First Lessons Learned from Indonesia

(Review of forest rehabilitation initiatives - lessons from the past)

Progress report

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This document is a DRAFT that is currently under discussion within the partners of the study. We anticipate that the paper will be revised further based on discussion with those who have interests on this study. We decided to make this draft available in its present form in order to ensure that the information contained is readily accessible to individuals and organizations those have an interest on the issue. The contents in this document are for discussions among the partners and do not necessarily represent the official policy or position of CIFOR and the research partners.

Executive Summary

Since May 2002 and funded by the Government of Japan with the Project Leader, Dr. Takeshi Toma, CIFOR and national partners in China, Vietnam, Philippines, Indonesia, Peru and Brazil have been conducting a study to draw strategic lessons from past experiences and use them to plan and guide future efforts. The study aims to increase the chances of success of future rehabilitation projects by identifying the approaches that have contributed to longer-term sustainability under different scenarios with minimal negative impacts on different stakeholders. In Indonesia, CIFOR is working closely with the scientists from FORDA (Forestry Research and Development Agency, Ministry of Forestry).

Based on questionnaires, interviews and literature reviews, 150 projects were selected as a basis for an inventory to analyse the key characteristics and changes in rehabilitation trends in Indonesia. From this list of 150, ten projects were selected for review using the following criteria:

1. projects were located in the ten provinces with the largest area of degraded forest
2. successful and failed projects based on general perception
3. approaches used (top-down, transition from top down to participatory, and strong emphasis on the participatory approach)
4. project period
5. representative sampling of the project distribution
6. willingness and interest of the project coordinator/personnel to collaborate in this research.

The selection processes and preliminary finding were presented and discussed during the firstday of the two-day workshop organised by CIFOR and FORDA.

The case studies were:

- Community based forest rehabilitation project under PHBM (Managing the forest with the community), Perhutani – LATIN Project under Multi-stakeholders Program- DFID in Sukabumi (2000/2001-ongoing)
- Reforestation and Tropical Forest Management Project in South Kalimantan (FINNIDA Project - Phase II to VI) () (1983-1996)
- Rehabilitation Project on ex-HPH areas of PT Dwi Marta in Riau (1996-1999)
- Rehabilitation Project funded under the Reforestation Funds (DAK-DR) in Kampar District, Riau Province (2001/2002-ongoing)
- Rehabilitation projects (farm forestry) in Gunung Kidul, Yogyakarta Province (1970-ongoing)
- Upstream Solo Watershed Protection Project (1988-1996)
- Rehabilitation of Fire Affected Forests in East Kalimantan (1988-1996)
- Rehabilitation Project funded under the Reforestation Funds (DAK-DR) in Kutai Barat District, East Kalimantan Province (2001/2002-ongoing)
- Participatory Reforestation managed under the NGO YPSBK (Yayasan Perhutanan Sosial Bumi Khatulistiwa) (2002-presents)
- Conserving Meru Betiri National Park in Jember District (1992-ongoing)

Since the 1950s, rehabilitation projects have been implemented in about 400 locations. Areas ranged from two ha only to nine million ha. There is little clear evidence that rehabilitation initiatives and projects have successfully restored the degraded forests areas, while the policies and programmes to address the underlying causes of forest degradation have not been very effective.

Projects were mostly funded by the government of Indonesia (45 percent) and international donor agencies (23 percent). In terms of project aspects or activities, 81 percent of the projects focussed mainly on technical aspects and emphasised planting, 10 percent of the projects focussed on integrated socio-economic and technical aspects, 2 percent focussed on integrated natural resource

management, and the remaining 7 percent focussed on socio-economic aspects, such as generating income for local people.

The Ministry of Forestry estimates that the current rehabilitation cost is in the range of USD 294 to 588. This review found that the cost per hectare ranged from USD 43 to USD 15,221, which reflects the high costs of past rehabilitation project implementation. Further showed that the projects funded by donor agencies were implemented with higher cost per ha compared to government funded-projects.

Three methods were used to evaluate the projects: based on the perception of concerned stakeholders, indicators of outputs and processes and taking into account the period after the project ended. Both outputs and processes were used as indicators, because judging success or failure is affected by the indicator used.

Based on outputs, most of the technical problems in unsuccessful projects were related to species matching, based on marketability and access to suitable markets. Other important considerations were capacity building and locally specific policy, regulations and programs that supported the project.

The rehabilitation project initiated in Wonosobo could be considered a success based on technical output indicators. This project is now considered as a successful Farm Forestry Model. Other successes were rehabilitation initiatives in Gunung Kidul, Yogyakarta, and in Bukit Soeharto (East Kalimantan). In general, projects that were sub-contracted had low rates of success.

Based on indicators, a common problem was the lack of participation in the planning process. Rehabilitation projects often failed to consider the livelihood aspect and were not based on the principle to generate benefits for local (surrounding) community. Bureaucratic mechanisms delayed the releasing of budgets and so delayed planting. Budgets were not always adequate. Other problems were unclear rights and responsibility, no clear land status, and lack of consideration of local cultures and customs.

Technical monitoring and evaluation has focussed on the percentage of tree survival. In general, there has been no specific evaluation of socio-cultural indicators and no involvement of the local community in the process. Based on the indicator process, the Inpres Project, and the project in Meru Betiri National Park can be considered successful. Based on socio-cultural indicators, the SFDP-GTZ Project in Sanggau was a success. The farm forestry project in Gunung Kidul and the project managed jointly by an NGO, community groups and the manager of the national park in Meru Betiri, West Java were considered as good examples of successful projects based on institutional indicators.

