BAPLAN FIMC, UPTs

Legends

- Activities that must take place at a given time
- Occasional activities
- Activities that will be continued over the given time, but in low intensity


Forestry Planning Agency
Director General
Dr. Yetti Rusli
Forestry Planning and Statistics
Director
Basoeki Karyaatmadja
Forestry Inventory and Mapping
Director
Dr. Hermawan Indrabudi
Forestry Gazetting and Land Use Planning
Director
Dr. Dwi Sudharto
Forestry Management Region
Director
Soetrisno
Secretariate
Secretary
M. Ali Arsyad
Remote Sensing Division
Deputy Director
Dr. Wardoyo
Mapping Division
Deputy Director
Muhardi Sudardjo
Inventory Division
Deputy Director
Bambang Krimunadi
National and Regional Remote Sensing Subdivision
Retno Sari
Management Unit Remote Sensing Subdivision
Lely R. Siregar
GIS Subdivision
Dr. Ruandha A Sugardiman
Map Subdivision
Kuwes Sulkorni
Flora Fauna subdivision
Budi Susetyo
Social and Cultural Subdivision
Sonny Tjahyadi
Technical:
- Saipul Rahman
- Ahmad Basyiruddin Usman
- Anny Meilany
- Suhanda
Administration:
- Marsutyaningsih
Technical on master's study:
- Ari Prayitno
- Destiana Kadarsih
Technical:
- Mishayani
- Netty Mutiara
- Sugiharto
- Amirsyah Haeruman
- Ahmad Sulaeman
- Yulianto
- Zainal
- Nurmawan
Administration:
- Adriat Halim
- A. Syamsudin
- Rudi Karyono
- Purwatini
- Yanti
- Nawawi

FIELDTRIP REPORT
February 18-21st, 2008

The field trip was conducted on February 18-21st, 2008 in South Kalimantan (BPKH V) and Special Province of Yogyakarta (BPKH XI).

In general, BPKH have some roles and duties related to forest management system in Indonesia.
Role and position:

- Forest Area Stabilization Bureau (BPKH) is a technical operation unit which is under supervision and responsible to Forestry Planning Agency.
- BPKH have a responsibility to stabilize forest area, status and forest function assessment, and presenting forest resources data and information.

Purposes:

- Identification of established forest area location and its potency.
- Implementation of forest boundary demarcation and conservation forest mapping.
- Identification of forest purposes and forest land use.
- Assessment of forest boundary demarcation results for the establishment of conservation and production forest.
- Identification and assessment of forest area status and purposes alteration.
- Identification of forest management unit designation (conservation forest, protection forest, and production forest).
- Establishment and presentation of forest resources information and forest resources balance.
- Management of Geographic Information System and forest mapping
- Implementation of administration system

A. BPKH V Banjarbaru

1. Institutional system

Working-range of BPKH V covers South Kalimantan and Central Kalimantan Province. Institutionally, BPKH V has a good coordinating system with local forestry agencies and Forestry Planning Agency (BAPLAN) in Jakarta. Due to infrastructure limitation, coordination with Forestry Planning Agency still using “conventional” method. Data exchange between BPKH V and Forest Planning done by using mail/package delivery or direct delivery (courier).

2. Human Resources

Based on interview, there are 10 staffs who intensively involve in remote sensing and GIS. They came from different educational background as follow:

Bachelor in Forestry (6 persons)

Bachelor in Geography (1 person)

High School Graduate (3 persons)

Individual skill in remote sensing & GIS earned from courses and trainings.

Besides remote sensing & GIS staffs, there are also forest inventory and measurement team (about 10 persons).

Staff competency in several field related to forest management:

Forest Inventory

1. Data collecting
2. Planning
3. Ground Control Point / sampling point measurement and installation
4. Flora and fauna inventory
5. Data entry
6. Data processing
7. Mapping
8. Reporting

Forest measurement

1. Collecting data and forest-area-map
2. Mapping forest boundary demarcation design
3. Measuring Ground Control Point
4. Setting temporary demarcation
5. Announcing temporary demarcation results
6. Implementing definitive demarcation
7. Providing map based on measurement results

Forest mapping

1. Interpreting satellite imageries
2. Data processing and area calculation based on satellite image interpretation result
3. Providing maps based on terrestrial and non-terrestrial inventory
4. Providing map composition based on digitations result
5. Installing forestry Ground Control Points
6. Data calculation based on measurement result (including coordinate lists)
7. Providing forestry thematic maps

Individual Competency

1. Having knowledge in measuring
2. Having knowledge in mapping
3. Having knowledge in forest inventory
4. Capable of using surveying tools and equipments
5. Capable of using GIS applications
6. Capable of using image processing applications

3. Hardware and Software

Hardware:

- 12 unit computers
- 2 unit plotters
- 1 unit scanner (A0 size)
- Digitizer

Software:

- ERDAS Imagine
- ArcView GIS
- ArcGIS
- ArcInfo
- ENVI
- ErMapper
- MapInfo

Remote sensing & GIS office

4. Data availability

Data available at BPKH V are land cover map (LANDSAT image interpretation result, acquired year 2002/2003 and 2005/2006), contour map, etcetera.

