5. Project Implementation and Operation Management

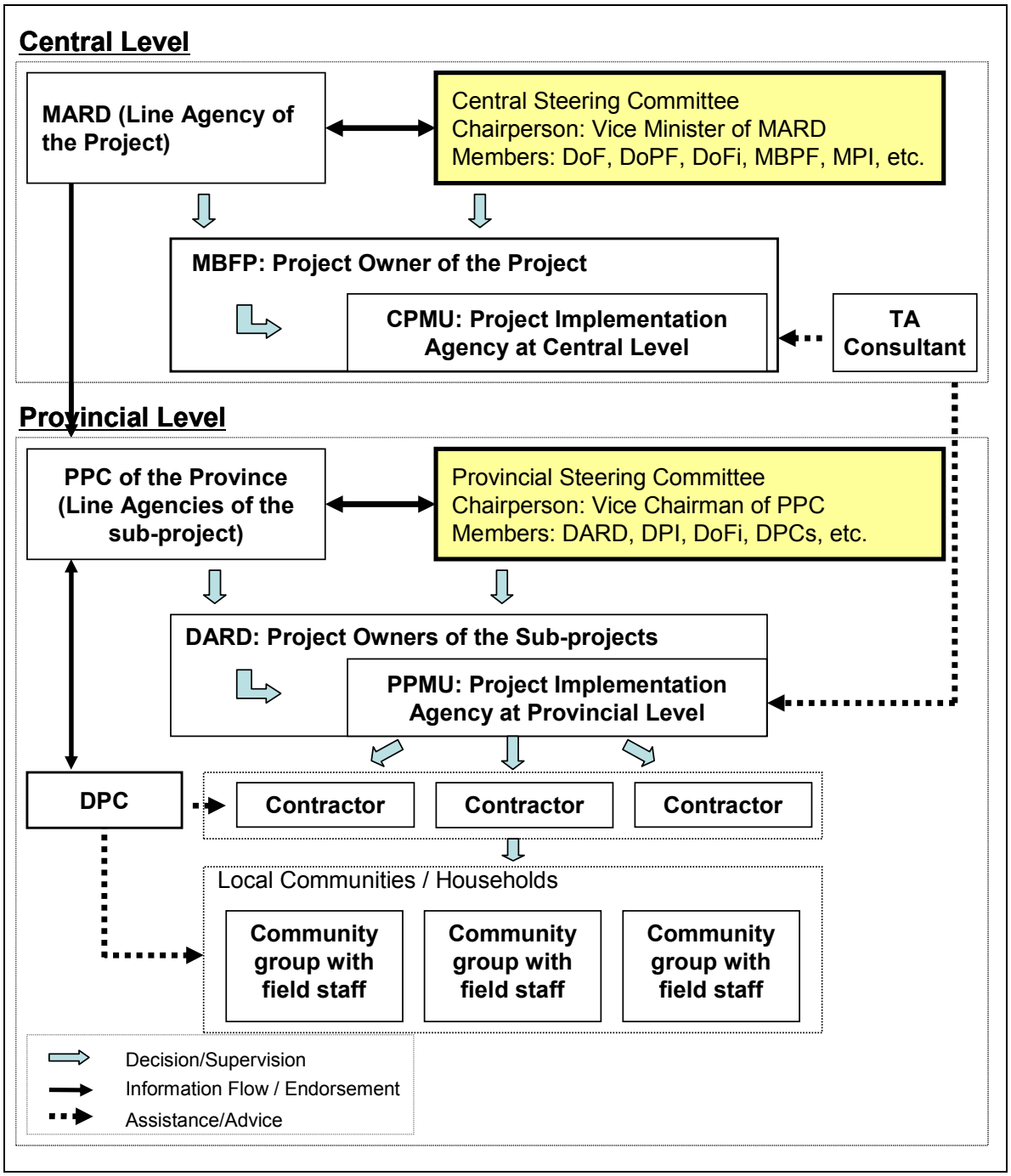
5.1 Main Facts on the Project Implementing Agency

5.1.1 Institutional Features

The project is categorized into the "umbrella project" in accordance with MPI Circular No. 04/2007/TT-BKH. As the same circular suggests and similar forestry projects has already demonstrated, the project will adopt the two-layer management system, where the project management units are established at two levels, i.e., central level and provincial level.

In compliance with MPI Circular No. 04/2007/TT-BKH, MARD, as the Line Agency or Executive Agency at central level, will assign the Project Owner on a central level, while PPCs in the target provinces which are the Line Agencies on a provincial level will also assign the project owners of the sub-project in each province. MBFP and DARDs will be assigned as the project owners of the whole project and the sub-project in the target provinces, respectively. Both project owners will establish the project management units upon the issuance of notice to proceed by Prime Minister. The central project management unit (CPMU) is responsible for management of the entire project and coordination with the target provinces, while the provincial project management units (PPMUs) in the target provinces are responsible for management of the sub-projects to be implemented in the respective provinces.

In order to accelerate the decision making and approval processes, the steering committees headed by higher positions of the Line Agencies will be established at both central and provincial levels. The drawing below shows the proposed institutional set-up for the implementation of the project.



Institutional Set-up for Project Implementation

There are concerns that one CPMU at central level might not be able to make the 12 PPMUs have the same direction and understandings of the project or to monitor PPMUs' activities in a timely manner. Although there is an option to establish a branch of CPMU in one of the target provinces to solve such concerns, the Survey Team judges that the enhancement of the capacity of PPMUs along with regular support and monitoring by CPMU will be more effective and efficient than the establishment of a sub-CPMU considering the cost effectiveness and sustainability of the project. In order to make the proposed institutional set-up effective, the following arrangements are needed.

- Develop comprehensive project implementation guidelines that will clearly state the procedures or steps to be taken by PPMUs for the sub-project implementation;

- Familiarize the staff of CPMU and PPMUs with the project implementation guidelines;

- Develop a simplified but comprehensive monitoring report format for monthly reporting from PPMUs to CPMU so that CPMU could grasp and assess the progress of the sub-projects in a timely manner;

- Institutionalize CPMU's periodical visit to the target provinces and secure the budget to allow the staff of CPMU to travel to the provinces (It is recommended that CPMU should visit the target provinces at least every quarter.)

- Secure the sufficient number of CPMU staff to monitor the sub-projects in the 12 provinces (there should be at least four (4) technical staffs who monitor the progress and performance of the sub-projects in the 12 provinces.)

5.1.2 Operational Features

CPMU and PPMUs will procure and arrange the following equipments for the operations of the units using the project budget.

Equipments to be procured for CPMU and PPMUs

Equipment	For CPMU	For One PPMU
4x4 vehicle	2	1
4x4 Pickup	0	1
Motorbyke	0	5
Boart with engine	0	
Desktop PC + software <1	6	4
Laptop PC + software <1	2	1
Printer (A4/A3) <1	1	1
Inkject Printer (A4/A3) <1	1	1
GIS software (MapInfo) <1		1
Photocopy Machine	1	1
UPS (1000VA)	6	2
A0 plotter		1
Digital handycum	1	1
GPS		5
Digital camera	2	2
Binoculars	0	2
Projector	1	1

Note: <1 The equipments will be replaced in the 6th year of the project.

Based on the JICA funding policy, administration cost and taxes and duties relating to the project activities will not be covered by the JICA loan. As given in Chapter 4 in this Annex, the estimated project management cost of VND 113.6 billion should be arranged by the GOV for the operations of CPMU and PPMUs.

5.2 Project Implementation Management

5.2.1 Roles and Responsibilities of the Line Agencies, Project Owners and PMUs

Based on Decree No. 131/2006/ND-CP issued on November 6, 2006 on the issuance of the Regulation on Management and Utilization of Official Development Assistance and its implementation guidelines, MPI Circular No. 04/2007/TT-BKH dated July 30, 2007, as well as the experiences of SPL-3 Afforestation Project, the roles and responsibilities of the major stakeholders involved in the project implementation are defined as follows.

Roles and Responsibilities of Relevant Stakeholders within the Proposed Institutional Set-up

Stakeholders	Roles and Responsibilities
MARD	MARD is the line agency at the central level for the project, which shall be responsible for ensuring the effectiveness and efficiency of the project, smooth operation of the project including allocation of sufficient counter part funds as scheduled, monitoring and supervision of the performance of the project owner, and coordination with PPCs concerned.
Steering Committee at Central Level	Steering committee (SC) at central level will make final decisions on the key managerial issues/matters such as approval of annual work plan, evaluation of annual accomplishments, and approval of regulations and guidelines for project implementation. The committee would be chaired by either Vice Minister of MARD or Director General of DoF. The committee shall be organized at least every six months.
MBFP	MBFP will be assigned as the project owner by MARD. MBFP must ensure adequate and capable management resources and will be responsible for approval of technical design and cost estimate of the project, negotiation and supervision of contracts, management and utilization of investment funds, and monitoring and evaluation of the project.
CPMU	CPMU will have the following tasks, namely, i) preparation and development of overall and detailed annual plans of the entire project, ii) management of the entire project, iii) preparation of technical guidance and orientation to PPMUs and DARDs, iv) financial and asset management of the project, v) coordination with relevant agencies (e.g., MoF and MPI) and JICA, vi) monitoring, evaluation and reporting of the project implementation.
PPC	PPCs will be the line agencies at the provincial level and shall have the same responsibilities with those given to MARD for implementation of the sub-projects in the respective provinces.
Steering Committee at Provincial Level	Steering Committee at provincial level will be chaired by Vice Chairperson of PPC and responsible for making decisions relating to the sub-projects in the province, approving the project regulations and overall/annual plans, and monitoring and evaluation of the project implementation at provincial level. Like in the case of CSC, the committee shall be organized at least every six months.
DARD	DARD will be the project owner of the sub-projects at the provincial level. It shall be responsible for establishment of PPMU. At the same time, it shall have the responsibilities for guidance and orientation of PPMU, appraisal and approval of designs, cost estimates, and contracts of the project activities, monitoring and supervision of the sub-project, and management of the project fund.
PPMU	PPMU will be the management body responsible for implementation and management of the sub-project activities. It shall have roles similar to those given to CPMU. In the concrete, PPMU shall: i) prepare an annual operation and financial plan of the provincial project, ii) procure and liquidate contracts, iii) implement, monitor and supervise the provincial project, iv) prepare progress reports and submit them to DARD/PPC/CPMU, and v) coordinate with local government and institutions concerned.

5.2.2 Project Management and Staffing

(1) Central Project Management Unit (CPMU)

The Central Project Management Unit will be responsible for coordinating with the target provinces, monitoring the performance of the sub-projects, providing guidance and assistance to PPMUs for quality control during the project implementation. The CPMU will be headed by one director and one vice director. The constitution as well as roles and responsibilities of CPMU are given below.

Constitution of CPMU and Roles and Responsibilities of the Sections under CPMU

Constitution	No. of staff	Roles and Responsibilities
Director	1	Overall management and supervision of the unit Responsible for implementation of the entire project and coordination with MBFP, DARDs and PPMUs of the target provinces
Vice Director	1	Assistance to Director Act as Director in case Director can not perform or fulfil his tasks.
Planning	1	Development of an overall work plan and detailed annual work plans Preparation of project regulations Management of bidding and contractors Overall monitoring of the progress of the project
Accounting	3	Financial and asset management Management of financial records Process of billing documents
Technical	3	Monitoring and supervision of the performance and progress of the sub-project Technical and managerial advice and guidance to PPMUs/DARDs of the target provinces Supervision of any technical matters
Administration including driver	3	Management of administrative and organizational matters

(2) Provincial Project Management Unit (PPMU)

The Provincial Project Management Unit (PPMU) will be responsible for implementation of the sub-projects at provincial level. The major tasks of PPMU are: i) preparation for the project, ii) procurement of contractors, iii) management, monitoring and supervision of the works of contractors, iv) process of documents for billing and disbursement, v) report to DARD, PPC, and CPMU, and vi) coordination with relevant organizations/agencies, especially DPCs, as mentioned in the preceding section. The constitution of PPMU will be the same with that of CPMU. Roles and responsibilities of each section of PPMU is also the same with those with CPMU since PPMU can be considered a miniature of CPMU at provincial level.