Another aspect to be considered is how long after the project has ended should it be evaluated. The Inpres project in Java was used as an example. As soon as the project ended it was evaluated as a failure. However, after 20-30 years, general perceptions now evaluate the project as a successful model for rehabilitation projects.

Introduction [1]

Considering many new projects with substantial resource investments are in the offing throughout the regions, since May 2002 and funded by the Government of Japan with the Project Leader, Dr. Takeshi Toma, CIFOR and national partner in China, Vietnam, Philippines, Indonesia, Peru and Brazil have been conducting a study to draw strategic lessons from past experiences and use them to plan and guide future efforts. The study aims to increase the chances of success of future rehabilitation projects by identifying the approaches that have contributed to longer-term sustainability under different scenarios with minimal negative impacts on different stakeholders. In Indonesia, CIFOR is working closely with the scientist from FORDA (Forestry Research and Development Agency, Ministry of Forestry).

The study has been conducted through the inventory and characterisation of past and ongoing rehabilitation initiatives and their changing profile in each of the selected regions by conducting series of consultations and workshops with national and local stakeholders. This is in conjunction with in depth evaluation and comparative analyses of all factors, within and across projects, and based on the literature reviews of project-related documents or other secondary sources. The main output of the study is Country Syntheses on Lessons Learned from the nature of rehabilitation efforts in each country drawn from subsidiary outputs of Database I of rehabilitation initiatives and their key features, and Database II of detailed assessment of selected rehabilitation case studies.

The focus of review would be initiatives that aim to actually establish trees on formerly forested land; and not strictly technical trials of species or planting design. Integrated projects with forest rehabilitation components will also be included in this review. The "Forest Rehabilitation Initiatives" included in the study framed by the description: *Deliberate activities[1] aimed at artificial and/or natural regeneration of trees[2] on formerly forested grasslands, brushlands, scrublands, or barren areas[3] for the purpose of enhancing productivity, livelihood, and/or environmental service benefits[4].*

Further explanation:
[1]Deliberate activities could include technical interventions, new or revised socio-economic arrangements, and new or revised institutional arrangements (land tenure, policies, rules and regulations, monitoring).
[2]Artificial and/or natural regeneration of trees - any rehabilitation methods that involve trees – from agroforestry to plantations to assisted natural regeneration.
[3]Formerly forested grasslands, brushlands, scrublands, or barren areas – initiatives that aim to put trees back on formerly forested lands, and not include the rehabilitation of degraded or secondary forest areas (reclamation on mined areas will also be excluded). Type of environments is restricted to upland and lowland areas, and excluding wetlands.
[4]Purpose of enhancing productivity, livelihood, and/or environmental service benefits – Objectives could span the whole range from productivity to livelihood and/or environmental benefits for different stakeholders.

The Ministry of Forestry in Indonesia uses specific terms to define the rehabilitation efforts based on the status of land or areas where the projects are located. Reboisation or reforestation or forest rehabilitation refers to the initiatives implemented inside state forest areas. Afforestation *(penghijauan)* or land rehabilitation refers to the initiatives that usually implemented on community lands outside state forest areas.

[1] Description of the study was taken from the main project proposal.

This progress report includes outputs from the discussion during the workshop (22 and 23 October 2003) and the preliminary findings that were presented, as well as input from the expert group members[2] and other information from preliminary questionnaires, interviews and project documents.

2. The first national workshop

The two-day workshop was organised as part of joint CIFOR-FORDA activities to conduct a 'Review of forest rehabilitation initiatives- lessons from the past' in Indonesia. The objectives of the workshops were to:

1. Learn about the research and preliminary findings in Indonesia, particularly from the project managers and staff of selected case studies
2. Discuss and review the methodology and indicators of success and failure of evaluating rehabilitation initiatives from four areas; technical, social, economic and institutional.
3. Discuss and review the most effective dissemination outputs according to the practical needs of different groups of workshop participants.

In the first half-day of the workshop, the CIFOR and FORDA team presented the project overview, project selection process, preliminary findings and indicators. These are included in Databases 1 and 2. The remaining one and a half day of the workshop were allocated to group discussions facilitated by Dr. Hadi Daryanto (FORDA) and Dr. Didik Suhardjito (Bogor Agricultural University). In the last session of the workshop, participants also discussed the expected outputs (Table 1) from this study, as a contribution to providing direction for the dissemination of the outputs of the study.

Forty-six people attended the workshop, representing the five main stakeholder groups in the arena of rehabilitation initiatives, as well as participants from the Asia Forest Partnership (AFP). Other attendees included representatives from the Community Forest Management Division (DG RLPS-MoF), FORDA, Mulawarman and Bogor Agricultural University, state companies Perhutani and Inhutani, Dinas Kehutanan from district and province levels from South Kalimantan, Wonosobo, East Kalimantan, project coordinators and personnel of continuing and past rehabilitation projects, NGOs from Bogor (Latin), Jember (Kail) and Yogyakarta (Lestari Indonesia), DFID and South and Central Kalimantan Production Forest Projects funded by EU.