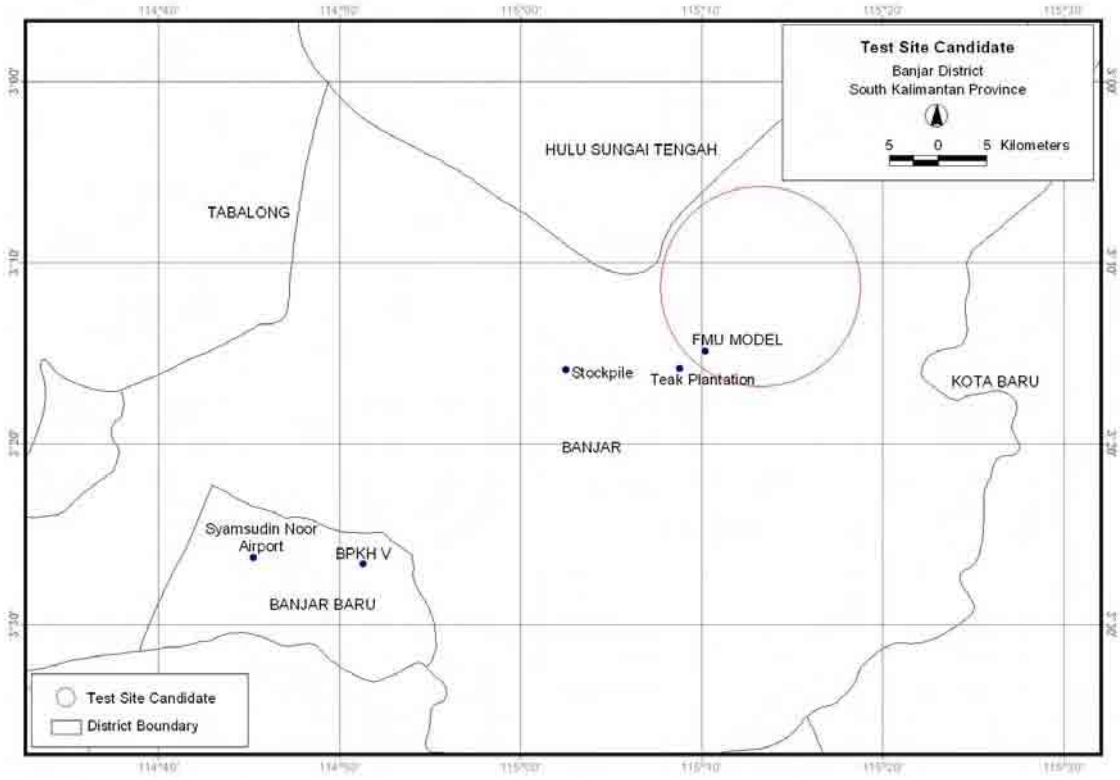
BPKH V staff showing data available

Archieve storage room

5. Test site candidate

Geographical information

Test site candidate recommended by BPKH V is a Forest Management Unit Model (FMU model). This Forest Management Unit is located on ± 50 km northeastern Syamsudin Noor airport or ± 42 km northeastern BPKH V office.



Map of test site candidate, Banjar district-South Kalimantan

Accessibility

Location can be reach by vehicles (cars and motorcycles). But after entering area of Forest Management Unit, we should use motorcycle to get into log over area.

Road network to Forest Management Unit (coal mining road)

Topography

Generally, visited test site candidate has slightly-slope.

Land cover

There are various types of land cover such as: bush/shrub, savanna, rubber estate crop plantation, dryland agriculture, barren land, coal mining area, rice field, forest/log over area. There are also teak plantation (as result of National Movement on Forest and Land Rehabilitation year 2005). According to management of FMU, there are only 12.000 Ha forested area of 140.000 Ha FMU. Various type of land cover showed in picture (a) to (h).

(a)

(b)

(c)

(d)

(e)

(f)

(g)

(h)

Management

Establishment of FMU model was prepared by acceleration team which involving some stakeholders, including BPKH and local government.

6. Suggestions from BPKH V

- Training which will given is not only for technical operation level, but also for mid-level and top manager
- Training material adjusted with each level needs.
- It should give benefit and continuity implementation in the future

B. BPKH XI Yogyakarta

1. Institutional system

Working-range of BPKH XI covers Java Island and Madura. BPKH XI focusing in community-owned forest development. There are some strategy to develop community-owned forest in Java Island and Madura:

- Identification of spatial distribution and potency of community-owned forest*
- Accommodate community-owned forest in Spatial Planning*
- Institutional strengthen
- Community-owned forest system (capitalization, cultivation, and effort)
- Preparation of forest management unit development for community-owned forest*
- Local government facilitation*
- Forestry extension*
- Institutional facilitation, planning*, business development and partnership
- Research and development

*) BPKH Role and responsibility

BPKH XI has its own multiyears working-design in developing community-owned forest as follow:

First year:

- Exploration of Community-owned forest resource using remote sensing technology:
    - Study on community-owned forest (Literature)
    - Community-owned forest identification using various image resolution (typology, characteristic, spatial distribution, and trend of community-owned forest development)
    - Community-owned forest potency
    - Appropriate method
    - Ground check
- Human resources preparation (training and courses)

Second year:

- How to efforts local government and its implementation
- Establish partnership mechanism between BPKH and local government
- Accommodate community-owned forest in regional spatial planning
- Establish coordination and communication with stakeholders
- Human resources preparation (local government)

Third year:

- Implementasi hasil kegiatan tahun I dan II di level tapak (*lokasi percontohan*)
- Implementing first year and second year activities at site level (area model)
- Establishment of community-owned forest management model
- Boundary demarcation of community-owned forest management
- Facilitating on establishment of community-owned forest managerial organization and institutional strengthen

Fourth year:

- Dissemination of activity results (publication, workshop, etc.)

Coordinating system between BPKH and related forestry agency (including Forestry Planning Agency) has been well-manage. Infrastructure for accelerate data and information exchange using internet is available.

2. Human resources

Mapping (Remote Sensing and GIS):

- Regular (7 persons)
- Non regular or persons who having skill in remote sensing & GIS outside mapping division (5 persons)

Surveyor :

- 20 persons

3. Tools/equipment, hardware, and software

Surveying tools

No	Type	Number of unit	
1	Theodolith Digital Topcon DT 205	8 units	
2	Criterion RD 100	30 units	
3	Trimble 5700 L1	1 unit	
4	Epoch 10 L1	6 units	
5	Trimble Pro XH	8 units	
6	Trimble Geo XT	8 units	
7	Garmin Rhino 530 dan Magellan Meridian Gold	14 units	

Hardware & peripheral

No	Type	Number of unit
1	Desktop HP Paviliun A1239D	5 units
2	Scanner Contex Crystal XL 42"	1 unit
3	Plotter (HP Designjet 800, HP Designjet 800Ps, Canon W8400)	3 units
4	Server & Network hub	1 set

Software

No	Type
1	Wise Image Geo Editon
2	ENVI 4.0
3	ArcGis 9.0

Some surveying tools, mapping equipments, hardware, and network infrastructure showed in picture (a)~(d).