Constitution of PPMU and Roles and Responsibilities of the Sections under PPMU

Constitution	No. of staff	Roles and Responsibilities
Director	1	Overall management and supervision of the unit Responsible for implementation of the sub-projects and coordination with PPC, relevant departments of PPC and sub-department of DARD
Vice Director	1	Provision of assistance to Director Act as Director in case Director can not perform or fulfil his tasks.
Planning	1	Development of an overall work plan and detailed annual work plans Preparation of project regulations Management of bidding and contractors Overall monitoring of the progress of the project
Accounting	2	Financial and asset management Management of financial records Process of billing documents
Technical	5	Monitoring and supervision of the performance of the contractors and progress of the sub-project Technical and managerial advice and guidance to the contractors Supervision of any technical matters
Administration including driver	2	Management of administrative and organizational matters

5.2.3 Roles of Contractors

The contractors to be employed in the project would be PFMBs for the component for Development and Improvement of Protection Forest, PAFECs and universities for the component for Capacity Development, Information Dissemination, and Phase-in/-out Works and Livelihood Development Assistance Component, NAFEC and FIPI for Survey and Mapping and M&E components, and private contractors for Small Scale Rural Infrastructure Development component.

The contractors will be the actual implementers for the respective project activities on a contract with either PPMU or CPMU. Hence, all the arrangements necessary for implementation of the planned activities, such as procurement of necessary equipments for implementation and arrangement of labor and other human resources, are under the responsibility of the contractors. In addition, regular reporting of the progress to PPMUs or CPMU and coordination with the local government as well as communities are essential tasks of the contractors.

5.2.4 Roles of Consultants

As described in Sub-section J.3.4.2.9, the major roles of the project consultant are to guide, side-by-side, CPMU and PPMUs and provide them with technical and managerial assistance in project implementation, so that they could ensure and improve the effectiveness, efficiency and quality of project implementation. The tentative scope of work of the project consultant is again given as follows:

a. Assist CPMU and PPMUs in managing the project and sub-projects in an effective and efficient manner;

b. Assist CPMU in formulating a project implementation plan of the project in the beginning of the project;

c. Assist CPMU in formulating the project implementation guidelines and necessary materials / handbooks for smooth implementation of the project;

d. Assist DARDs/PPMUs in formulating the regulations on benefit sharing mechanism on harvests from the project areas;

e. Assist DARDs/PPMUs in developing the Forest Protection and Development Fund so that the provincial government could pool their shares derived from the project areas;

f. Assist CPMU in developing the capacity development plans/programs for CPMU, DARDs and PPMUs staff;

g. Assist CPMU and PPMUs in procuring and supervising the contractors for the project components, namely, Survey and Mapping of the project area, Baseline survey, Capacity Development and Information Dissemination, Development and Improvement of Protection Forests, Livelihood Development Assistance, Small Scale Infrastructure Development, Forest Fire Prevention/Control, and Mid-term and Terminal Impact Assessment;

h. Assist CPMU and PPMUs in procuring necessary equipment;

i. Assist CPMU in improving the monitoring system for monthly and quarterly monitoring by development of simplified monitoring formats and construction of user-friendly databases;

j. Assist CPMU and PPMUs in planning a annul work and budget plans based on the appropriate estimation of work quantity at the field level and unit costs;

k. Assist CPMU in fund management and smooth communication between CPMU and JICA;

l. Assist CPMU in providing guidance and orientation to DARDs and PPMUs on technical and managerial aspects necessary for implementation of the project;

m. Assist PPMUs in providing guidance and orientation to the contractors hired for the project components;

m. Assist PPMUs, PFMBs and relevant organizations in development of an operation and maintenance plan for small scale infrastructure facilities in the post-project periods

n. Provide technical assistance to CPMU, PPMUs, PFMBs and other contractors in the execution of their works; and

l. Review, analyze, and recommend improvement/revision of existing related regulations and guidelines (e.g., circulars and decisions).

5.2.5 Roles of Other Organizations

(1) District People's Committee (DPC)

DPC will function as a supporter or cooperator at the field level. It will be involved in the monitoring of the project activities, and information dissemination and agriculture and forestry extension to local communities.

(2) Commune People's Committee (DPC)

CPC will cooperate with PPMU and the contractors/implementers on the implementation of the project activities at commune/village level. In the concrete, it will facilitate the community participation in meetings/consultations organized by PPMU and the contractors/implementers.

(3) District / commune extension workers

District and commune extension workers shall be involved in the process of community organization and livelihood development under the Capacity Development, Information Dissemination and Phase-in/Phase-out Component. After the end of the project, they would be the ones who co-work with local communities/members of the local communities for continuation and expansion of livelihood development activities introduced by the project. To do so, the project will also organize a series of training sessions for extension workers as described in Section J.3.2.6, so as to enable them to provide technical and managerial assistance to the communities without assistance from the project.

(4) Field workers / coordinators at the target villages

Field workers or coordinators are local households or members of public organizations, such as youth group, women's group, etc., who will be hired by the contractors for Capacity Development, Information Dissemination and Phase-in/Phase-out Component to coordinate with the local communities as focal persons at the target villages, so that the contractors could smoothly organize meetings and provide technical assistance to the groups continuously through them. Ideally, each field coordinator should be allocated to each local community, but there should be at least one coordinator at one target village.

(5) Local Communities

Local communities will take part in the forest development / improvement components as a sub-contractor for actual field works. They will not be treated as laborers, but shall be treated as future managers of the project area. Hence, they should be involved in planning / designing of the project components in the beginning of the project and preferably organized into a group at village or kinship group level.

5.2.6 Coordination Mechanisms

In order to facilitate the coordination among the relevant stakeholders, the steering committees will be established at both central and provincial levels. The roles and constitutions of the steering committees are outlined bellow.

(1) Central Steering Committee (CSC)

The Central Steering Committee is to be organized at ministrial level to approve the overall plans and project regulations, handle/solve cross sector issues, and facilitate the coordination between/among the departments and sub-departments under MARD for enhancing synergy and convergence effects. Considering the nature of the tasks given to CSC, the Survey Team proposes that CSC should be chaired by Vice Minister of MARD. The constitution of CSC is proposed as follows:

Members of Central Steering Committee

Constitution	Responsible organization/personnel
Chairperson:	Vice Minister of MARD
Secretariat:	CPMU/MBFP
Members	Dept of Forest, Dept of Forest Protection, Dept of Finance, Dept of Planning, Dept of Construction and Management, Dept of Legislation, MBFP

(2) Provincial Steering Committee (PSC)

The Provincial Steering Committee is to be organized at provincial level to have the same functions with those of CSC, but limited to the sub-projects implemented in the respective provinces. Hence, the main functions of PSC are to: i) approve the overall plan as well as annual plans of the sub-projects, ii) approve project regulations, iii) handle/solve cross sectoral issues, and iv) facilitate the coordination between/among the departments and sub-departments under PPC. The PSC should be chaired by Vice Chairperson of PPC. The constitution of PSC is proposed as follows:

Members of Provincial Steering Committee

Constitution	Responsible organization/personnel
Chairperson:	Vice Chairperson of PPC
Secretariat:	PPMU/DARD
Members	Vice Director of Dept. of Agriculture and Rural Development Vice Director of Dept. of Planning and Investment Vice Director of Dept. of Finance Vice Chairperson of DPCs concerned Director of Sub-dept. of Forestry, DARD Director of Sub-dept. of Forest Protection, DARD Director of Sub-dept. of Rural Development, DARD Director of Planning and Finance Section, DARD

5.3 Project Implementation Plan

The proposed implementation schedule of the project is shown in **Figure J-5-1,** and its summary is also given below**.**

Summary of Project Implementing Schedule

Year	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11
Project Period											
1. Preparatory Works											
2. Survey and Detailed planning											
3. Capacity Development, Information Dissemination, and Phase-in/-out Works											
4. Development of Protection Forest											
5. Livelihood Development											
6. Small Scale Infrastructure for Livelihood Development											
7. Forest Fire Control											
8. Monitoring & Evaluation											
9. TA / Consulting Services											

In the proposed implementation schedule, the following assumptions were made.

- Loan Agreement (L/A) would be signed in the second quarter of 2010.
- The loan for the project would be effective within a quarter after the agreement is signed.
- The loan validity period is between the third quarter of 2010 (the second quarter of Year 1) and the last quarter of 2019 (the second quarter of Year 10).

As shown in the schedule, the project components will be implemented over nine years. The first two (2) years will be used for:

i) Preparatory Works including organizational set-ups, procurement of project consultant, and formulation of the project implementation guidelines, and selection of the target villages;

ii) Selection of and contracts with contractors;

iii) Orientation and guidance for the project staff as well as contractors; and

iv) Information dissemination to local communities in the target villages.

The physical development works, such as reforestation/afforestation, ANR, small scale infrastructure development will be implemented from the end of 2012 (or the 2nd quarter of the 3rd year) to the end of 2018 (or the 2nd quarter of the 9th year). The terminal evaluation will be carried out for six months in the ninth year.

As for Forest Development Component, the sub-component activities, such as afforestation/reforestation, ANR with and without enrichment, and protection of natural forests, will be implemented by batches: three batches each for the sub-components.

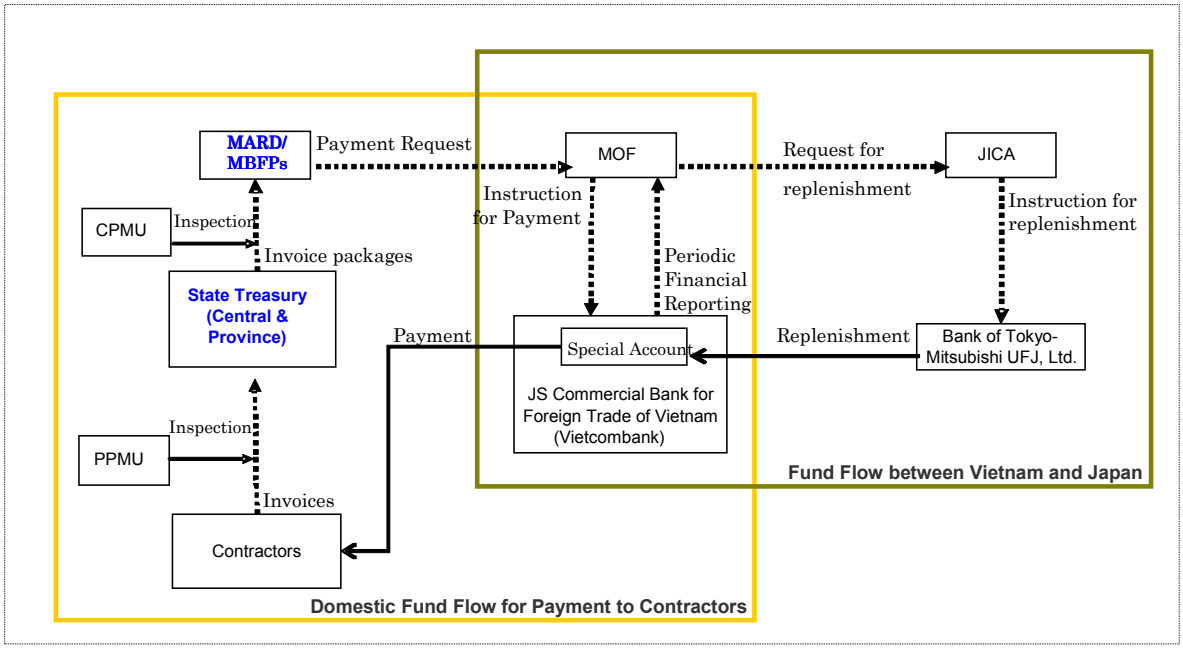
5.4 Financial Management

5.4.1 Preparation of Financial Plan

As described in Sub-section 4.2.3., the Government of Vietnam need to shoulder a total of VND 421.1 billion, while VND 2,221.0 billion is the estimated budget to be covered by the JICA's loan. Breakdown of the financial plan with annual disbursement schedule is presented in **Table J-4-3,** and its summary is also given in Sub-section 4.2.3.