The general feeling of those who attended the workshop is adequately represented by a comment from the participant from DFID:

> *'The workshop brought together researchers who will be analysing the impacts and those who were implementing/involved in various rehabilitation projects so that they will have the same perception of the indicators to be used'.*

[2] Expert group members are: Prof Dudung Darusman (IPB), Dr. Didik Suhardjito (IPB), Dr. Ngaloken Gintings (FORDA), Dr. Irsyal Yasman (Inhutani 1), Dr. Yadi Setiadi (IPB), and Ir. Sutadi, MSc. (RLPS, MoF).

Table 1. Expected outputs of the study from different stakeholder groups

Participant groups	Types of relevant information	Types of output	Ways to disseminate the information
Ministry of Forestry	Generally applicable guidelines in implementing participatory approaches and types of local institution in different categories of forests (based on forest functions)	Books, modules	Distribution mailing lists, seminars and word of mouth
NGOs and representatives of local community	Cost analysis, technical guidelines, lessons learned from successful and failed projects, model of conflict resolution, model of institutional development, economic and marketing development, profit sharing mechanisms, guidelines to evaluate the projects	Modules, manuals, journals, leaflets, reports, books	Websites, email, post, word of mouth, seminars
Company	• Recommendation to release Reforestation Funds to State Company (BUMN) • Continuity in a full cycle of rehabilitation project implementation • Binding implementation mechanism among concerned stakeholders	• Recommendations on binding regulation • Recommendations on the 5-year contractual agreement for management areas of 5000 ha • Recommendations on regulations at the local levels	• Coordination/ word of mouth • Ministerial Decree • Word of mouth
Universities and research agencies	• Access to Databases I and II • Country synthesis and analysis • Information on the latest science and technology of rehabilitation projects	• Reports and related documents • Journals and books	• Workshop, hard copies publications, internet
Donor agencies	• Lessons learned related to the process of planning, implementation, monitoring and gathering information • Information on criteria and indicators related to the first point • The results of identifying successful and failed projects	Proceedings, CDs, smart books	National and provincial workshops, facilitation on site, web sites and CD dissemination
Local government	• Standardisation of successes • Criteria and indicators for monitoring and evaluation • Institutional • Factors affecting success/failure of rehabilitation projects • Policy recommendation in implementing forest and land rehabilitation	• Recommendation/ guidelines • Recommendation/ guidelines • Recommendation/ guidelines • Complete report • Executive summary	Various seminars and workshops

Progress status: processes to select projects for Databases 1 and 2

A preliminary set of rehabilitation projects was compiled, which captured the basic information of the project variables of more than 150 projects. These data formed the basis for preliminary analysis and project selection for Database 1. Database 1 is an inventory of selected rehabilitation projects that serves as the basis to analyse the key characteristics and changes in rehabilitation trends in Indonesia. This database also provides information on typology and project characteristics (e.g. project profile, objective, beneficiaries, intended impacts), which allows the selection process for projects to be included in the case studies in Database 2. The sources of information were questionnaires, interviews and literature reviews based on project and other related documents.

For Database 1, fifty-four projects were selected from the preliminary database according to several criteria, such as the status of lands or areas where the projects are located (inside the state forest, outside the state forest, and projects that were located in both areas), the condition of the areas before the project started (fire affected areas, and logged over areas caused by various factors), executing agencies (government, international agencies, state/private companies, and NGO or community groups), and scale, based on coverage areas (below 100 ha, 100-1,000 ha, and more than 1,000 ha). The distribution of projects included in Database 1 is summarised in Table 2.

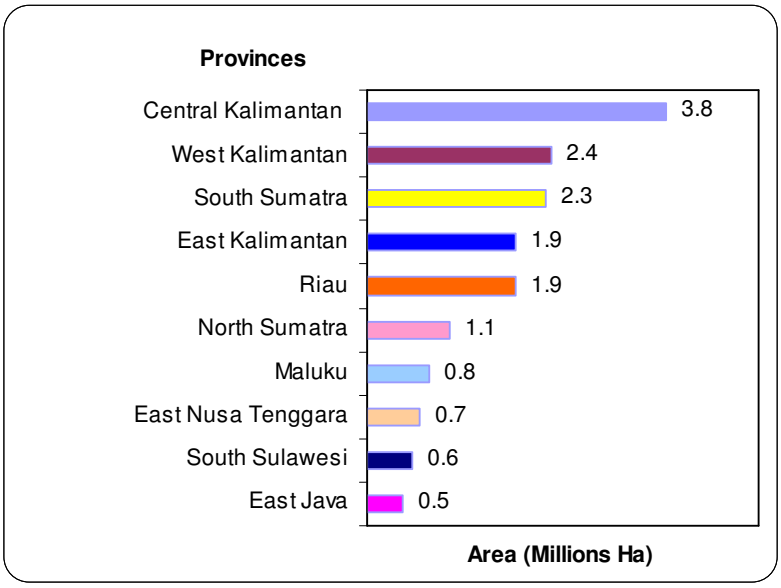
Table 2. Project distribution according to the main selection criteria for Database 1

Condition of the areas before the projects	Executing agencies	Status of project area		
		Inside forest area [a]	Outside forest area [a]	Inside & outside forest area [a]
Fire affected areas	Government	3		2
	International agencies	1		
	State/private companies	1	2	
	NGO/Community	1	1	
	Multi-agencies	2	1	
Logged over areas (e.g. HPH or illegally logged), degraded conversion areas, etc	Government	3	5	4
	International agencies		1	
	State/private companies	4	3	
	NGO/Community	1	2	
	Multi-agencies	10	2	5
TOTAL		26	17	11

Note:
a. Forest area means state forest

From the set of projects included in Database 1, 13 potential project case studies were presented to the workshop participants. Feedback brought the list down to ten projects. The criteria used to select the projects that are located in the ten provinces with the largest area of degraded forest (Figure 1), successful and failed projects based on general perception, approaches used (top-down, transition from top down to participatory, and strong emphasis on the participatory approach), project period, and a representative sample of the project clustering in Database 1. Other considerations were the willingness and interests of the project coordinator/personnel to collaborate in this research.