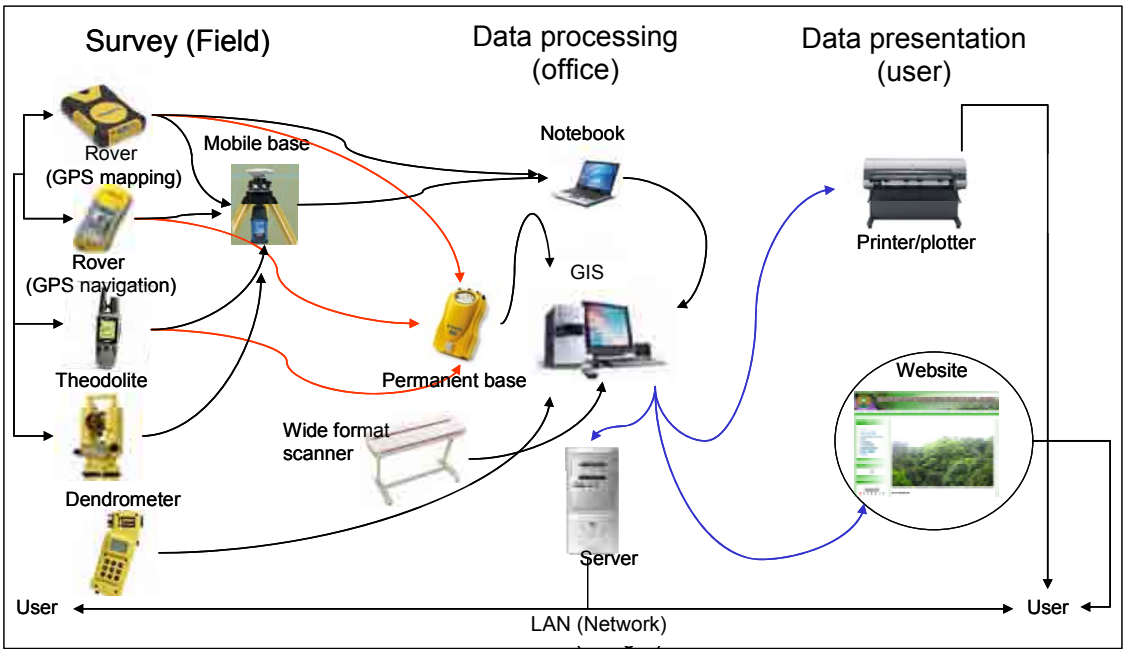
(a)

(b)

(c)

(d)

BPKH XI has its own design to optimized tools and equipments usage as follow:



Tools and equipments optimation system

4. Data availability

Base map:

- Forestry Thematic Base Map (1:250.000)
- Indonesia Basic Map (1:25.000)

Data:

- Community-owned forest potency data (cooperation between Statistics Bureau and Forestry Planning Agency)
- Spatial distribution map and area of community-owned forest in Java Island and Madura (Landsat ETM interpretation result, acquired in 2003)
- Study result of Community-owned forest in Yogyakarta (year 2006)

Planned activities in year 2008:

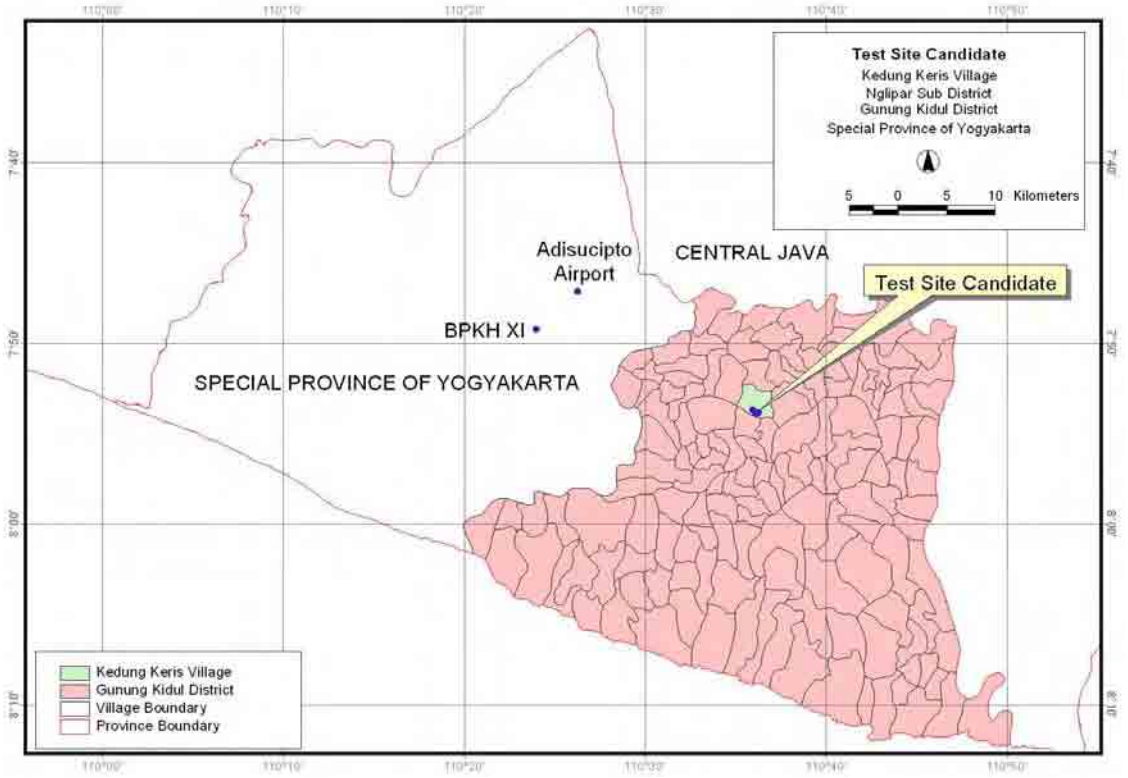
Kegiatan yang akan dilaksanakan tahun 2008:

- Community-owned forest inventory (3 locations)
- Spatial based regional study (1 location)
- Mid-term and long term forestry plans formulation (1 province/district)

5. Test site candidate

Geographical information

Test site candidate recommended by BPKH XI is a Community-owned forest which is located on ± 25 km eastern BPKH XI office or ± 22 km from Adisucipto airport. Administratively, this site is in Kedung Keris village, Nglipar sub district, Gunung Kidul district.