5.4.2 Accounting, Financial Reporting, Audit Arrangements, Approval and Disbursement Mechanisms

The project budget will be managed by the same manner with what SPL-3 Afforestation Project has taken. The following flow shows the overall fund management of the project budget for the project.



Overall Fund Management of the Project

As illustrated above, after submitted by the contractors, payment proposals (invoices) are first reviewed and inspected by PPMU. PPMU, then, submits the approved proposals to the provincial state treasury for its review. Packaged invoices are forwarded by the provincial state treasury to CPMU for processing of payment. Then, CPMU reviews the payment proposals and further endorsed them to MoF for payment. Finally, MoF instruct Vietcom Bank for payment to contractors after their review.

5.5 Procurement and Procurement Management

5.5.1 Procurement Procedure

In the project, the following procurement methods will be employed for implementing the project components or sub-components and procurement of equipments.

a. Local competitive bidding after short-listing the potential bidders for implementation of the project component/sub-component;

b. Direct appointment for implementation of the project component, especially for the component of Development and Improvement of Protection Forest; and

c. Local competitive bidding for procurement of equipment.

One of the distinctive things in the framework of the project is that almost all the project components except Small Scale Rural Infrastructure Development Component will be implemented by the public institutions, such as PFMBs, NAFEC, PAFEC, University, FIPI and Forest Protection Agency owing to the limited capable private organization in the country. Since the process of prequalification and competitive bidding would take a certain time, it is recommended that the direct appointment method should be taken for the components/sub-components that only the selected public institutions can implement, such as Development and Improvement of Protection Forest, Capacity Development, Information Dissemination, and Phase-in/-out Works, and Survey and Mapping. On the other hand, the contractors for construction of small scale rural infrastructure shall be selected in the process of Local competitive bidding after prequalification.

5.5.2 Procurement Plan

The following table summarizes the procurement plan with implementation methods of the major activities planned in the respective project components.

Procurement Plan with Implementation Methods of the Project Components

Components	Implementation method	Potential Executers / Contractors	Procurement method
Preparatory work - Organizational set-up	Force account	MARD, MBFP, PPCs, and DARDs	Direct undertaking
- Development of guidelines	- ditto -	CPMU, PPMUs, & Project Consultant	- ditto -
- Screening of target village	- ditto -	DARDs, PPMUs, & Project Consultant	- ditto -
- Preparation of benefit sharing regulations	- ditto -	CPMU, PPMUs, & Project Consultant	- ditto -
- Procurement of equipments	- ditto -	CPMU & Project Consultant	Competitive bidding
Survey and Detailed Planning - Forest inventory and mapping	Contract out	FIPI or Private Mapping Company	Local bidding / Direct appointment
- Site selection and demarcation	- ditto -	PPMUs & PFMBs with facilitators	- ditto -
- Detailed planning and designing	- ditto -	Design center of DARDs	- ditto -
- Baseline survey	- ditto -	NAFEC or University	- ditto -
Capacity Dev., Info. Dissemi., and Phase-in/our works - Capacity development of the staff	Contract out	NAFEC (for DARD/PPMU) PAFEC (for District, PFMBs, etc.)	Local bidding / Direct appointment
- Information dissemination	- ditto -	PAFEC with local facilitators	- ditto -
- Formation and strengthening of FMGs	- ditto -	- ditto -	- ditto -
- Phase-in / Phase-out works	- ditto -	- ditto -	- ditto -

Components	Implementation method	Potential Executers / Contractors	Procurement method
Forest Development and Improvement - Forest Development of watershed protection forest	Contract out	PFMBs	Local bidding / Direct appointment
- Improvement of SPL-3 sites	- ditto -	PFMBs	- ditto -
- Forest Development of coastal protection forest	- ditto -	PFMBs	- ditto -
- Construction of silvicultural infrastructure	- ditto -	Local construction company	Local bidding
Livelihood Development Assistance - Needs Assessment	Contract out	PAFEC, University, Vocation college	Local bidding / Direct appointment
- Potential livelihood development	- ditto -	- ditto -	- ditto -
Small scale infrastructure development - Needs Assessment - Design and Planning - Construction	Force account	PPMUs with hired facilitator	Direct undertaking with assistance from facilitators
- Design and Planning	Contract out	Design center of DARD or Technical section of other departments	Direct appointment
- Construction	Contract out	Local contractors	Local bidding
Forest Fire Prevention / Control - Procurement of fire extinction equipment	Force account	PPMUs	Direct undertaking
- Training	Contract out	Forest Protection Agency	Local bidding / Direct appointment
Monitoring and Evaluation - Initial Evaluation	Force account	CPMU, PPMUs and Project Consultant	Direct undertaking
- Mid-term Evaluation	Contract out	NAFEC or University	Local bidding / Direct appointment
- Terminal Evaluation Physical evaluation	Contract out	FIPI	Local bidding / Direct appointment
Socio-economic evaluation	Contract out	NAFEC	Local bidding / Direct appointment
Consulting Services	Contract out	International and national consulting firms	International Bidding

5.5.3 Contract Management

PPMUs of the target provinces shall have the primary responsibility for monitoring and supervision of contracts. In particular, director and vice director of PPMU have overall responsibility for contracts with assistance of the planning staff of PPMU, one member in a typical case. All the contracts shall be made in accordance with the government regulations concerned and recorded in the PPMU in a systematical manner.

6. Project Outcomes and Impacts

6.1 Project Outcomes and Impact Monitoring and Evaluation

6.1.1 Performance Indicators

The following table outlines the initial ideas of the key monitoring indicators to be monitored consistently throughout the project. These indicators should be subject to change based on the results of i) survey and mapping, ii) baseline survey, iii) consultation between the relevant stakeholders of the project and iv) collective decisions among those concerned. In fact, the logical framework and indicators should be reviewed periodically and modified/updated, when appropriate.

Key Monitoring Indicators

Category	Key Operation (Progress) and Effect (Impact) Indicators *
Effect Indicators	<u>For Overall Goal</u> a. Proportion of Group IV Forest in the target protection forests in 2040 b. Increase in income level of local communities in the target communes/villages in 2030 <u>For Project Purpose</u> a. Forest cover in the project areas will be 135,930 ha in 2022 b. The quality of vegetation/forest covers in the project areas will be improved in 2022, to wit: - 24,640 ha of bush/woodlot (1a and 1b) will be changed to recovering forest (II). - 14,320 ha of young plantations /poorly maintained plantations (Ic) will become quality plantations. - 68,420 ha of natural forest will be maintained properly. c. The incidence of forest fires in the project areas will be halved in 2022. d. More than 80 % of the project area will be managed by local communities under the long-term agreement/contract on protection and management of protection forests in 2022. e. The average annual household income will increase by *** % in 2022.
Operation Indicators	a. Issued regulations and circulars on project implementation guidelines, benefit sharing mechanism, and forest development and protection fund b. Land use and forest classification maps covering 135,930 ha will be updated. . c. Detailed plans for the concerned 57 PFMBs will be prepared. d. More than 750 government staff will be trained. e. More than 75% of local communities will be organized into local communities. f. New plantations of 24,640 ha (23,090 ha in the watersheds and 1,550 ha in the coastal area) will be developed by the afforestation sub-component. g. Existing poorly-maintained plantations of 14,320 ha (3,300 ha in the watersheds, 800 ha in the coastal area and 10,220 ha in SPL3 sites) will be improved. h. Degraded natural forests of 28,550 ha (25,950 ha in the watersheds, 1,600 ha in the coastal area and 1,000 ha in SPL3 sites) by ANR with/without enrichment planting. i. Natural forests of 68,420 ha (63,970 ha in the watersheds and 4,450 ha in the coastal area) will be protected. j. A total of *** demonstration plots/livelihood development models will be introduced or demonstrated in the target villages. k. A total of 188,363 households residing in 167 communes will be trained on forest management and livelihood development. l. About 186 km of rural roads, 558 ha of irrigated rice fields and 8 units of water systems will be developed by the project. m. A total of 719 PPMU and PFMB staff as well as *** households will be trained on FFC.

*Indicators to be determined in the detailed planning stage based on the results of baseline survey and survey and mapping.

6.1.2 Major Loan Covenants

Major covenants to be monitored during the project implementation will be clarified when the loan agreement is made. A table that consists of key legal covenants will be developed for regular monitoring of the project. Furthermore, the covenants may be classified into the following 11 categories: i) accounting and audit, ii) financial performance and revenue generation from beneficiaries, iii) flow and use of project funds, iv) counterpart funding, v) management aspect, vi) environmental covenants, vii) involuntary resettlement, viii) indigenous people, ix) monitoring, review and reporting, x) project implementation, and xi) policy, regulatory and institutional matters.

6.1.3 Project Evaluation Arrangements

As described in Chapter 3, the project will carry out the mid-term evaluation and terminal evaluation in the fifth year and ninth year of the project, respectively. Although there is no plan of the post-project evaluation, MARD shall organize the post evaluation 5~10 years after the termination of the project to evaluate the impacts to be generated by the project.

6.1.4 Monitoring and Reporting Arrangements

PPMUs of the target provinces will monitor the progress and performance of the sub-projects periodically and prepare the following monitoring reports for submission to PPCs (the project owner) and to CPMU in Hanoi.

a. Monthly Progress Report
b. Quarterly Progress Report
c. Yearly Progress Report
d. Project Completion Report

The comprehensive reports that can track physical accomplishments of works and financial performance are important for smooth monitoring. In similar government projects, data on progress of works, contracts management, procurement, disbursement etc. were scattered in different reports and the experience of the SPL-3 indicates that it would be troublesome to absorb the information for management. It is also important to come up with a simple format for monitoring reports based on the available data. In accordance with the government regulations, the monitoring report shall include, but not limited to, the following information:

a. Physical and financial accomplishments
   - Disbursement report of ODA funds
   - Report on special account
   - Bidding results
b. Progress of key monitoring indicators
c. Progress/Results of procurement
d. Any Issues and Concerns on Project Implementation
e. Recommendations

The proposed flow of information and reporting in regular progress monitoring is illustrated in **Figure J-3-1**.

6.2 Investment Efficiency

6.2.1 Financial Analysis

In principle, profitability and financial sustainability of a business/project should be the main factor to be examined in the financial analysis. Since the main objectives of the project are to restore and preserve the protection forests, which should not be harvested for commercial purposes and be maintained for environmental protection of the downstream basin, the general concept of financial analysis does not fit with the nature of the project. On the other hand, sustainable forest management of protection forest will significantly depend on whether or not local communities or members of the community groups will obtain continuous substantial benefits from the protection forest. As long as they regard the forest as part of their assets, it is expected that they would protect and manage the area on their own initiative. Therefore, the economy of a member household under typical cases is analyzed with the aim of undertaking the financial analysis of the project. However, since reliable data were not sufficiently available, the results of the analysis/estimation should be considered as indicative. The results of the analysis are presented in **Table J-6-1,** and summarized in the following table.