Figure 1. Top ten provinces with degraded forestlands, cover: bush, barren land, mixed agricultural fields and shrubs (Ministry of Forestry, 2002)



The project case studies are:

1. Community based forest rehabilitation project under PHBM (Managing the forest with the community) of Perhutani and LATIN in Sukabumi, West-Java mainly on illegally logged areas.
   Since 2001, LATIN received funding from DFID to facilitate the internal adoption of the Community Based Forest Management Programme under Perhutani management. The project in Sukabumi is one among four pilot project sites that are still on going.

2. Reforestation and Tropical Forest Management Project in South Kalimantan (FINNIDA Project - Phase II to VI) (1983-1996).
   Phase I was in South Sumatra (1981-1982) before the project was relocated to South Kalimantan for Phase II-VI (1983-1996). This project was chosen because it was a long-term project implemented under six phases, even though it is located in South Kalimantan Province, which is not included in the 'top ten' provinces with the largest areas of degraded forest. However, it is an interesting case because it illustrates the potential impact of a project on forest cover in a province with significant areas of degraded forest.

3. Rehabilitation Project on ex-HPH areas of PT Dwi Marta in Riau (1996-1999)
   The project was one among other rehabilitation projects assigned to Inhutani I-V, before the Ministry of Forestry revoked the assignment in 1999/2000.

4. Rehabilitation Project funded under the Reforestation Funds (DAK-DR) in Kampar District, Riau Province.
   The project is one among more than 200 similar projects at district level all over Indonesia, implemented based on the Ministerial Decree launched in 2000/2001.

5. Rehabilitation projects (Farm forestry) in Gunung Kidul, Yogyakarta Province
   There were many projects (1970, 1987-1995, 2001-2003, and on-going) implemented in Gunung Kidul, which used to be a dry area with limited water supplies that made it a poor region. Nowadays, Gunung Kidul has been successfully rehabilitated through participatory approaches. The ceremony for launching the national movement of forest and land rehabilitation (GN-RHL) by the President centralised in this district.

6. Upstream Solo Watershed Protection Project (1988-1996)
   This was one among others projects focussed on watershed areas to secure Waduk Gajah Mungkur in Wonogiri District.

7. Rehabilitation of Fire Affected Forests in East Kalimantan (ITTO Project, Reference PD 84/90 (F) (1992-1994)
   This study also attempt to take into account preceding and following projects such as:
   a. The ITTO Project (Investigation of the steps needed to rehabilitate the areas of East Kalimantan seriously affected by fire, 1988-1989)
   b. The GTZ Project (Promotion of Sustainable Forest Management Systems in East Kalimantan, 1993-1996).

8. Rehabilitation Project funded under the Reforestation Funds (DAK-DR) in Kutai Barat District, East Kalimantan Province.
   The project is similar with the project case study no. 4. This is to compare between those two sites.

9. Participatory Reforestation managed under the NGO YPSBK (Yayasan Perhutanan Sosial Bumi Khatulistiwa) (2002-presents).
   This project was one of the activities that continued from the preceding Social Forestry Development Project (1990-2002). The project area was the ex-forestry concession of PT Alas Kethoe in Sanggau, West Kalimantan.

10. Conserving Meru Betiri National Park in Jember District (1992-ongoing)
    The project is co-managed by two NGOs (LATIN and KAIL), the national park manager and the local government. Initial funding was from the MacArthur Foundation and continued under the Reforestation Fund (through DAK DR). Initially, IPB was also involved. The project is now extended to the Perhutani neighbouring areas.

What are the lessons learned so far?

a. General trends

Since the 1950s, rehabilitation projects have been implemented in about 400 locations. Thoughts suggest classifying the approaches in initiating and implementing the projects as:

a. 1950s – 1980s: top-down approach
b. 1990s – mid 1990s: transition from top-down to participatory approach, and
c. Late 1990s – ongoing: heavy emphasis on participatory approaches.

Another line or argument takes into account government policy and the economic condition of the country allowing the initiatives to be clustered in four periods:

a. 1950-1975: promoting awareness on the impacts of mismanagement of forests resulted on natural disasters, such as floods and land erosion
b. 1975-1980s: government received revenues from oil and timber boom (through concessionaires permit), almost unlimited budget for projects were implemented, such as Inpres Project (Box 1)
c. 1990-1997, with the booming of rehabilitation initiatives outside state forests with what government claimed as participatory approach
d. 1997-now, which is the period after the reformation era.