Test site candidate in Gunung Kidul District, Special Province of Yogyakarta

Accessibility

Location is easy to reach using vehicle. Cars could enter the area, giving possibility entering community-owned forest management unit using vehicle.

Topography

Visited Community-owned forest is on upland region. This region has slightly slope, meanwhile topographic condition around it have variation from slightly to moderately steep.

Land cover

Land cover in the visited area is dominated by Community-owned forest with various type of plantation such as teak (a), Acacia (b), Mahogany, etc. Besides that, there are also savanna, bush/shrub, and rice field. Land cover condition showed in picture (c)~(f).

(a)

(b)

(c)

(d)

(e)

(f)

Management

Visited Community-owned forest has been well-managed. There are hierarchical managerial level, start from forest farmer groups on forest management unit until workgroup on district/province level. In year 2007, Kedung Keris village achieve a prestigious achievement from Ministry of Forestry as the best Community-owned forest in Indonesia.

Community-owned forest managed by forest farmer group

6. **Suggestions from BPKH XI**

- BPKH XI prefer choosing Community-owned forest as the object of the study in Java Island (especially in Yogyakarta)
- Trainings should involve related agencies and stakeholders

Forest resources information system (FRIS)

And on-going activities with other institutions

Pusat Inventarisasi dan Perpetaan Kehutanan
Badan Planologi Kehutanan

Jakarta, 12 February 2008

1

INTRODUCTION

Five main priorities of forest policy in the MoF

1. Fighting against illegal logging & illegal timber trade
2. Revitalization of forestry sector especially forest industry
3. Rehabilitation & conservation of forest resources
4. Empowering economy of the people around forestlands
5. Forestlands stabilization

Forestry Development Focus

→ 18 focuses
→ one of the focus is:
the development of forest resources information systems (FRIS)

2

Strategic Targets of FRIS:

1. Availability of spatial information on forest resources utilization

Activities:

a. Collecting data/info in utilization of forest resources
→ Mapping working areas on forest concessions

b. Periodical evaluation of forest res. Utilization
→ Monitoring of forest concessions

c. Spatial/non-spatial data of forest res. Utilization
→ Ground control points establishment

d. Data base development
→ Forest res. utilization database

3

Strategic Targets of FRIS:

2. Availability of data and information of forest resources (accurate, up-to-date, reliable) for policy formulation and decision making process in sustainable forest management

Activities:

a. Updating data/info of forest resources
→ synchronizing forestry thematic base maps

b. Spatial/non-spatial database establishment

→ forest monitoring: medium resolution sat. image
→ Analysis of very high spatial resolution images (IKONOS, Quick-bird) to support management of conservation, protection and production forests (20 locations)
→ Analysis of Radar images (IFSAR) for conservation forest (10 locations)
→ Stand volume estimation (multi spatial resolution images, multi-stage sampling)

4

Strategic Targets of FRIS:

c. Base & thematic maps development
→ produce forestry thematic maps

d. Forest resources accounting
→ Regional & National forest res. Accounting

e. Forest inventory & collecting data of social culture
→ Re-enumeration of PSP/TSP
→ Inventory NTFP, social culture data

f. System & infrastructure development
→ Integrating spatial data
→ MoF Internet

g. Presenting forest data/info
→ Forestry Statistic
→ Forestry strategic data

5

ON-GOING ACTIVITIES IN COOPERATION WITH OTHERS:

1. LAPAN (National Aeronautic & Space Agency)

→ Training for regional forest offices

→ Data sharing (Landsat, SPOT4, ALOS, MODIS)

2. Bakosurtanal (Coordinating Agency for National Survey & Mapping)

→ Forestry **thematic** base maps (PDTK)

→ The clearing-house of forestry data & information, and the custodian of forest cover data **(Presidential Decree in National Spatial Data Infrastructure/IDSN)**

6

ON-GOING ACTIVITIES WITH OTHERS ... cont

3. SDSU (South Dakota State University) + WB (World Bank)

→ August 2006: forest cover monitoring (MODIS 2000 – 2005)
-- deforestation calculation

→ March 2008: forest cover monitoring (MODIS, NOAA 1990 – 2000)
-- deforestation calculation, & support baselines study

4. FAO (Food and Agriculture Organization)

-- Global Forest Resources Assessment 2010 (GFRA 2010)

→ March 3-7, 2008 in Rome Italy
-- Technical meeting focal point FRA 2010

-- Technical meeting focal point FRA 2010 Remote Sensing Survey

5. ICRAF (International Centre for Research in Agro-Forestry)

-- Biomass & Carbon estimation based on ICRAF research
-- Capacity building in biomass & carbon accounting (proposed activity)

7

ON-GOING ACTIVITIES WITH OTHERS ... cont

6. AusAID (Australia)

-- Mid Feb 2008, Short Visit to Canberra (biomass & carbon accounting)

7. USFS (United States Forest Service)

-- GIS/RS workshop & training
(will be discussed during USFS visit to MoF this week)

8. Korea Forest Service

-- Collaboration in the use of satellite data for biomass and carbon estimation (proposed activity)

9. IFCA (Indonesia Forest Climate Alliance) – FORDA

-- Monitoring and baselines setting/methodology (REDD)

-- Ministerial Decree for REDD Pilot Projects – draft in progress

8

JICA PROJECT:

"The support on forest resources management through leveraging satellite image information"

→ **Objectives:** Upgrade Baplan's forest resources monitoring and assessment capacity

→ **Activity Components:**

- The PALSAR technology will be introduced & transfered to Baplan

- Upgrade Baplan forest resources monitoring and assessment system – incorporate biomass, carbon accounting

- Institutional capacity will be upgraded – H/W, S/W, HRD

9

RELATION TO ON-GOING ACTIVITIES:

-- should be no overlapping activities, but supports each other to synergy

-- Cooperation/collaboration with other on-going activities are encouraged for the success of project achievement.