Analysis of Household Economy under "With-Project" Conditions

Case 1: 2 ha of Afforestation/Reforestation

Items	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6-15	Yr16~25
1. Basic Income <1	4.2	4.2	4.2	4.2	4.2	4.2/yr	4.2/yr
2. Gross Income from the Project							
2.1 Wage <2	17.9	8.5	4.8	4.8	0.0	0.0	0.0
2.2 Forest resources <3	0.0	0.0	0.0	0.0	0.0	0.5~14.8	0.0~31.3
3. Cash expenditures							
3.1 Harvesting and transportation	0.0	0.0	0.0	0.0	0.0	0.4~0.8	0.0~0.9
3.2 Sharing benefit with GOV	0.0	0.0	0.0	0.0	0.0	0.7~1.4	0.0~3.1
4. Labor requirement <4							
3.1 Family labor	298.7	142.2	80.0	80.0	14.6	19.6~23.6	17.6~19.6
3.2 Hired labor	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5. Net Cash Benefit							
5.1 Total Net Cash Income	22.1	12.7	9.0	9.0	4.2	8.6~16.9	4.2~32.0
5.2 Additional Cash Income	17.9	8.5	4.8	4.8	0.0	4.4~12.7	0.0~27.8
Ave. add. income from 1st to 5th	11.4						
Ave. add. income from 6th to 15th						11.8	
Ave. add. income from 16th to 25th							13.2

Case 2: 5 ha of ANR with enrichment

Items	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6-15	Yr16~25
1. Basic Income <1	4.2	4.2	4.2	4.2	4.2	4.2/yr	4.2/yr
2. Gross Income from the Project							
2.1 Wage <2	12.3	8.7	7.2	2.8	2.8	0.0	0.0
2.2 Forest resources <3	0.0	0.0	0.0	0.0	0.0	0.5~14.8	0.0~31.3
3. Cash expenditures							
3.1 Harvesting and transportation	0.0	0.0	0.0	0.0	0.0	0.0	0.0~0.1
3.2 Sharing benefit with GOV	0.0	0.0	0.0	0.0	0.0	0.0	0.0~3.0
4. Labor requirement <4							
3.1 Family labor	205.1	144.5	119.4	46.4	46.4	36.4~41.4	36.4~51.4
3.2 Hired labor	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5. Net Cash Benefit							
5.1 Total Net Cash Income	16.5	12.9	11.4	7.0	4.2	4.2	4.2~31.1
5.2 Additional Cash Income	12.3	8.7	7.2	2.8	2.8	0.0	0.0~8.9
Ave. add. income from 1st to 5th	6.7						
Ave. add. income from 6th to 15th						0.3	
Ave. add. income from 16th to 25th							3.6

Case 3: 20 ha of Protection

Items	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6-15	Yr16~25
1. Basic Income <1	4.2	4.2	4.2	4.2	4.2	4.2/yr	4.2/yr
2. Gross Income from the Project							
2.1 Wage <2	8.7	8.7	8.7	8.7	8.7	0.0	0.0
2.2 Forest resources <3, <5	0.0	0.0	0.0	0.0	0.0	0.0~130.6	0.0~253.5
3. Cash expenditures							
3.1 Harvesting and transportation	0.0	0.0	0.0	0.0	0.0	0.0~1.4	0.0~2.5
3.2 Sharing benefit with GOV	0.0	0.0	0.0	0.0	0.0	0.0~12.9	0.0~25.1
4. Labor requirement <4							
3.1 Family labor	145.6	145.6	145.6	145.6	145.6	145.6~205.6	145.6~205.6
3.2 Hired labor	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5. Net Cash Benefit							
5.1 Total Net Cash Income	12.9	12.9	12.9	12.9	12.9	4.2~120.5	4.2~230.1
5.2 Additional Cash Income	8.7	8.7	8.7	8.7	8.7	0.0~116.3	0.0~225.9
Ave. cash income from 1st to 5th			8.7				
Ave. cash income from 6th to 15th						11.4	
Ave. cash income from 16th to 25th							22.6

Note: <1 Basic income is based on the average household income given by Socio-economic Survey conducted by the JICA Preparatory Survey (2009)
<2 Wages are the payments made by PFMBs under the project.
<3 Firewood, chip woods and timber are considered as forest resources that can be exploited by the local community in the post-project period in accordance with the long-term agreement between the management group and PFMB.
<4 Labor cost is not estimated assuming only family members will be used for management and maintenance works.
<5 Prices of medium grade of wood/timber in the country is employed for estimation.

Local communities may be able to earn VND 6.7 million ~ VND 11.4 million annually for the first five years as payments for the project activities. Although they will not be able to receive cash income on a constant basis from the 6th year, the rough estimation suggests that they could earn VND 11.8 million/year from 6th year to 15th year and VND 13.2 million/year from 16th year to 25th year from the 2 ha afforested/reforested protection forest. The returns from ANR are estimated to be rather low. The estimated average additional income from 5 ha of ANR with enrichment ranges from VND 0.3 million to VND 3.6 million per annum. Although its members will not harvest forest resources every year, they may be able to earn as high as VND 22.6 million/year from the 20 ha natural forest, between 16th year and 25th year.

6.2.2 Economic Analysis

6.2.2.1 Basic Assumption for Economic Analysis

The following basic assumptions are set for the project economic analysis.

a. The economic life of the project is assumed to be 50 years since this type of forest development takes a longer time for exerting the effects or producing the returns as compared to ordinary infrastructure development projects.

b. A discount rate of 10% is used for the calculation of the net present value.

c. The costs and benefits of the project are estimated based on July 2009 constant prices in Vietnamese Dong (VND).

d. Exchange rate of US dollar against Vietnamese Dong as of July 2009 (US$1.00 = VND 16,968) and that of US dollar against Japanese yen as of December 2009 (US$1.00 = JPY 89.6) are used for calculation.

e. In the "without-project" scenario, the existing forests in the project areas in the target provinces might be further degraded by continuous interventions, or the yields of

agricultural crops may also decrease. However, due to limited data, the survey team took a conservative approach with the assumption that the present vegetation will not change throughout the project life.

f. The market prices of project inputs and outputs are converted into shadow prices to calculate the corresponding opportunity costs. In order to correct the market prices of inputs and outputs, the following factors are used.

- Standard Conversion Factor (SCF): 0.97 for non-tradable goods/commodities.
- Shadow Wage Rate for semi/unskilled labor: 0.6 for labor for forest development activities and small-scale infrastructure development

g. The farm gate prices of agricultural and forest products are assumed to be equivalent to the economic prices with no price distortions.

h. Price contingencies, taxes and other kinds of transfer payments are excluded from the estimation of the economic costs.

i. Physical contingency of 5% is adopted.

6.2.2.2 Economic Cost of the Project

(1) Capital cost

The economic cost of the project is estimated based on the conditions mentioned above. The financial cost and estimated economic cost are summarized in the table below. Breakdown of the estimated economic costs of the project components are given in **Table J-6-2.**

Summary of Currency Components for the Project Cost

(Unit: VND million)

Component	Financial Cost	Economic Cost
1. Preparatory Works	15,432	14,968
2. Survey and Planning	20,750	19,880
3. Capacity Development, Information Dissemination, Phase-in/-out Works	53,160	51,556
4. Development of Watershed Protection Forest	845,441	565,464
5. Improvement of SPL-3 Forests	38,927	23,933
6. Development of Coastal Protection Forest	61,732	40,715
7. Livelihood Development Assistance	75,127	72,859
8. Infrastructure for Livelihood Development	231,158	207,205
9. Forest Fire Control	5,274	5,115
10. Monitoring and Evaluation	15,661	14,890
11. Sub-total of Direct Costs (Sum of 1~10)	**1,362,662**	**1,110,204**
12. Project Management	113,580	110,891
13. Sub-total (11+12)	**1,476,242**	**1,118,476**
14. Price Contingency	933,584	0
15. Sub-total (13+14)	**2,409,826**	**1,118,476**
16. Physical Contingency	120,491	55,924
17. Consulting Services	160,802	128,129
18. Taxes and Duties	258,484	0
19. Grand Total (Sum of 15~18)	**2,949,603**	**1,302,528**

Source: JICA Preparatory Survey Team (2009)

(2) Operation and Maintenance (O&M) Cost

In addition to the capital costs stated above, the following O&M costs are estimated for the economic analysis.

a. Maintenance cost for protection forests

b. Operation cost for forest exploitation activities

c. O&M cost for small-scale rural infrastructure

The following table presents the estimated O&M costs and the bases for calculation.

Annual Operation and Maintenance Cost

(Unit: VND million)

Items	Economic Cost	Basis for Estimation
Maintenance cost for protection forests	VND 265,000 ~ 483,000/ha/yr	Labor cost for patrolling and other protection activities
Operation cost for forest exploitation	VND 72,000 ~ 144,000/ha/time	Labor cost for timber exploitation
O&M cost for small-scale rural infrastructure	VND 0.99 million for road in watershed VND 0.87 million for road in coastal VND 0.60 million for unit (for 15 ha) VND 0.21 million for unit	0.5% of the economic cost for small-scale infrastructure development

Source: JICA Preparatory Survey Team (2009)

(3) Replacement cost

The following replacement costs are taken into account in the estimation.

- Sixty four units of watch tower would be replaced every 15 years at VND 6,714 million (in economic term)
- Sixty four units of forest protection station would be reconstructed every 20 years at VND 11,469 million.
- Irrigation systems covering 558 ha would be replaced every 20 years at 22,553 million.
- Eight units of water supply systems would be reinstalled every 20 years at VND 2,636 million.

6.2.2.3 Expected Economic Benefits

Various activities that are expected to bring economic benefits through the implementation of the project are identified as outlined below.

a. Benefits from harvest in protection forest[17]

b. Benefits from CO2 sequestration through Afforestation – AR-CDM

c. Benefits from CO2 sequestration through sustainable forest management – REDD

d. Benefits from incremental agricultural production with the development of irrigation facilities

e. Benefits from savings in vehicle operating cost through construction of rural roads

[17] The benefit from the SPL-assisted plantations is not calculated in the evaluation, since most of the investments made are not originated from this project.

Detailed methodologies of estimation/valuation of the above-listed economic benefits are described in the reports made by the JICA Preparatory Survey in 2009. The total values of the economic benefits over the 50-year project period are summarized as follows.

Estimated Economic Benefits

(Unit: VND million)

Items	Estimated Economic Benefits
Benefits from harvest	15,799,156
Benefits from ARCDM	646,833
Benefits from REDD	4,422,199
Benefits from incremental production	899
Benefits from saving VOC	316,433
Total	21,245,520

Source: JICA Preparatory Survey Team (2009)

In addition to the quantifiable economic benefits above, several intangible economic benefits are expected to be generated with the implementation of the project. These benefits are assessed in a qualitative manner as described in Section 6.3. in this chapter.

6.2.2.4 Cost-Benefit Analysis

To validate the economic feasibility of the project, the net present value (NPV) and economic internal rate of return (EIRR) are calculated. **Table J-6-3** shows the projected economic cash flow of the estimated project benefits and economic costs of the project. As a result, the NPV and EIRR are estimated at VND 478 billion and 13.3 % at the 10% discount rate.

Results of Economic Analysis

Items	Result
Net present value	VND 478 billion
EIRR	13.3 %

Source: JICA Preparatory Survey Team (2009)

In general, a community-forestry development project does not generate substantial direct benefit in a short period of time like an infrastructure development project. Furthermore, since the main aim of the project is to restore the protection forests where forest resources shall be protected from harvesting in principle, it is unrealistic to expect the project to generate substantial tangible benefits from its implementation.

6.3 Social and Other Intangible Benefits

In addition to the benefits described above, the project is expected to generate other benefits, which may not be exhibited in a tangible and measurable manner due to lack of data. Some of the intangible benefits are discussed below.