Box 1. INPRES [a] afforestation and reforestation projects in all districts of Indonesia
(23 year project, 1976-1999)

Coverage: 60 catchment areas
Funding agency: GOI
Implementing agency: Local government
Beneficiaries: Local people
Project costs: USD 1.3 Billion

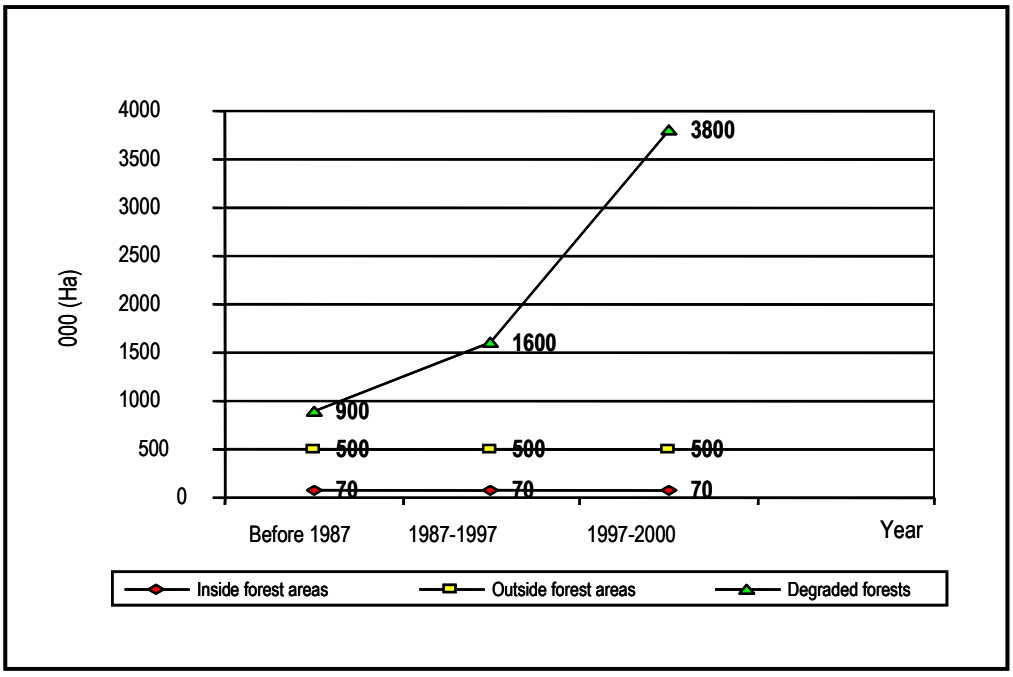
The main objective was to implement reforestation (on state forest) of targeted areas of 300,000 ha per year, and afforestation (on community lands) of 600,000 ha per year in Java, Sumatra and other islands

The intended impact was improved community knowledge on afforestation/reforestation through intensive forestry extension programmes.

Note: a. INPRES was an initiative based on a Presidential Decree

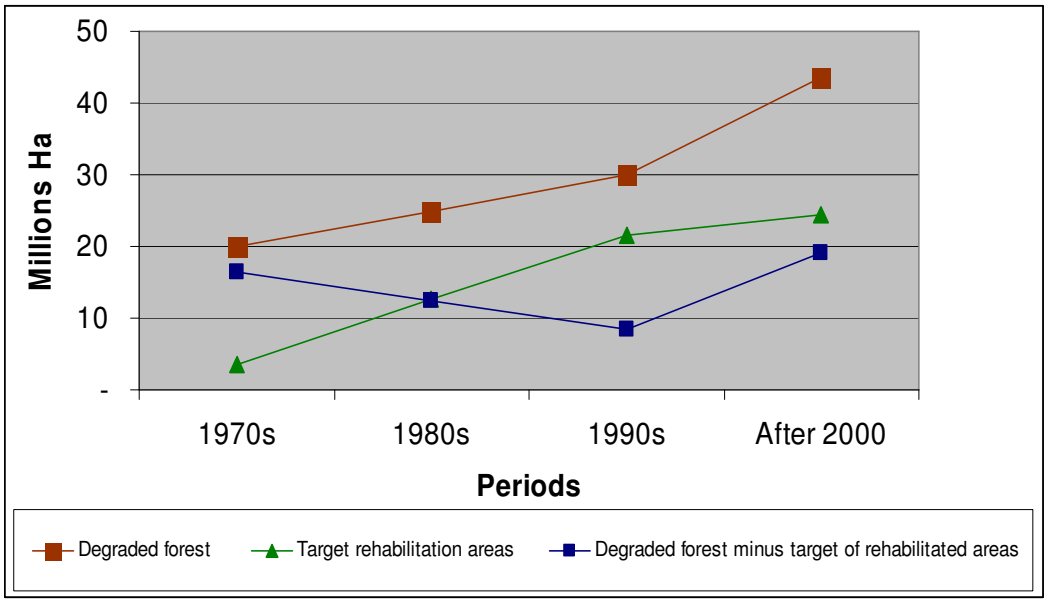
Rehabilitated areas ranged from two ha only to nine million ha. However, degraded forest areas have continued to increase and forested areas diminish from 143.97 million ha in 1991 to 109.57 million ha 10 years later (Ministry of Forestry 2000). The rate of rehabilitation has lagged behind the increasing rates of degraded areas (Figure 2). The figures also show higher rehabilitation rates outside state forest areas (afforestation) compares to the initiatives implemented inside state forests (reforestation). However, these afforestation projects were not documented very well and difficult to compile in the preliminary database.

Figure 2. Rates of forest and land degradation, and rehabilitation projects



Assuming the areas were successfully rehabilitated, these would slow down the current degraded forest areas (described by the line net degraded areas) (Figure 3). Please note that these figures of rehabilitation areas are underestimated, since the data collection has not fully completed.