-- Activities with SDSU, WB, AusAID, FAO, ICRAF, Lapan, Bakos are progressing, that JICA project may take a look.

10

Thank you

Pusat Inventarisasi dan Perpetaan Kehutanan,
Badan Planologi Kehutanan

JICA Japan International Cooperation Agency

11

CURRENT STATUS OF FOMAS/FRIS

FOREST MONITORING AND ASSESSMENT SYSTEM / FOREST RESOURCE INFORMATION SYSTEM

INITIATIVE

JAKARTA FEBRUARY 2008

1

BACKGROUND

- Following an extensive multi-stakeholder consultation process (start year 2003)
- The Indonesian Ministry of Forestry presented a forest sector transparency initiative in early 2006
- This initiative had completed by FOMAS activity
- FOMAS aims
  - to establish the conditions for transparency in the forest sector by **making relevant, reliable and accurate and up-to-date forest sector information continuously available** to decision makers and the general public.

2

FOMAS CORE COMPONENTS

- **An information management process**
  → generates and archives reliable, accurate and up-to-date information on Indonesia's forest resources;
- **A comprehensive disclosure policy**
  → clearly articulates what information can be and can not be publicly disclosed;
- **Effective disclosure mechanisms**
  → allow multiple stakeholders to access reliable, accurate and up-to-date information on Indonesia's forest resources;
- **An improved decision-making process**
  → designed to use up-to-date and accurate forest sector information within daily operations in the Ministry of Forestry

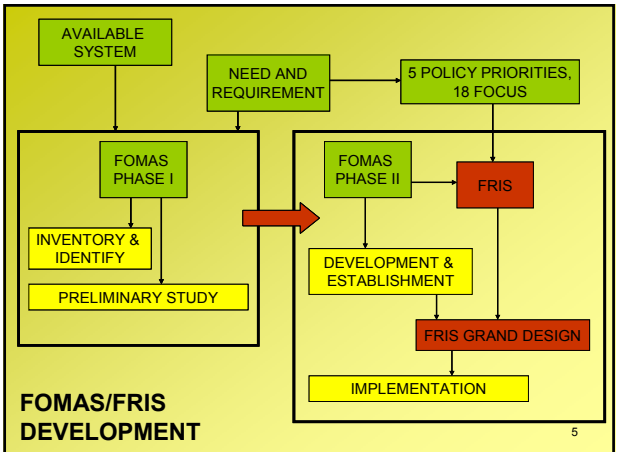
3

DEVELOPMENT OF FOMAS

- **FOMAS Phase I**
  - Identify activities
  - Preliminary study
- **FOMAS Phase II / FRIS**
  - Establishment and development (4 – 5 years)
  - Implementation (5 - 10 years)

Budget of activities supported by Ministry of Forestry and other sources of fund (donors)

4



FOMAS/FRIS DEVELOPMENT

5

Part of FOMAS Phase I

- **Identification of activities**
  - Establishing FDG (FOMAS Discussion Group)
  - Sharing experiences and lessons with other countries (i.e. Brazil) that have established a forest monitoring and assessment system (decision maker group)
  - Data sharing protocols (spatial data, network)
  - Developing a disclosure policy concept
- **Preliminary study**
  - Digitizing and improving spatial data on legal forest licenses
  - Adjusting and editing spatial data so that it matches the Ministry of Forestry's national baseline maps
  - Establishing a geographic database on legal forest licenses
  - Analyzing recent forest cover change data

6

Part of FOMAS Phase II

- **Establishment and development**
  - Establish a cost effective forest monitoring system
    - National system: triennial system, annual system
    - Management unit monitoring system (FMU, TN etc)
    - Integrated system
  - Forest Database:
    - Collect, digitize, improve and adjust forest sector data
    - Strengthening custodian concept → within the MoF (National), completed within forest provinces and districts
  - Support decision making processes to promote SFM and mitigate deforestation and forest degradation
    - Spatial analysis
    - Carbon accounting and carbon monitoring system
    - Carbon market

7

Part of FOMAS Phase II

- **Development and Establishment**
  - Support the transparency of forest sector information and the development of a comprehensive disclosure policy
    - Policy for data sharing and exchange
    - Mechanism for public service (Protocol data)
  - Support spatial planning processes, strengthening mechanism within forest provinces and districts
    - Jurisdictional issues
    - Integrated forest database (National, provincial and district)
- **Implementation**
  - FRIS grand design

8

ACTIVITY ON PROGRESS (2008)

- MOU between Ministry of Forestry-World Bank
- Developing FRIS Grand Design
- Provide Ministry of Forestry secondee
- SK team for disclosure policy
- Sharing experience and collect input on
  - (i) national carbon accounting and carbon monitoring system, (ii) data sharing and exchange (Australia)
  - (i) near real time monitoring system, (ii) forest registration/land licensing system (Brazil)
  - (i) annual forest cover change year 1990-2005, (ii) chain of custody system (US)
- Capacity building
  - Annual system using MODIS → SDSU
  - Advanced GIS software → USFS/WRI

9

FUTURE DEVELOPMENT

Main Pillars – FRIS Grand Design:

- Forest Monitoring System: forest cover change, deforestation rate, carbon emission, carbon change
- Forest Resource Assessment: forest cover, forest biomass, timber volume estimation, carbon stock estimation
- Forest Resource Information Database: forest thematic map in suitable scale, forestry spatial data management network (custodian concept)
- Data Sharing and Exchange Mechanism: disclosure policy, protocol data, public service mechanism, related guideline and standard
- Decision Making Tools: proper regulation and standard, spatial analysis, web GIS (intranet-internet), reporting system

10

Brain-ware, Hard-ware, and Soft-ware are following the requirements and on going process