Social and Other Intangible Benefits

Expected Benefits	Relevant Component	Remarks
Stabilization of peak flows and reduction of downstream flooding	Development and Improvement of Watershed Protection Forest	Rehabilitation of forest coverage and protection of existing natural forests will contribute to water conservation/harvesting in the area and help stabilize water flows of rivers.
Reduction of soil erosions and inflow of sedimentation into rivers	Development and Improvement of Watershed Protection Forest	Likewise, rehabilitation of forest cover will contribute to the protection of soils from surface erosion, as branches and leaves of trees can check raindrops and protect soils from direct exposure to strong rains.

Expected Benefits	Relevant Component	Remarks
Climate and moisture regulation	Development and Improvement of Watershed and Coastal Protection Forests	Rehabilitation and increase of forest coverage will contribute to the improvement and regulation of micro-climate and moisture conditions in the area.
Protection of socio-economic facilities and assets	Development and Improvement of Coastal Protection Forests	Coastal protection forests established by the project as sand- and wind-shielding forests will contribute to the prevention of soil movement and therefore ensures protection of rural infrastructure, houses, and socio-economic facilities from damages caused by sand movement and strong wind.
Improvement of livelihoods of local communities	Livelihood Development Assistance Small Scale Infrastructure Development	Members of the local communities will have chances to attend technical training courses on alternative livelihood options, along with the demonstration models/plots of the options in villages. These extension services will contribute to the expansion of opportunities for them to earn additional income.
Reduction of forest fires	Forest Fire Control	Proper management of forest and fire prevention activities will reduce damages caused by forest fires, and will eventually contribute to the conservation of vegetation.
Biodiversity conservation	Development and Improvement of Protection Forest Forest Fire Control	Protection of natural forest will contribute to the protection and conservation of the biodiversity in the project area. In addition, rehabilitation of protection forest will result in the expansion of wildlife habitats.

6.4 Analysis of Potential Environmental Impact

After analyzing all environmental aspects related to the Project, the survey team does not anticipate any significant adverse socio-economic and environmental impacts unlike large-scale infrastructure projects. Furthermore, the Project is expected to bring positive impacts to the environment of its areas by planting trees and preserving the protection forests. **Table J-6-4** shows the environmental checklist prepared by the survey team, and the following is its summary.

Summary of Environmental Checklist

Environmental items	Possible effects
Natural Environment	
Air Quality	None
Water Quality	None or minimal effect on river water
Wastes	None
Soil contamination	None
Protected areas	None
Ecosystem	Positive impact on ecosystems.
Hydrology	None or minimal effect on hydrology
Topography and geology	Positive impact on stabilization of slope.
Management of abandoned sites	None
Social Environment	
Resettlement	None
Living and livelihood	Improvement of living conditions of local communities
Heritage	None
Landscape	Scenery will be diversified or greened by the project.
Ethnic minorities & indigenous people	None or minor impact on lifestyle of minorities
Impacts during construction	None

Some highlights of the environmental reviews made by the survey team are summarized as follows.

6.4.1 Examination of Potential Impacts on Natural Environmental

(1) Positive effects by afforestation and forest management

Forest development and improvement activities (such as afforestation of bare lands, ANR with enrichment planting, ANR, protection of natural forests, improvement of existing plantation, etc.) are all expected to help increase water retention capacity and soil stability, and improve drainage patterns of major rivers running through the target watersheds. It is also anticipated that the project would contribute in reducing the cases of floods, slope failures and landslides in the target watersheds. Furthermore, the project is expected to improve the landscapes of the project areas by planting indigenous tree species in bare lands and bushes.

(2) Harvest of sub-ordinate/main tree species

Sub-ordinate or fast growing species planted by afforestation activities can be harvested seven to ten years after being planted. The local communities who make long-term agreements with the respective PFMBs on forest management and protection shall follow the government regulations, which clearly state that the volume of exploitable trees in the area shall be less than 20 % of the total volume of wood and at the same time canopy enclosure shall be maintained at 60% after cutting trees. Consequently, the impact caused by harvesting is expected to be minimal as long as the local communities follow the regulations. It is therefore important to familiarize the local communities with the regulations and to keep on guiding them to follow the rules.

(3) Selection of tree species introduced

Tree species proposed in the plan were carefully examined and selected to ensure that no negative impacts are caused on the existing ecosystems of the surrounding project areas. As a result, mix plantation models including both indigenous and fast growing species are proposed as the standard designs for the project. Its aim is to improve the soil fertility simultaneously while restoring the forest cover, dominated by indigenous tree species. Since almost all of the fast growing species will be cut before the secondary forest with indigenous species is established, the survey team does not anticipate any significant environmental impact.

(4) Construction of silvicultural infrastructure and small scale infrastructure

Construction and improvement of silviculture infrastructure and small-scale rural infrastructure is planned in the project. As all infrastructures are micro or small scale, it is expected that construction activities would not adversely affect the natural environment (ecosystem), unlike a large-scale infrastructure development. However, there is a possibility of causing soil erosion or sedimentation into rivers in small scale and temporal nature due to poor implementation of construction methods, such as improper cutting of earth materials and unnecessary excavation of earth fill. It is therefore important for the PPMUs to provide necessary guidance and monitoring/supervision to the contractors to ensure that that they l employ suitable construction methods and utilize cut and fill materials properly.

(5) Other environmental aspects

There was no air pollutant such as dust, soot and dust, sulfur oxides (SOx), nitrogen oxides (NOx), and organic chemical substances emitted from various sources in the implementation of SPL-III project. As most of the Project's activities are the same as those under SPL-III, there is no air pollution anticipated. Likewise, there is no major adverse impact expected with the use of chemicals such as fertilizers and agrochemical, because the amount of fertilizer to be applied in planting seedlings is too small to affect the environmental. In addition, the use of agrochemical is not programmed in the plan.

The survey team also confirmed that the Project areas are not located in or adjacent to special use forests, primary forests, and tropical rain forests which are ecologically valuable habitats for endangered species, designated by Vietnam's laws or international treaties and conventions.

6.4.2 Examination of Potential Impacts on Social Environmental

(1) Resettlement or Land Acquisition

As stated in Chapter 5 of PART II of the report, the project areas were selected in accordance with the pre-determined minimum requirements for the selection of the target areas. One of the minimum requirements is that there should be no resettlement or land acquisition with the introduction/implementation of the project. In fact, as far as the Survey Team has confirmed in the field, all the Project areas are apparently located in protection forests which are not utilized for farming or any economic activities. Furthermore, the project areas will be determined and confirmed by local communities in the process of the participatory land use planning. Consequently, no land acquisition, involuntary resettlement, or loss of means of livelihoods is expected during and after the project. If by any change land acquisition or resettlement was required for use of the selected areas and/or any other conflicts took place among the communities owing to the site selection, such areas shall be canceled.

(2) Heritage sites

There are no activities planned that may damage the local archaeological, historical, cultural, and religious heritage sites.

(3) Conflict on future land use

According to DARDs in the target provinces, there is no plan to convert the project areas into industrial/agricultural development area/zone in the future. Hence, it is unlikely that any social and/or political conflicts will occur over land use of the project sites.

(4) Improvement of living and livelihood conditions

It is expected that the project will contribute to improving the livelihood conditions of local communities by providing agriculture and forestry extension services, and conducting training on livelihood development to the local communities. Since the project will pay particular attention to the social welfare of the local residents involved in the project, it is expected that the project would bring significant positive impact on the socio-economic conditions of the people living in hilly and mountainous areas, who mainly belong to ethnic minority groups.

(5) Changes in lifestyle of ethnic minorities

There may be a worry that increase of cash income might affect their traditional lifestyle or culture of ethnic minorities. However, no drastic change in their lifestyle/culture is expected, as they have already been exposed to the market economy. On the contrary, the living conditions and access to the social services will be significantly improved by the implementation of the project, such as i) construction of small scale rural infrastructure, ii) training on livelihood development, and iii) introduction of the long-term agreement/contract on protection, management and use of protection forests. In the course of the Capacity Development and Phase-in/-out Works and Livelihood Development Assistance, the contractors will give a series of guidance and coaching to ethnic minorities so that they could use their earnings in a wise and effective manner without spoiling themselves. CPMU and PPMUs with the assistance of the project consultant shall also make their efforts to minimize the negative impact but maximize the positive impact on them.

6.5 Critical Risks

6.5.1 Sensitivity Analysis

Sensitivity analyses are carried out to examine the viability of the project under enforceable negative changes in costs and benefits, namely, i) 10% increase in cost, ii) 20% increase in cost, iii) 10% decrease in benefit, iv) 20% decrease in benefit, and their combinations. The results of the calculation are given in the reports prepared by the JICA Preparatory Survey in 2009, and summarized as follows.

Sensitivity Analyses by EIRR and NPV

EIRR		Change in Benefit	
Change in cost	Base case	- 10 %	-20 %
Base case	13.3 %	12.6 %	11.7 %
+10 %	12.0 %	11.9 %	11.1 %
+20 %	9.8 %	11.3 %	10.5 %

Source: JICA Preparatory Survey Team (2009)

NPV		Change in Benefit	
Change in cost	Base case	- 10 %	-20 %
Base case	478 billion	355 billion	232 billion
+10 %	403 billion	280 billion	157 billion
+20 %	328 billion	205 billion	82 billion

Source: JICA Preparatory Survey Team (2009)

6.5.2 Project Risks and Important Assumptions

For the effective and smooth implementation of the project, the following external conditions and requirements, which would have significant impacts on project implementation, must be met.

a. There is no delay in fund disbursement during the implementation.

b. There is no delay in procurement, approval and any other decision making by CPMU/MARD at central level and DARDs/PPCs at provincial level.

c. There is no change in forest development strategies and policies.

d. There is no social conflict or dispute taking place in the target communes / villages.

The following external conditions and requirements must also be met in order for the envisaged project outcomes to have the desired and expected effects and impacts.

a. No large scale and destructive natural disaster, such as severe drought or strong cyclone, takes place in the target provinces.

b. The categories of watershed protection forest or forest classification are not changed by PPCs.

c. The prices of wood chips and timber do not drastically drop.

d. Employment conditions in rural areas in the regions/target provinces are not drastically changed.

e. The macro economy of the country must be stable.

f. Climatic conditions in the target provinces must be unchanged.

6.6 Controversial Aspects

As discussed in Section 6.4., the project is not expected to cause any social, ecological and environmental issues. Any specific issue on project management is also not expected to emerge in the course of the project since less issue was confirmed in SPL-3 Afforestation Project. Management capacity of the project implementing agencies and organizations is expected to be developed by the project. Therefore, it is judged that no controversial issue will emerge during the project.

6.7 Project Sustainability

The sustainability of the project is evaluated in consideration of the following aspects.

a. Sustainability of technologies used in the project
b. Financial sustainability to maintain the project outputs
c. Capacity for the project management and operation

The results of evaluation are summarized below.

Analysis of Project Sustainability

Aspects	Results of analysis
Sustainability of technologies used in the project	Since all the techniques and technologies adopted by the project are commonly used, it is quite easy for PFMBs and local communities (local communities) to keep employing such techniques and technologies.
Sustainability of technologies used in the project	The project areas will be managed by PFMB and local communities (local communities) in a collaborative manner. In fact, most of the forest management activities are supposed to be carried out by local comunities at their own expenses. As discussed in Sub-section 6.2.1, local communities are expected to earn substantial income from the project area, which would become significant incentive for local communities to manage and protect their assigned protection forests by themselves. In addition, local communities will be capacitated to implement or introduce livelihood development options in the commune. New initiatives will generate the additional income for the local communities and ensure its financial sustainability.
Capacity for the project management and operation	The project will develop the capacity of the key stakeholders, namely PFMBs and local communities, under the component for Capacity Development, Information Dissemination, and Phase-in/out Wokrs, so that the stakeholders could manage and protect their assigned protection forests in a proper manner.