Figure 3. Trends of forest and land degradation and rehabilitation projects



Higher rates of initiatives outside state forests might imply the focus of rehabilitation has less emphasised on reforesting programs inside state forest. It needs to be investigated further to see which category of forest areas has been the focus of most rehabilitation

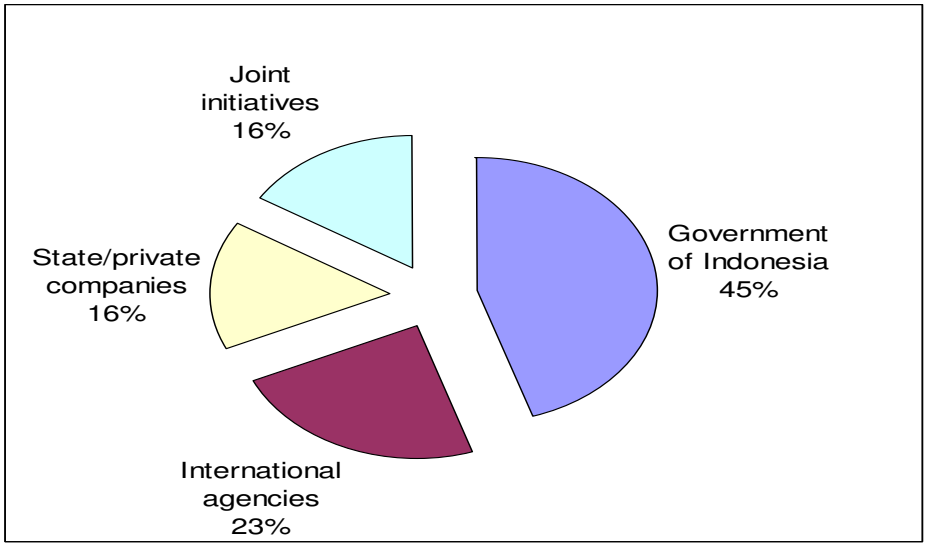
projects (e.g. only on protected forests), how these have been effective, and what happened to the rehabilitation of production forests (e.g. ex-HPH). Another important question still to be addressed is how integrated the initiatives outside and inside the state forest for more successful program. In summary, besides the green landscape of Sengon (*Paraserianthes falcataria*), there are few quantitative evidences that rehabilitation initiatives and projects have successfully restored the degraded forests areas. Furthermore, the policies and programmes to address the underlying causes of forest degradation have not been very effective and were not integrated in most rehabilitation projects.

The CIFOR and FORDA team will cross check these general findings with more in-depth evaluation by reviewing the project documents and conducting case studies. For instance, to compare the differences (if any) and the effectiveness between rehabilitation projects implemented under INPRES, DAK-DR, and GN-RHL.

b. Project typology: government and donor driven projects, focussing on planting, high costs project and lack of community participation

In the preliminary database, the distribution of the projects based on funding sources showed that projects were mostly funded by the government of Indonesia (45 percent) and international donor agencies (23 percent). The remaining projects were funded by state/private companies and joint initiatives, combining collaboration between various institutions (government, private company, NGO, community group, etc.) (Figure 4).

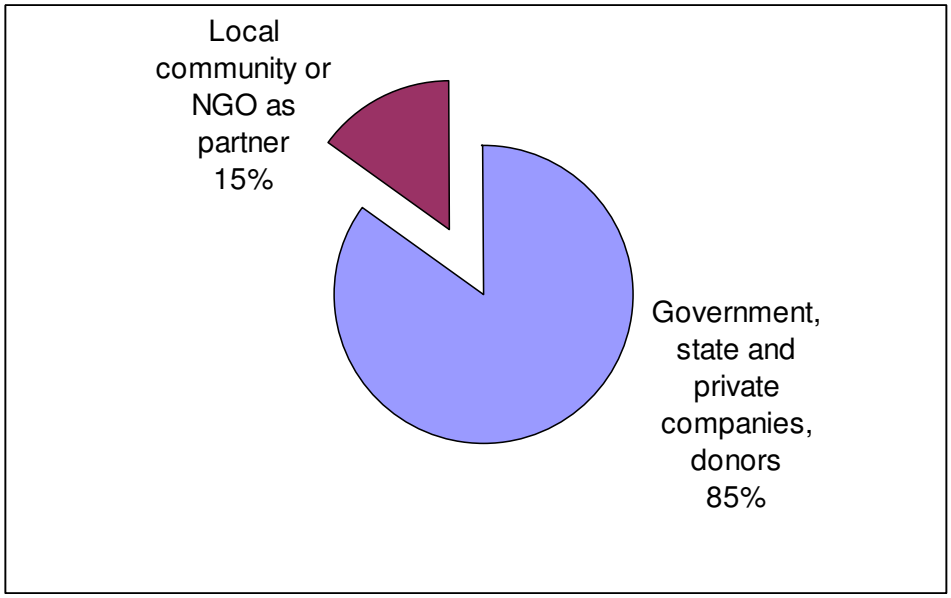
Figure 4. Project number distribution based on funding sources



In terms of project aspects or activities, 81 percent of the projects focussed mainly on technical aspects and emphasised planting, 10 percent of the projects focussed on integrated socioeconomic and technical aspects, 2 percent focussed on integrated natural resource management, and the remaining 7% focussed on socioeconomic aspects, such as generating income for local people. As commonly perceived, the previous projects had been lacking of community participation. For example, for projects that were

implemented inside the state forest areas, community involvement (and NGOs) was considered in only 15 percent of the projects (Figure 5).