GRAND DESIGN CONTENT

- Introduction
  - Summary (operational and programmatic minded reader), NFI experiences, global development, definition, scope and objective of activities
- Current situation, achievement and problems
  - Available system, existing data and information, problems encountered, result of FOMAS phase I, involving parties and work mechanism
- Direction and steps
  - Main pillars → technical activities, proper regulation, related standard, specification and mechanism, capacity building, infrastructure and other materials needed
- Expected condition
  - Self sustaining and integrated activity with other parties, lesson learn and technology transfer
- Recommendations
  - Role of main pillars, Process required to establish a system
- Annex
  - Work plan, list of activity, involving parties, budget

11

THANK YOU

12

The Australian Global Initiative on Forests and Climate

Presented by Grahame Applegate

1

Global Initiative on Forests and Climate

> Australia's A$200 million Global Initiative on Forests and Climate (GIFC) was announced in March 2007

> Aim: reduce greenhouse gas emissions in developing countries by supporting programs that reduce deforestation and promote reforestation and sustainable forest management

2

Global Initiative on Forests and Climate

>Four main approaches

– Methodological and technical systems and capacity to support forest and carbon monitoring and assessment

– Support for sustainable forest management

– Demonstration sites to test Reduce Emissions from Deforestation and Degradation (REDD), including use of positive incentives

– Improve global understanding of efforts to reduce emissions through avoided deforestation (including through REDD demonstrations)

3

GIFC commitments so far

> $10 million has been committed to support policy development and enabling assistance,
- –Support for Indonesian Government's Working Group on REDD
- –Support for GOI/MOF FRIS development
- –Enhanced fire management training
- –Peat characterisation

> $30m for the Kalimantan Forests and Climate Partnership with support for demonstrating REDD activities and reducing greenhouse gas emissions

>Contribution to World Bank Forest Carbon Partnership Facility

4

What will be supported

> Australia will support credible demonstrations that:

– Are developed in partnership with, and supported by, the relevant Indonesian authorities
- Central government (Ministry of Forestry and BAPPENAS)
- Provincial governments demonstration areas

– Include well-planned strategies for addressing the three key REDD challenges:
- Additionality
- Leakage
- Permanence

→ Satellite monitoring and forest carbon assessment will be important in planning these strategies and measuring their success

5

What will be supported (cont'd)

> Australia will support credible incentive-based REDD demonstrations that:

– Support good governance and development
- including mechanisms to ensure benefits flow through to forest communities and other land managers

– Are compatible with a later transition to market funding

– Will contribute to developing robust post-Kyoto arrangements that incorporate REDD

6

BPKH WILAYAH V BANJARBARU

NO	NAMA	LOKASI	WILAYAH KERJA
1	BPKH Wil I	Medan	Prop. NAD, Sumut, Sumbar
2	BPKH Wil II	Palembang	Prop. Sumsel,Lampung, Bengkulu
3	BPKH Wil III	Pontianak	Prop. Kalbar
4	BPKH Wil IV	Samarinda	Prop. Kaltim
5	BPKH Wil V	Banjarbaru	Prop. Kalsel, Kalteng
6	BPKH Wil VI	Manado	Prop. Sulut, Malut
7	BPKH Wil VII	Makasar	Prop. Sulsel, Sulbar, Sulteng
8	BPKH Wil VIII	Denpasar	Prop. Bali, NTB
9	BPKH Wil IX	Ambon	Prop. Maluku
10	BPKH Wil X	Jayapura	Prop. Papua
11	BPKH Wil XI	Yogyakarta	Prop. Banten, DKI, Jabar, Jateng,Jatim,DIY
12	BPKH Wil XII	Tanjungpinang	Prop. Riau dan Kep.Riau
13	BPKH Wil XIII	Pangkalpinang	Prop. Bangka Belitung, Jambi
14	BPKH Wil XIV	Kupang	Prop. Nusa Tenggara Timur
15	BPKH Wil XV	Gorontalo	Prop. Gorontalo
16	BPKH Wil XVI	Palu	Prop. Sulawesi Tengah
17	BPKH Wil XVII	Manokwari	Prop. Papua Barat

KEDUDUKAN dan TUGAS

- Balai Pemantapan Kawasan Hutan merupakan Unit Pelaksana Teknis di bidang pemantapan kawasan hutan yang berada di bawah dan bertanggung jawab kepada Kepala Badan Planologi Kehutanan
- Balai Pemantapan Kawasan Hutan dipimpin oleh seorang Kepala Balai, dibantu Kepala Sub Bagian Tata Usaha, Kepala Seksi Informasi Sumberdaya Hutan dan Kepala Seksi Pemolaan Kawasan Hutan dan Kelompok Fungsional
- Balai Pemantapan Kawasan Hutan mempunyai tugas melaksanakan pemantapan kawasan hutan, penilaian perubahan status dan fungsi hutan serta penyajian data dan informasi sumberdaya hutan.

FUNGSI

- Pelaksanaan identifikasi lokasi dan potensi kawasan hutan yang ditunjuk
- Pelaksanaan tata batas dan pemetaan kawasan hutan konservasi
- Pelaksanaan identifikasi fungsi dan penggunaan dalam rangka penatagunaan kawasan hutan
- Penilaian hasil tata batas dalam rangka penetapan kawasan hutan lindung dan produksi
- Pelaksanaan identifikasi dan penilaian perubahan status dan fungsi kawasan hutan
- Pelaksanaan identifikasi pembentukan unit pengelolaan hutan konservasi, hutan lindung dan hutan produksi
- Penyusunan dan penyajian data informasi sumberdaya hutan dan neraca sumberdaya hutan
- Pengelolaan Sistem Informasi Geografis dan Perpetaan Kehutanan
- Pelaksanaan urusan tata usaha dan rumah tangga

KOMPETENSI SDM di BPKH

INVENTARISASI HUTAN

1. Mengumpulkan data
2. Membuat rencana
3. Mengukur titik ikatan dan pindah sampling
4. Inventarisasi flora dan fauna
5. Melakukan entry data
6. Mengolah data
7. Membuat peta hasil
8. Menyusun laporan

PENGUKURAN HUTAN

1. Mengumpulkan data dan macam-macam peta kawasan hutan
2. Membuat peta rencana tata batas
3. Mengukur titik ikatan
4. Melaksanakan pemancangan batas sementara
5. Mengumumkan hasil pemancangan batas sementara
6. Melaksanakan tata batas definitif
7. Menyajikan hasil ukuran dalam bentuk peta