6.8 Log Frame

Logical framework is a planning tool presenting objectives, expected results and related activities as well as corresponding assumptions and/or risks to a project in a matrix format. **Table J-6-5** outlines the logical framework matrix for the project.

The project is designed to (i) manage protection forests in a self-sustained way by forest owners, (ii) restore and conserve biodiversity, and (iii) reduce poverty in mountainous areas in the long run. To contribute to the achievement of these long-term goals, the Project's purposes are: (i) to restore and improve watershed and coastal protection forests, (ii) to strengthen the capacity of the local governments and the owners of protection forests, and (iii) to improve the livelihood of communities who would manage protection forests.

Tables & Figures

Table J-2-1. Lessons Learnt from the Implementation of SPL-3 Afforestation Project

Issues/ Lessons Learned	Recommendations for future projects
[Participatory approach]	
1. Local people were not well-informed about the project and were not involved in the planning stage of the project. They merely participated as laborers at the initial stage of the project.	♦ Dissemination of information on the project and project policies should be done for local governments and people before implementing detailed planning in the field. By doing so, the local governments and local people concerned could understand the importance and benefits from the project as well as their responsibilities regarding forest protection and development. This could improve the detailed plan of each site and facilitate project implementation with active participation of the local people.
2. The preparation of detailed design of forestry development components was rushed in all provinces since only four years remained for the implementation period of the project when it was started in 2002. Therefore, the detailed design was prepared in a short period of time without sufficient participation of local people. This resulted in insufficient understanding of the project by local government and local people, continuous use of the project sites by local people for crop cultivation which led to changes in the project sites, and lack of project ownership by the local people until an information campaign was conducted under the agriculture and forestry training and extension in 2006-2007.	♦ Detailed planning of forestry development should be implemented with the active participation of local communities at the beginning of the project implementation
[Support for livelihood development]	
3. The local government and local people appreciated the small-scale infrastructure construction and extension and training for income generation of the local people, which were implemented by the project. The activities attracted their attentions to the project and facilitated their understanding on the importance of the Project and sustainable forest protection and management.	♦ Participatory forest projects should include training and extension activities and small-scale infrastructure construction to assist livelihood development of the participants.
[Cost norm of training and extension activities]	
4. Implementation of agricultural and forestry training and extension activities and forestry inventory survey was much delayed because PPMUs faced difficulty in estimating the cost of the additional activities and also in obtaining approval from PPCs on the cost estimation. The problem is attributed to lack of official cost norms for the activities.	♦ Cost norm of training and extension activities and forest inventory survey should be included in the project regulations or manuals.

Issues/ Lessons Learned	Recommendations for future projects
[Implementers/managers of project activities]	
5. The Project utilized public institutions for implementing project activities such as PFMBs, forest protection center, agricultural extension centers, consulting centers, universities, etc. The procurement of their services was done by direct appointment rather than bidding. The procurement method was quite appropriate because they have enough capacity and experiences in doing the activities. On the other hand, private sector has very limited capacity for implementing forestry development, agricultural and forestry extension and training, and forest fire control training done by the Project. Although the private sector has technical capacity for the construction of infrastructure, the infrastructure under the project are very small in scale and located in remote areas and thus, are not financially attractive to private firms.	♦ Public institutions rather than private ones are suitable as implementers/managers of forest development activities of the project to assure sustainability of the project.
[Project duration]	
6. It usually takes at least two years to prepare a detailed plan of a subproject in a specific locality, including contracting of the works, social preparation activities (such as information dissemination to local people and community organizing), participatory land use planning, and planning of livelihood development activities. On the other hand, a contract of afforestation in protection forest land should have longer period of tending due to slow growth and vulnerable main tree species, say four years. It makes the duration of afforestation contracts five (5) years, one year longer than the contract under the project. Assuming the total area planned for afforestation would be planted in three years, seven years are necessary to complete afforestation contracts. Further, one year is necessary before completion of the projects to carry out forest inventory survey and transfer of project outputs to new owners.	♦ Duration of the forestry projects in this kind shall be at least 10 years
[Management fee of contractors]	
7. Management fee of the contracts under the project was merely 6% of the total contract cost, following the regulations of 661 program. Many contractors complained of low management fee. It is understandable that the contractors spent a lot of funds for management of the contracted works because the project sites are scattered in remote mountainous areas with poor accessibility. Furthermore, the contractors had to provide technical guidance to the local people on planting and tending techniques to maintain the quality of works.	♦ The ceiling of management fee for the contractors should have been increased to improve the quality of their outputs and to avoid the financial burden of the contractors.

Issues/ Lessons Learned	Recommendations for future projects
[Ceiling budget for infrastructure & extension]	
8. The ceiling budget of forestry infrastructure construction and extension activities was set at 6% and 2% of the total project budget pursuant to the regulation of 661 program. There was no ceiling for the budget of rural infrastructure such as rural roads and irrigation facilities since such infrastructure will be constructed from the budget of other projects/programs according to the regulation of 661 program.	♦ Ceiling of the budget for infrastructure construction and extension should be increased. In the project, fund disbursement for forestry development, forestry infrastructure, rural infrastructure, and training and extension components was 65%, 10%, 9%, and 2%, respectively, of the total disbursement for the project.
[Authority of PPC and DARD	
9. The project delegated certain decision-making authorities to PPCs such as the approval of the investment norm of activities and estimated cost of each contract. This is deemed proper since the PPC was the investment owner and directly responsible for the project implementation. CPMU/MARD was in charge of overall planning of the project, controlling, monitoring and supporting the provinces in project implementation. This was appropriate particularly to avoid cumbersome bureaucratic procedures to get approvals from MARD. However, the delayed approval by some PPCs hampered smooth implementation of the project activities so that PPMUs sometimes requested CPMU to send no objection letters from MARD to facilitate decision-making of the PPCs.	♦ For the future project, MARD should delegate decision making authority to PPC as much as possible like they did for SPL-3 Afforestation Project. PPC should also delegate the authority to approve the design and cost estimate of contracts to DARD to facilitate the project implementation.

Table J-2-2 Lessons Learnt from the Implementation of the Other Projects

Issues	Solutions
[Project design, preparation and appraisal]	
1. **Slow project preparation/designing and appraisal/ approval**, especially with large investment projects (WB and ADB projects often take 3-5 years for preparation and approval), may lead to the loss of project implementation momentum. Strictly designed project activities and rigid implementation modalities with defined cost norms and cost break-down in a logical matrix format may become soon outdated in the fast changing context of Vietnam. In some cases projects have to be restructured (WB) or take significant changes (EC).	♦ Better coordination between donor and government appraisal procedures to shorten time required for project preparation. Flexibility and freedom should be foreseen so that project implementers could adapt to the changing environ of project. Project design should contain its goals, objectives, approach and outputs rather than going into details with project activities and cost estimates.
2. **Lack of coordination between donor and government appraisal procedures**: There is not enough effective coordination between the consultants and counterpart team in project formulation and appraisal process. While the consultant team is charged with preparing formulation reports for submission to the donors, Vietnamese counterparts are left with preparing the pre-feasibility study for submission to Government. Poor coordination of these two processes has resulted in different understandings and consequently delays in the appraisal and approval process, or later problems in project implementation.	♦ The project formulation report for the donor as well as the pre-feasibility study for Government should be the work of both, consultant team and counterpart team. The guidelines of ADB and MPI on the procedures for project preparation and implementation should be applied in this process.
3. **Unrealistic institutional assessment**: Unavailability of "independent" private extension services, design companies or forest services etc. are common features of the institutional environment forestry projects. However, in most projects designers did not study carefully what institutions and services units would be eligible and capable to work for the project, but rather left these issues for the first years of project implementation, which caused delays.	♦ Analysis of the availability and capacities of eligible institutions and services should be carried out by the design team as an integrated component of the project preparation. In this, donor policies on e.g. private sector involvement need to be adjusted to the realities in Vietnam, where professional private service institutions are still rare, and those existing might not be interested in complicated ODA projects.
[Beneficiaries' ownership]	
4 Design documents prepared mainly by project designers (donors and government) in a rather short period of time, while being able to pre-determine activities, budgets, and schedules, cannot truly reflect the priorities of local people. As a result, beneficiaries often have interest only in some, not all project investments and are reluctant to contribute their energy and resources to project activities less attractive to them.	♦ Detailed pre-targeting of the donor or government should be avoided. To this extend, donors and government should indicate lump sum budgets and objectives, which beneficiaries should further specify and prioritize during operational planning; (iv) Beneficiaries' contribution should be decided by local communities in the context of yearly operational planning and budgeting, adjusted to local conditions ♦ Government and donors should jointly developed suitable guidelines on the simplest possible procedures for community participation in procurement for and implementation of forestry and rural development projects

Issues	Solutions
5 More beneficiaries-based, flexible project designs are necessary. Community control over budget and decision making is a key factor for efficient use of the fund, and is likely to substantially increase beneficiaries' contributions as experienced e.g. in concrete canal or rural village road construction:	♦ Beneficiaries' contribution should be decided by local communities in the context of yearly operational planning and budgeting, adjusted to local conditions.
[Procurement and contracting]	
6 During the implementation of the WB1 project, the WB tightened up on the general procurement procedures for the whole of Vietnam, whereby the Government departments or State owned companies that were related to the project implementing agency became ineligible for subcontracting work because the WB placed much more emphasis on the procurement of services from the private sector. A limited period for the change over was allowed and this included specific project based waivers from the WB in Washington for the procurement of services from a related state owned company or organizations where there was no capacity in the private sector and this took some time to clarify. Similarly, a number of projects did suffer in the procurement of technical services in fields such as engineering, agricultural or forest extension due to the very limited capacity in the private sector at the time.	♦ Same as solution no.3. ♦ Apply direct procurement for specific activities such as e.g. training, extension, designing silviculture activities and infrastructure construction, micro-planning, etc. (***note**: this issue did not occur in SPL-3 afforestation project wherein the project implementation guidelines specified such public institutions as eligible contractors.)*
7. The Provincial People's Committee (PPC) approves the design and cost estimate for almost forestry projects and the approval is often a slow process.	♦ PPC should delegate/authorize the approval of design and cost estimate to sectoral departments related to components or sub-components of the project.
[Objectives, tasks and time frame]	
8. Some projects were designed with multiple objectives, without a clear clarification of their priority. In general it is suggested that project designers follow a straightforward and simple approach as possible with realistic goals and objectives.	♦ Several main objectives can be identified e.g. for poverty reduction or for forest conservation, but a clear priority ranking should be specified.
9. Similarly, the timeframe of the projects needs to be carefully reviewed. It usually takes at least 2 years to prepare project investments in a specific locality due to time-consuming activities such as community approaches, land use planning and land allocation. There are only 3-4 years left to implement the project, which is not enough to see the full impact of forestry-related project activities, even for a normal project duration of 5 to 6 years. This is a short period particularly for forestry investments where first results can be seen earliest after 8 to 15 years.	♦ Unless projects durations can be extended to <u>at least 8 years</u>, land and forest resource inventory, land use planning and land allocation should be carried out before the implementation of project starts, using government budgets or preparatory donor budgets to avoid delays in the implementation. ♦ Donors should consider project durations of 8-10 years (as already applied in KFW plantation projects) and project designs should foresee a reduction of project investments, or replacement of donor contributions with counterpart/government funds in the last 3-5 years to facilitate a smooth transition into the post-project period.