Figure 5. Involvement of different stakeholder groups in rehabilitation projects



The Ministry of Forestry estimates that the current rehabilitation standard cost is in the range of Rp 2.5 to Rp 5 million per ha (USD 294 to 588) (Personal communication with staff at the Dir. Gen. RLPS, 2003). With degraded areas of 43.9 million hectares, costs could reach Rp 87.2–218 trillion (USD 10.2 – 25.5 billion). Using the figure of gross income per capita of USD 570 (World Bank, 2000), the total costs to rehabilitate this area would be equal to the livelihood of 18 to 44 million people.

Based on an initial estimate of 38 projects in the preliminary database, which provided information of total budget, the cost per hectare ranged from USD 43 to USD 15,221, which reflects the high costs of past rehabilitation project implementation. The total budget of total 38 projects in the database reached up to USD 1.5 trillion. Further analysis was conducted on total project costs, coverage target areas and cost per ha for each cluster in the project category based on funding sources. The calculation showed that the projects funded by the donor agencies were implemented with higher cost per ha compared to government funded-projects. However, the government often set a very high areas target, which off sets the cost per ha (Table 3). The estimation will be more accurate if the coverage based on realisation could be obtained. In summary, the budget spent for rehabilitation since 1950s have taken a big proportion of revenues from forestry sector.

Table 3. Total costs, coverage areas, and average costs based on funding sources

Funding sources	Total project cost (000 USD)	Coverage target areas (ha)	Average cost (USD/ha)
Government	4.3 – 1,300,000	4 – 9,000,000	43 – 7,320
Donors	30.4 – 34,000	2 – 478,348	366 – 15,221
Private	14.3 – 502.4	8 – 32,000	115 – 8,500

c. Can the rehabilitation project be evaluated as a success?

The team, members of expert group and workshop participants discussed different approaches in identifying how projects could be evaluated. Three methods were arrived at:

1. based on the perception of concerned stakeholders
2. based on indicators of outputs and processes and
3. taking into account the period after the project ended.

a) Whose perception should be counted?

Up to now, a project has been perceived as a success or failure based on general public perceptions rather than on a systematic independent evaluation of all aspects of the work. Some projects conducted the evaluation process by contracting independent consultants. However, these were mainly to meet the formal requirements (of budget allocation) set by particular funding agencies. The discussion among workshop participants also concluded that there was no project that could be perceived as a complete success or failure after considering the implementation of all aspects (technical, socio-cultural, economic and institutional), only partial successes or failures, depending on the perspective of the stakeholder (Table 4). Currently, technical failures are more tolerable than the social and institutional ones. Which stakeholder group opinion should be valued more would be closely related to the particular aspect of evaluation. For example, the government might consider a project successful, despite the assessment results after the project ended. Please also see part c).

Table 4. Projects evaluated by workshop participants

Projects	Aspects				
	Technical	Socio-cultural	Economic	Institutional	Policy
Riam Kanan (South Kalimantan)	x				
Gunung Kidul (Yogyakarta)	✓	✓	✓	✓	✓
Bukit Soeharto (East Kalimantan)	✓				x
SFDP – GTZ (West Kalimantan)		✓			
Protected Forest in Bontang		x			
Sungai Wein, Balikpapan (East Kalimantan)		✓			
Farm Forestry in Wonosobo			✓		
Meru Betiri National Park (East Java)				✓	
Inpres (all Indonesia)					✓

Note: x, Failure; ✓, Success.

b) Focussing on outputs or processes? Most likely, it has to be both.

Indicator outputs were specified under technical, socio-cultural, economic and institutional aspects. The priority indicators to be used depend on the main objective of the project. Based on ***indicator processes*****,** all of the aspects and relevant indicators should be reviewed according to the processes of planning, implementation, and monitoring and evaluation.

Indicators outputs (Table 5)**.** Technical indicators are erosion and sedimentation, land coverage, water system and function, land productivity, survival rate of trees, harvested volume, and forest and land roles. Socio-cultural indicators cover conflict resolution, changes in community behaviour related to forest rehabilitation (level of adoption), perception (awareness) of rehabilitation activities, and emerging local initiatives (self funded). Economics indicators are income generation for community, and economic opportunities (locally oriented of supplying system). Indicators for institutional capacity are executing agency and local people capability in implementing the rehabilitation initiatives, number of existing participant groups (e.g. farmer groups), empowerment processes, and rules of the game between main stakeholders (e.g. Ministry of Forestry and local government at the district level)

Table 5. Indicators outputs

Identified indicators considering past common experiences in implementing the projects			
Technical	**Socio-cultural**	**Economics**	**Institutional**
1. Cases of erosion and sedimentation 2. Survival rate of trees (>60%) 3. Land/vegetation cover 4. Water distribution 5. Land productivity 6. Tree growth performance 7. Harvested volumes of planted tress 8. Roles of forest and land	1. Employment opportunities 2. Conflict resolution mechanism 3. Cultural (changes in behaviour/level of adoption) 4. Perception (awareness) 5. Self funded initiatives	1. Income generated for local community 2. Economic opportunities from various activities in the projects (compared to tendering mechanism)	1. Executing agency and community capacity in implementing the project 2. Number of community groups involved 3. Mechanisms (rules of the game) among related stakeholders

The suggested solution for most of technical problems to the unsuccessful projects was species matching – based on social, economics and ecological preferences. This mainly took into account either the marketability aspect (responding to the demand from the market) or that the project should be able to help in accessing suitable markets. Other important considerations were capacity building (through adequate extension and facilitation programmes), and locally specific policy, regulations and programs that support the project.