PERPETAAN KEHUTANAN

- Menafsir peta citra satelit
- Mengolah data dan menghitung luas penafsiran citra satelit
- Menyajikan hasil penafsiran inventarisasi terestris dan non terestris dlm bentuk peta
- Membuat komposisi peta hasil digitasi
- Memasang jaringan titik kontrol kehutanan
- Menghitung data hasil pengukuran termasuk daftar koordinat
- Membuat peta tematik kehutanan

KOMPETENSI INDIVIDU

1. Menguasai dasar ilmu pengukuran
2. Menguasai dasar ilmu perpetaan
3. Menguasai ilmu inventarisasi hutan
4. Menguasai penggunaan *Theodolite*, GPS, ***Speagel***, dan alat ukur lainnya.
5. Menguasai aplikasi GIS
6. Menguasai aplikasi Image processing

8

Peta Digital Tersedia

A		Peta dasar	Penerbit	Skala	Cakupan
	1.	Peta Rupa Bumi Indonesia Layer : -Batas perairan -Batas Administrasi Pemerintahan -Sungai -Jalan -Pemukiman -Anotasi -Titik tinggi -Sebagian kontur	Bakosurtanal, edisi 1991	1 : 50.000	Prov.Kalsel 100 % Prov.Kalteng 30 %
	2	PDTK Layer : -Batas perairan -Sungai -Jalan	Bakosurtanal & Dephut 2006	1 : 250.000	Prov.Kalselteng

10

B		Peta Tematik			
	1	Tata Batas Kawasan Hutan			Prov.Kalselteng
	2	Tata Batas Pinjam Pakai			Prov. Kalsel
	3	Pelepasan Perkebunan			Prov. Kalsel
	4	HPH			Prov.Kalselteng
	5	HTI			Prov.Kalselteng
	6	Perkebunan			Prov.Kalselteng
	7	Pertambangan			Prov.Kalsel
	8	Daerah Aliran Sungai			Prov. Kalsel
	9	Penutupan Lahan			Prov.Kalselteng
	10	Jaringan jalan (hasil penafs citra)			Prov.Kalselteng
	11	Sungai (hasil penafs citra)			Prov.Kalselteng
	12	D an Lain Lain			

11

TERIMA KASIH

Wassalamualaikum warohmatulohi wabarokatuh……..

12

RANCANGAN KEGIATAN PENGEMBANGAN HUTAN RAKYAT DI WILAYAH JAWA-MADURA

Disampaikan pada Rapat BPKH XI dengan JICA
Yogyakarta, 19 Februari 2008

BPKH Wilayah XI Jawa-Madura

Isu Hutan Rakyat

(*hasil kajian HR prov DIY*)

- Aspek Kawasan : Memastikan luasan Hutan Rakyat (issue private goods menjadi public goods) → Rekomendasi dalam Tata Ruang
- Aspek Sumberdaya : Data kondisi HR belum terdokumentasikan dgn baik
- Aspek Kelembagaan/Kebijakan :
  - Pembentukan Unit Manajemen Hutan Rakyat
  - Penguatan Kelembagaan
  - Perangkat peraturan daerah dan pembagian peran

2

Hutan Rakyat

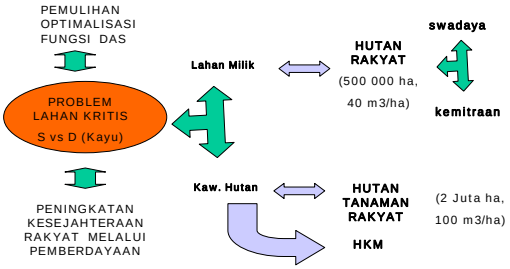
(dari perpekstif 5 Kebijakan Prioritas Dephut)

- Memberdayakan langsung pertumbuhan dan distribusi ekonomi masyarakat (*Jak Pemberdayaan*)
- Mengurangi lahan kritis di luar kawasan hutan (*Jak RHL*)
- Mendukung pemenuhan kebutuhan kayu masyarakat dan peningkatan supply bahan baku industri kehutanan (*Jak Restrukturisasi*)
- Membangkitkan kesadaran semua fihak akan tinggi dan strategisnya fungsi manfaat sumberdaya hutan (*Jak Pamhut*)
- Mengurangi tekanan terhadap sisa hutan yang masih ada(*Jak Pamhut*)
- Meningkatkan pentingnya sertifikasi kepemilikan / hak kelola yang menjamin asal usul (lacak balak) kepemilikan dan sertifikasi pola pengelolaannya secara lestari (*Jak Pemantapan Kawasan/Pamhut*)

3

KERANGKA PIKIR

REVITALISASI DAN PENGEMBANGAN HUTAN RAKYAT



4

STRATEGI PENGEMBANGAN HR

- *IDENTIFIKASI DAN PEMETAAN SEBARAN DAN POTENSI HR*
- *AKOMODASI HR DALAM RTRW*
- PENGUATAN KELEMBAGAAN (PETANI,LKA, MITRA INDUSTRI)
- SISTEM HR (PERMODALAN, BUDIDAYA & PENGUSAHAAN)
- *PENYIAPAN RENC.BANG UNIT MANAJEMEN HR*
- *FASILITASI PEMDA*
- *PENYULUHAN KEHUTANAN*
- FASILITASI KELEMBAGAAN, *PERENCANAAN*, PENGEMBANGAN USAHA DAN KEMITRAAN
- LITBANG

) Tugas dan peran BPKH

5

Rancangan Kegiatan BPKH (*multiyears)*

Tahun I :

- Eksplorasi kondisi SDH hutan rakyat dgn teknologi *remote sensing :*
  - studi data literatur kondisi HR
  - identifikasi kondisi HR dgn berbagai resolusi citra (tipologi, karakteristik, distribusi, spasial dan trend perkembangan HR di berbagai daerah)
  - potensi SDH hutan rakyat
  - metode yang tepat
  - Groundcheck
- Penyiapan SDM BPKH XI (kursus, pelatihan)