Issues	Solutions
10. Some investment projects developed new policies while implementing the investments at the same time, which proved very difficult and time consuming.	♦ If new policies are required, a separate technical support project should prepare such policies, and the investment project should start only if the policy has been developed, and been approved by the respective Government institution(s) for large scale application.
11. Projects designed with a wide and extensive scope of components and activities faced complications due to limited management capacities of the local administrations.	♦ The project design should focus on core-activities rather than addressing every possible intervention and activities, which, together with the still too complicated procedures for procurement and disbursement, totally overwhelms the project management capacity
[Capacity building]	
12. It takes a lot of time and energy to improve the project management capacity of project staff and implementing agencies, particularly of communities involved at commune and village level as required in participatory approaches. Many projects do not allocate sufficient resources for this component or plan low budget for that. For example, most of projects have developed only 2-3 days staff training courses for very important project management activities (M&E, financial management, work planning, environmental safeguard policies, etc.), which is too short to develop a good understanding of these issues. Very few training courses or workshops have been conducted regularly on any level to upgrade knowledge, or to draw lessons learned, which hampered capacity development of project staff.	♦ Simplified guidelines for project management, small civil works, community participation, safeguard policies, environmental policies, and training and extension should be prepared jointly between the donors and the government. ♦ Training courses for project staff should be carried out before implementation of project activities starts. ♦ Training material should be easy to understand, and suitable with local staff capacities, and awareness levels of beneficiaries.
[Project Implementation Manual]	
13. All large-scale ODA projects in the forestry sector have specified their standard operating procedures (SOP) in so-called “Project Implementation Manuals (PIM)”, which, apart from WB projects, were elaborated during project implementation. Whereas PIMs prepared in KfW grant projects since 1995/96 were rather clear and down-to-earth, ADB1 (Forestry Sector Project) as the first ODA loan project in the forestry took more then 3 years (1998 into 2001) to complete this document, due to the fact that many procedures and investments had to be clarified.	♦ Detailed draft PIM should be prepared during the design process by consultant and counterpart teams, and be endorsed by donors and government. The content of PIM should include all draft guidelines with appraised comments from relevant authorities so that these documents could become effective as soon as project agreement is signed. At the same time, future PIM have to allow for increased decentralization and beneficiaries involvement, and must therefore not regulate all aspects anymore on central level in detail, but rather clarify responsibilities of lower levels and beneficiaries and provide appropriate guidance.

Issues	Solutions
[Financial management]	
14 The necessity to prepare detailed budgets not only for government, but also for ODA loan funds in line with Government regulations (pursuant to Decree 52) is one of the challenges in financial management particularly for forestry projects where many small-scale investments occur and which are impossible to be defined exactly. Budgets are allocated according to project components and budget items as shown in the pre-feasibility study and project documents. As for the overall budget, State approves the pre-feasibility study, but delegates the authority for appraisal and approval of the feasibility study to the Executive Ministry. As stipulated in Decree 52, there have to be feasibility studies for each and every investment activity, which is appropriate for infrastructure projects (which have been the background for the emergence of Decree 52), but not for forestry projects. However, unless these requirements are met, State Treasuries cannot endorse expenditure statements, which is required for reimbursements by the loan donor. Thus financial administration is at present the most cumbersome and demanding tasks of Executing Agencies.	♦ MARD should report to Government on problems related to the preparation of overall budget planning for forestry and rural development projects, and asking for a specific mechanism for establishing the overall budget projection in a simplified way. ♦ Executing Agencies should issue a framework for technical standards and cost norms for different forestry-related investments, and should allow PPCs to decide and approve actual investment costs according to provincial policies.
[Project management]	
15. In most forestry projects, MARD is the investor so that all relevant documents have to be submitted to MARD for approval, with prior appraisal by respective functional Departments within MARD. This made for cumbersome bureaucratic procedures causing delays in the project implementation. (*In the JBIC afforestation project, provincial authorities are the investor, and are as such directly responsible for project implementation. MARD is in charge of overall project activities, controlling, monitoring and supporting the provinces in project implementation*.)	♦ The model of delegating role of investor for provincial project components to provincial authorities as exercised in the JBIC project is considered the most appropriate project organization for forestry projects. Provincial authorities should be delegated the rights of approval in project implementation.

Table J-3-1. Comparison of Original Proposals and Revised Plans of the Target Areas for Forest Development/Improvement Components

A. Original Proposal submitted by DARDs of the 12 Provinces: July 31, 2009 (Unit: ha)

Sub-component and Activities	Thanh Hoa	Nghe An	Ha Tinh	Quang Binh	Quang Tri	T.T. Hue	Quang Nam	Quang Ngai	Binh Dinh	Phu Yen	Ninh Thuan	Binh Thuan	**Total**
Development of Watershed Protection Forest													
(1) Afforestation	1,200	6,500	4,086	2,500	3,000	3,000	970	3,500	4,622	3,390	2,406		**35,174**
(2) Improvement of existing plantations	2,500	2,650	2,233			600							**7,983**
(3) Forest Protection	25,000	62,500	13,289		4,000	8,000	9,000	5,000	6,397	11,080	7,890	3,600	**155,756**
(4) ANR + Enrichment	1,000				1,300	500	2,100	630	2,415		1,633		**9,578**
(5) ANR	3,000			1,000	1,500	2,000	1,100	3,300	5,635	1,900	1,575	4,200	**25,210**
Improvement of SPL-3 forests													
(1) Forest Protection					4,485	4,135	1,550	4,787		4,221			**19,178**
(2) Enrichment planting					400			700		765			**1,865**
(3) Vegetation clearing & thinning					3,000	3,426	1,550	3,087					**11,063**
Development of Coastal Protection Forest													
(1) Afforestation	800		288	500		600					50	1,100	**3,338**
(2) Mangrove plantation			390										**390**
(3) ANR/ Enrichment Planting				1,600		100						1,600	**3,300**

B. Revised Plan drafted by the Survey Team: March 31, 2010 (Unit: ha)

Sub-component and Activities	Thanh Hoa	Nghe An	Ha Tinh	Quang Binh	Quang Tri	T.T. Hue	Quang Nam	Quang Ngai	Binh Dinh	Phu Yen	Ninh Thuan	Binh Thuan	**Total**
Development of Watershed Protection Forest													
(1) Afforestation	1,270	2,300	1,960	1,600	2,900	3,000	970	3,500	2,480	1,500	1,610		**23,090**
(2) Improvement of existing plantations	1,400	900	1,000										**3,300**
(3) Forest Protection	6,600	4,100	8,510	3,000	4,000	8,000	7,000	3,200	3,710	4,350	7,900	3,600	**63,970**
(4) ANR with Enrichment planting					300	500	2,100	600			1,200		**4,700**
(5) ANR	900			800	2,450	2,000	1,100	2,700	4,700	900	1,500	4,200	**21,250**
Improvement of SPL-3 forests													
(1) Forest Protection					1,610	700	120			2,020			**4,450**
(2) Enrichment planting					400					600			**1,000**
(3) Vegetation clearing & thinning					1,600	3,400	1,430	3,790					**10,220**
Development of Coastal Protection Forest													
(1) Afforestation				400							50	1,100	**1,550**
(2) Improvement of plantation				800									**800**
(3) Forest Protection													
(4) ANR with Enrichment planting												1,600	**1,600**

Table J-3-2. Result of Evaluation of the Target Sites proposed by the 12 Provinces

Province	District (Target site)	Communes involved	Proposed activities				Evaluation Criteira							Priority based on the criteria	Initial Evaluation (Comments)
			Afforestation (ha)	Improvement of Plantation	ANR (ha)	Protection (ha)	Forest owner	Area for reforestation	Gopgraphical contiguity	Function of protection forest	Location of the target site	Accessibility	Poverty ratio (%)		
Thanh Hoa	Thach Thanh	Thach Toung Thach Lam Ngoc Trao		100.0	600.0		Thach Thanh PFMB	Zero	Contiguous	Watersheds of Lung river (for irrigation)	Upstream of the watershed	The area is rather remote from the provincial capital in the coastal land. The road is good.	5%	Meduim	
	Ha Trung	Ha Linh	100.0	100.0		200.0	Ha Trung PFMB	Less than 1,000 ha	The area for protection is contiguous, but that for afforestation is rather fragmented.	Watesheds of Len river (for irrigation)	Midstream of the watershed	Easy to access	3%	Mediun-High	The target areas fragmeneted on a small scale shall be canceled.
	Nhu Xuan	Cat Van Thanh Quan Thanh Hoa	500.0		100.0	2,400.0	Song Chang PFMB, One PFMB will be established.	Less than 1,000 ha	Contiguous	Watesheds of Chang river (for irrigation)	Midstream of the watershed	Rather good	9%	High	Proposed for the project
	Nhu Thanh	Phuong Nghi Xuan Thai		300.0		1,215.5	Sim PFMB, Nhu Xuan PFMB	Zero	The area for protection is contiguous, but that for afforestation is rather fragmented.	Watershedf of Ma river (fore irrigation)	Midstream of the watershed	Rather good	6%	Medium	The target areas fragmeneted on a small scale shall be canceled.
	Thuong Xuan	Xuan Cao Xuan Thang Luan Thanh Luan Khe		500.0	621.7	1,532.6	Song Dan PFMB	Zero	Targets for Reforestation and ANR are fragmented on a small scale, but that for protection is contiguous.	Watesheds of Chu river (for irrigation)	Upstream of the watershed	The area is rather remote from the provincial capital in the coastal land.	10%	Medium	The target areas fragmented on a small scale shall be cancelled. The focus shall be put on those in a contiguous form.
Nghe An	Tuong Duong	Tam Thai Tam Hop Thach Giam	817.0	200.0			Tuong Duong PFMB	Less than 1,000 ha	Fragmented	Watesheds of Ca river (for irrigation)	Upstream of the watershed (but the target for protection of natural forest presently covers the plantation	The area is remote from the provincial capital in the coastal land. The road is good.	59%	High	The target areas belonging to the plantation forest and those fragmented on a small scale shall be
	Nam Dan	Nam Giang Nam Nghia Nam Thai Nam Hung Nam Thanh				995.0	Nam Dan PFMB	Zero	The areas for Reforestation are fragmented on a small scale, but that for protection is contiguous.	Watesheds of Ca river (for irrigation)	Midstream of the watershed	Easy to access	15%	Medium	The target areas for afforestation shall be canceled.
	Nghi Loc	Nghi Dong Nghi Cong Bac Nghi Quang Nghi Thiet Phuc Tho Nghi Cong Nam Nghi Yen Nghi Lam				3,231.0	Nghi Loc PFMB	Zero	The areas for Reforestation are fragmented on a small scale, but that for protection is contiguous.	Watesheds of Lam river (for irrigation)	Mid/Downstream of the watershed (but the target for protection of natural forest presently covers the plantation forests.)	Easy to access	18%	Medium	The target areas fragmeneted on a small scale and those belonging to the plantation forest shall be canceled.
	Yen Thanh	Dong Thanh Hau Thanh		200.0		456.0	Yen Thanh PFMB	Zero	The areas for Reforestation are fragmented on a small scale, but that for protection is contiguous.	Watesheds of Ca river (for irrigation)	Midstream of the watershed	Rather good	15%	Medium	The target areas fragmeneted on a small scale shall be canceled.
	Tan Ky	Nghia Dung	640.0				Tan Ky PFMB	Less than 1,000 ha	Fragmented	Watesheds of Con river (for irrigation)	Midstream of the watershed	Rather good	27%	Medium-High	
	Quynh Luu	Quynh Thang Tan Thang	1,343.0	500.0		446.0	Quynh Luu PFMB	More than 1,000 ha	Fragmented	Watesheds of Vuc Mau river (for irrigation)	Midstream of the watershed	Easy to access	14%	High	The target areas fragmeneted on a small scale shall be canceled.