The rehabilitation project initiated in Wonosobo could be considered a success based on technical output indicators. This project is now considered as a successful Farm Forestry Model. Other successes were rehabilitation initiatives in Gunung Kidul, Yogyakarta, and in Bukit Soeharto (East Kalimantan). In general, the group agreed that projects that were sub-contracted had low rates of success.

Indicator processes (Table 6)**.** In the planning process, the marketing and the potential of local economic opportunities were often not considered in selecting the tree species planted. The workshop participants suggested that species matching should be properly conducted, taking into account the local technical condition as well as demand from the local community (project participants). A common problem was lack of participation in the planning process (Table 6).

During the implementation, common problems were:

1. The rehabilitation projects mostly excluded the livelihood aspect (poverty alleviation program) and were not based on the principle to generate benefits for local (surrounding) community – e.g. limited employment or economic opportunities for locals
2. The delayed in releasing the budget at the local level (due to bureaucratic budget released mechanism) to meet the planting schedule. At the project level, there was a perception that the budget planned has always not been adequately meeting the implementation budget, since the amount of budget released often varied inconsistently channelled (to the project field officers). Transparent funding management is required during implementation.
3. There has been no collaboration between project implementers/executors and local communities, no farmer or participant groups, no support from general public, low capacity and skills from the project executor, NGO was not involved, and no security guaranteed. These had led to the situation with unclear rights and responsibility, no clear of the legality of land status, and lack of consideration on the local cultures and customs.

Table 6. Indicators processes in the project implementation

Aspects	Identified indicators considering past common variables in implementing the projects		
	Planning	**Implementation**	**Monitoring & evaluation**
Technical	• Tree species matching • Silviculture technique was not specific enough	• Timber species did not match the soil conditions and technical requirements • Lack of transparent process • Schedule for planting did not follow the rainy season	Only focussed on the physical indicators (survival rate and tree growth performance)
Social	Less (no) participatory process	• No collaboration between community members and project executors • No farmer/community groups • Community members did not support the project • Low human resources capacity • Not participatory (NGO was not involved) • No long term security	No participatory process
Economic	Marketing aspect and the potential economic opportunity were not considered	• The community was still below the poverty line • No clear livelihood benefits (e.g. income, education or employment opportunities) from the projects for local people	No monitoring and evaluation of the economic aspect
Institutional	The guidelines were too rigid (no flexibility)	• No rules on the institutional aspect • No (less) participatory processes • No NGOs were involved • Unclear rights and responsibilities of concerned stakeholders • Cultural aspect was not taken into account	Lack of transparent processes
Policy	• Inadequate budget • Unit management was not sustainable • Project not sustainable	Inconsistent budget disbursement	Evaluation of policies/ regulations related to rehabilitation programmes were never conducted

The monitoring and evaluation process in evaluating the technical aspect of projects has been mainly focussed on the percentage of tree survival. In general, there has been no specific evaluation of socio-cultural indicators and no involvement of the local community in the process. Evaluation of the operational levels should be crosschecked with the relevant ministerial decree or government regulations.

Based on the indicator process, the Inpres Afforestation Project, and the project in Meru Betiri National Park can be considered successful. Based on socio-cultural indicators, the SFDP-GTZ Project in Sanggau was a success. The farm forestry project in Gunung Kidul and the project managed jointly by an NGO, community groups and the management of the national park in Meru Betiri, East Java were considered as good examples of successful projects based on institutional indicators.

c) Do the periods after the project end matter in the evaluation? Yes, but how long should they be?

Since forest rehabilitation is a long-term process (at least more than 3-4 years) to evaluating a success or fail, the evaluation system does not allow such delayed evaluation. Consequently the evaluation is mostly trapped into administrative and a snap shot evaluation. How long after project has ended it should be evaluated? For example, do the final long-term benefits justify the total project costs? The Inpres project in Java was used as an example. As soon as the project ended it was evaluated as a failure. However, after 20-30 years, general perceptions now evaluate the project as a successful model for rehabilitation projects (Box 2). The CIFOR and FORDA team will be continuing to observe in the changes of perception of different stakeholders just after the project ends, five years after and more than five to ten years after.

Box 2. Lessons learned from INPRES Project

Failures mostly defined by:

- The assessment after the project based on general physical indicators (infrastructures, planting distance, etc) - poor performance of projects
- No monitoring and evaluation: trees survival rates were not evaluated, and coverage (planted) areas were not clearly identified
- Maintenance cost was not part of the funding scheme (no funding sustainability)
- Local specific management was not considered in the forestry extension programme

Successes (20-30 years after the project ended):

- The green landscapes at various sites in Java
- The economic opportunities provided from harvested timber (e.g. *Falcata* in Java). The growing local processing industries and increasing domestic uses have created economic benefits for the farmers.
- Spontaneous tree growers emerged, and the associated support systems (vendors of seedlings in the local markets)

6. Challenges and next steps for the study

Reviewing the series of rehabilitation projects that were implemented 3 to 30 years ago was very challenging, mainly in collecting the old project documents (the older projects were often poorly documented), finding out the project coordinators or personnel in charge during the implementation, as well as conducting interviews/ focus group discussions by recalling of communities' memories of their past experiences. The CIFOR and FORDA team is now in the process of conducting the fieldwork for the eighth case study, which are planned to finish by May 2004. The country synthesis and workshops are next to be completed.