6

Rancangan Kegiatan BPKH (*multiyears)*

Tahun II :
- Bagaimana meng-*efforts* Pemda dan implemantasinya
- Membangun mekanisme hubungan kerja antara BPKH dan Pemda (SK Menhut?)
- Memposisikan HR dalam perencanaan tata ruang daerah
- Koordinasi dan komunikasi dengan berbagai pihak
- Penyiapan SDM Pemda

7

Rancangan Kegiatan BPKH (*multiyears)*

Tahun III :
- Implementasi hasil kegiatan tahun I dan II di level tapak (*lokasi percontohan*)
- Pembentukan unit-unit manajemen HR di lokasi percontohan
- Penataan areal kerja pengelolaan HR
- Fasilitasi pembentukan organisasi pengelola HR dan penguatan kelembagaan

Tahun IV :
- Diseminasi hasil kegiatan (publikasi, workshop, dll)

8

KESIAPAN BPKH XI
(Sistem dan peralatan)

Alat Survey

Theodolith Digital Topcon DT 205
Jumlah : 8 buah
Fungsi : Pengukuran sudut dan jarak
Penggunaan : Kegiatan rekonstruksi dan tata batas kawasan hutan
Spesifikasi : Akurasi pembacaan sampai 5”

Criterion RD 100
Jumlah : 30 buah
Fungsi : Pengukuran diamater dan tinggi pohon, serta kelerengan
Penggunaan : Kegiatan inventarisasi SDH

9

GPS Geodetik

Trimble 5700 L1
Jumlah : 1 buah (dipasang di kantor BPKH XI)
Fungsi : Base station pengukuran koordinat (koreksi posisi DGPS)
Penggunaan : Kegiatan pemasangan jatikon, survey dan pemetaan detil dan semi detil (*permanent base station*)
Spesifikasi : Akurasi sampai di bawah mm, range base : 500 km

Epoch 10 L1
Jumlah : 6 buah
Fungsi : Base station pengukuran koordinat (koreksi posisi DGPS)
Penggunaan : Kegiatan pemasangan jatikon, survey dan pemetaan detil dan semi detil (mobile base station)
Spesifikasi : Akurasi sampai di bawah mm

10

GPS Mapping

Trimble Pro XH
Jumlah : 8 buah
Fungsi : Sebagai base dan rover untuk pengukuran koordinat (metode DGPS)
Penggunaan : Kegiatan survey dan pemetaan detil dan semi detil
Spesifikasi : Akurasi sampai cm

Trimble Geo XT
Jumlah : 8 buah
Fungsi : Sebagai base dan rover untuk pengukuran koordinat (metode DGPS)
Penggunaan : Kegiatan survey dan pemetaan detil dan semi detil
Spesifikasi : Akurasi sampai sub meter

GPS Navigation

Garmin Rhino 530 dan Magellan Meridian Gold
Jumlah : 14 buah
Fungsi : Penentuan posisi koordinat kasar (metode *single position*)
Penggunaan : Kegiatan survey dan pemetaan global
Spesifikasi : Akurasi 6-12 meter, radio komunikasi

11

Pemetaan

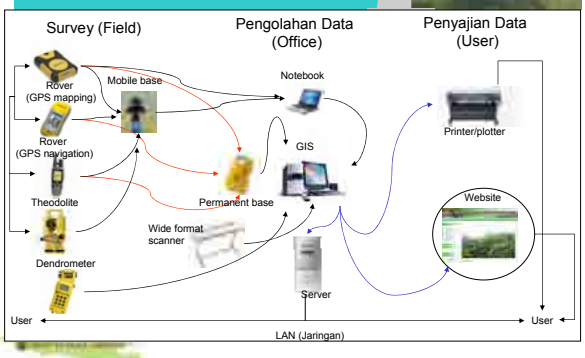
Desktop HP Paviliun A1239D
Jumlah : 5 buah
Fungsi : Pengolah data digital hasil survey dan pemetaan
Penggunaan : GIS, Remote sensing, LAN, Warin, Web
Spesifikasi : Kapasitas dan kecepatan tinggi, bluetooth, multimedia
Software : ArcGis 9, Envi 4.0

Scanner Contex Crystal XL 42" dan Software Wise Image Geo Editon
Jumlah : 1 buah
Fungsi : Scanning peta format besar
Penggunaan : GIS, dokumentasi peta kawasan hutan
Spesifikasi : Resolusi tinggi dan berbagai jenis media, kemampuan merubah image to raster

Plotter (HP Designjet 800, HP Designjet 800Ps, Canon W8400)
Jumlah : 3 buah
Fungsi : Pencetak image format besar (poster, peta citra dsbnya)
Penggunaan : GIS, remote sensing, penyajian data
Spesifikasi : Resolusi dan kapasitas tinggi

12

Rancangan Sistem Peralatan



13

KESIAPAN BPKH XI
(Data, Peta, Dokumen Hasil Kegiatan)

Peta Dasar :
- Peta Dasar Tematik Kehutanan (1 : 250.000)
- Peta Rupa Bumi Indonesia (1:25.000)

Data Awal :
- Data potensi HR (kerjasama BPS dgn Baplan)
- Data luas dan peta indikasi sebaran HR wilayah Jawa-Madura (hasil penafsiran citra landsat TM7 liputan 2003)

Hasil Kegiatan yg sudah dilakukan :
- Kajian Hutan Rakyat Provinsi DIY (tahun 2006)

14

KESIAPAN BPKH XI
(Sumberdaya Manusia)

Pemetaan (Remote Sensing dan GIS) :
- Reguler (7 orang)
- Non reguler (5 orang)

Surveyor :
- 20 orang

15

KESIAPAN BPKH XI
(Kegiatan Tahun 2008)

- Inventarisasi Hutan Rakyat (3 lokasi)
- Telaah Kawasan Berbasis Spasial (1 lokasi)
- Penyusunan rencana kehutanan jangka menengah dan panjang (1 prov/kab)

16

Dukungan JICA ?

- Penyediaan citra ?
- Pelatihan SDM ?
- Peralatan / software?
- Dukungan teknis?
- dll

17

Terima Kasih

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