Province	District (Target site)	Communes involved	Proposed activities				Evaluation Criteira							Priority based on the criteria	Initial Evaluation (Comments)
			Afforestation (ha)	Improvement of Plantation	ANR (ha)	Protection (ha)	Forest owner	Area for reforestation	Gopgraphical contiguity	Function of protection forest	Location of the target site	Accessibility	Poverty ratio (%)		
Ha Tinh	Nghi Xuan	Co Dam Xuan Linh Xuan Hong	117.0	360.0		1,219.4	Hong Linh PFMB	Less than 1,000 ha	Contiguous in general, but rather fragmented in protection of natural	Small scale watesheds (for irrigation)	Upstream of the watershed Located on sandy	Easy to access	17%	High	The target areas fragmented on a small scale shall be canceled..
	Can Loc	Thien Loc Thuan Thien	70.0	240.0		1,916.1	Hong Linh PFMB	Less than 1,000 ha	The areas for Reforestation are fragmented on a small scale, but that for protection is contiguous.	Watesheds of Nghen river (for irrigation)	Upstream of the watershed	Easy to access	24%	Medium-High	The target areas fragmented on a small scale shall be canceled..
	Cam Xuyen	Cam Linh Cam Minh Cam Lac Cam Thinh Cam Quan Cam Thach	742.2	105.9		1,669.5	Cam Xuyen PFMB	Less than 1,000 ha	Fragmented	Sand- and tide-shielding Inland watersheds of Ke Go lake Watersheds of Ga Hon river (irrigation)	Located on sandy coastal area Upstream of the watershed	Rather good	29%	High	The target areas fragmented on a small scale shall be canceled..
	Thach Ha	Thach Ban Bac Son Thach Xuan Thach Dien	328.9	60.0		1,539.4	Thach Ha PFMB	Less than 1,000 ha	Fragmented	Watesheds of Kenh Can river (for irrigation)	Located on sandy coastal area Upstream of the watershed	Rather good	26%	Medium-High	Planting on small islands in the reservoir shall be cancelled.
	Huong Son	Son Lam Son Le Son Tien	862.4	110.0		2,439.8	Ngan Pho PFMB	Less than 1,000 ha	Fragmented	Watesheds of Lam Can river (for irrigation)	Upstream of the watershed	The area is remote from the provincial capital in the coastal	32%	High	The remote areas or those difficult to access shall be canceled.
Quang Binh	Quang Trach	Quang Hop Quang Kim Quang Luu Quang Trach	1,000.0				Quang Trach PFMB	More than 1,000 ha	Contiguous	Watesheds of Nha Le river (for irrigation) Sand- and tide-shielding	Upstream of the watershed Located on sandy coastal area	Easy to access	23%	High	The target for reforestation shall be adjusted to less than 1,500 ha. The sandy areas in a rather fragmented form shall be
	Quang Ninh	Truong Xuan Truong Son Vo Ninh Gia Ninh Hai Ninh	800.0		800.0		Ba Ren PFMB, Long Dai PFMB, Ven Bien Nam PFMB	Less than 1,000 ha	Fragmented	Watesheds of Lang Dai river (for irrigation) Sand- and tide-shielding	Upstream of the watershed Located on sandy coastal area	Easy to access	18%	High	The target areas fragmented on a small scale shall be canceled.
	Le Thuy	Hong Thuy Thanh Thuy Cam Thuy Hung Thuy Sen Thuy Ngu Thuy Bac	400.0	800.0			Ven Bien Nam PFMB	Less than 1,000 ha	The areas for Reforestation are fragmented on a small scale, but that for protection is contiguous.	Sand- and tide-shielding	Located on sandy coastal area	Easy to access	54%	Medium-High	The target areas fragmented on a small scale shall be canceled.
Quang Tri	Huong Hoa	Huong Phung Huong Tan Huong Linh Tan Thanh Huong Son Tan Hop	1,300.0		400.0	1,500.0	Huong Hoa-Dakrong PFMB	More than 1,000 ha	Contiguous on a large scale	Watesheds of Thạch Hãn river (for irrigation)	Upstream of watershed	The area is away from residential areas. But accessibility is rather good with roads network constructed by	20%	High	Proposed for the project
	Dakrong	Huong Hiep Dakrong Mo O Krong Klang			200.0	500.0	Huong Hoa-Dakrong PFMB	Zero	Slightly fragmented	Watesheds of Thạch Hãn river (for irrigation)	Upstream of the watershed	Rather poor	18%	Medium	ditto
	Vinh Linh	Vinh Ha Vinh O			550.0	1,000.0	Ben Hai River PFMB	Zero	Slightly fragmented	Watersheds of Bến Hải river (for irrigation)	Upstream of the watershed	ditto	19%	Medium	ditto
	Gio Linh	Linh Thuong	1,400.0		400.0	1,000.0	Ben Hai River PFMB	Less than 1,500 ha	Contiguous on a large scale	Watersheds of Bến Hải river (for irrigation)	Upstream of the watershed	The area is away from residential areas. But forest roads network are well developped.	21%	High	ditto
	Hai Lang	Hai Lam Hai Son	100.0		950.0		Thach Han River PFMB	Less than 1,000 ha	Contiguous	Watesheds of Thạch Hãn river (for irrigation)	Lower watershed	Rather good	25%	Medium-High	ditto
	Trieu Phong	Trieu Thuong	50.0				Thach Han River PFMB	Less than 1,000 ha	Slightly fragmented	Watesheds of Thạch Hãn river (for irrigation)	Lower watershed	ditto	25%	Medium	ditto
	Quang Tri (township)	Hai Le	50.0		300.0		Thach Han River PFMB	Less than 1,000 ha	Slightly fragmented	Watesheds of Thạch Hãn river (for irrigation)	Lower watershed (near Dong Ha town)	ditto	22%	Medium	ditto

Province	District (Target site)	Communes involved	Proposed activities				Evaluation Criteira							Priority based on the criteria	Initial Evaluation (Comments)
			Afforestation (ha)	Improvement of Plantation	ANR (ha)	Protection (ha)	Forest owner	Area for reforestation	Gopgraphical contiguity	Function of protection forest	Location of the target site	Accessibility	Poverty ratio (%)		
T.T. Hue	Huong Tra	Huong Van Hong Tien Binh Thanh Binh Dien	1,100.0	50.0	1,000.0	2,910.0	Huong River PFMB, Bo River PFMB	Less than 1,500 ha	Slightly fragmented	Watesheds of Huu Trach river (for hydropower and irrigation)	Adjacent to the reservoir of Binh Dien dam.	Access by boat	2%	High	Proposed for the project
	Huong Thuy	Duong Hoa	1,100.0	550.0	1,000.0	3,410.0	Huong Thuy PFMB Huong River	Less than 1,500 ha	Slightly fragmented	Watesheds of Tha Trach river (for hydropower and irrigation)	Adjacent to the reservoirs of Binh Dien and Tha Trach dams.	ditto	54%	High	ditto
	Phong Dien	Phong Xuan, Phong Son	800.0		500.0	1,680.0	Bo River PFMB	Less than 1,000 ha	Slightly fragmented	Watersheds of Bo river (for hydropower and irrigation)	Adjacent to the reservoir of a dam on bo river.	ditto	1%	Medium-High	ditto
	Phu Loc	Vinh My Vinh Hien Vinh Hai	300.0		50.0		Ven Bien PFMB	Less than 1,000 ha	Contiguous on a large scale	Sand- and tide-shielding	Located on sandy coastal area.	Road network is developed	11%	Medium	ditto
	Phu Vang	Vinh My Vinh Hien Vinh Hai Phu Thuan Phu Hai Phu Dien Vinh Xuan Vinh Thanh Vinh An	300.0		50.0		Ven Bien PFMB	Less than 1,000 ha	Contiguous on a large scale	Sand- and tide-shielding	Located on sandy coastal area.	Road network is developed	2%	Medium	ditto
Quang Nam	Dong Giang	Song Kon Jo Ngay A Ting Xa Ba Ma Cooi	300.0		1,200.0	2,000.0	Kon river PFMB, A Vuong PFMB	Less than 1,000 ha	Slightly fragmented	Watesheds of Vu Gia river (for irrigation)	The target sites are disparsed and adjacent to the reservoir.	The area is away from residential areas.	46%	Medium	Proposed for the project
	Phuoc Son	Phuoc Hiep, Phuoc Hoa	370.0		200.0	1,000.0	Dak Mi PFMB	Less than 1,000 ha	Slightly fragmented	Watesheds of Vu Gia river (for irrigation)	The target sites are disparsed and located in	ditto	61%	Medium	ditto
	Bac Tra My	Tra Bui			500.0	2,500.0	Tranh River PFMB	Zero	Slightly fragmented	Watersheds of Tranh river (for hydropower)	The target sites are disparsed and located	ditto	30%	Medium	ditto
	Phu Ninh	Tam Dai, Tam Dan, Tam Lanh	300.0		510.0		Phu Ninh PFMB	Less than 1,000 ha	Contiguous	Watersheds of Phu Ninh dam (for hydropower, irrigation and water supply)	Adjacent to the reservoir.	Road network is relatively developed	17%	Medium	Planting on small islands in the reservoir shall be cancelled.
	Nui Thanh	Tam Son, Tam Thanh, Tam Tra			290.0	1,500.0	Phu Ninh PFMB	Zero	Contiguous	Watersheds of Phu Ninh dam (for hydropower, irrigation and water supply)	Adjacent to the reservoir.	ditto	23%	Medium	Proposed for the project
	Duy Xuyen	Duy Trung, Duy Son, Duy Hoa, Duy Phu			500.0	2,000.0	One PFMB will be established.	Zero	Slightly fragmented	Watershed of small reservoirs for irrigation.	The target sites are disparsed and adjacent to the reservoirs.	ditto	23%	Medium	ditto
Quang Ngai	Ba To	Ba Trang, Ba Lien Ba Xa, Ba Ngac, Ba Tieu, Ba Dinh	1,000.0		2,280.0	1,500.0	Ba To East PFMB, Ba To West PFMB	More than 1,000 ha	Slightly fragmented	The east area is the watesheds of Ve river (for hydropower and irrigation). The west area is that of Trà Khúc river (for irrigation)	The east area is adjacent to the reservoir, while the west area is upper catchment area of Thach Nham irrigation weir.	The area is away from residential areas with poor accessibility.	51%	High	Proposed for the project
	Son Ha	Son Ba, Son Ky, Son Linh	1,500.0		750.0		Thach Nham PFMB	= 1500ha	Slightly fragmented	Watesheds of Trà Khúc river (for irrigation)	Located in the upper catchments of the Thach Nham irrigation weir.	ditto	61%	High	ditto
	Son Tay	Son Bue, Son Mua, Son Dung	300.0			800.0	Son Tay PFMB	Less than 1,000 ha	Slightly fragmented	Watesheds of Trà Khúc river (for irrigation)	Located in the upper catchments of the Thach Nham irrigation weir.	ditto	54%	Medium-High	ditto
	Tay Tra	Tra Khe, Tra Lanh, Tra Xinh, Tra Tho	700.0		900.0	900.0	Tay Tra PFMB	Less than 1,000 ha	Slightly fragmented	Watesheds of Trà Khúc river (for irrigation)	Located in the upper catchments of the Thach Nham irrigation weir.	ditto	82%	Medium-High	ditto

Province	District (Target site)	Communes involved	Proposed activities				Evaluation Criteira							Priority based on the criteria	Initial Evaluation (Comments)
			Afforestation (ha)	Improvement of Plantation	ANR (ha)	Protection (ha)	Forest owner	Area for reforestation	Gopgraphical contiguity	Function of protection forest	Location of the target site	Accessibility	Poverty ratio (%)		
Binh Dinh	Hoai Nhon	Hoai Son	466.9				Hoai Nhon PFMB	Less than 1,000 ha	Contiguous on a medium scale	Watesheds of Can Hau reservoir (for irrigation) and Dong Tranhe reservoir (for irrigation)	The target site is adjacent to the reservoir and located in the upper slopes of the reservoirs.	Parts of the target sites are away from communities/residential areas and difficult to access.	18.7%	Medium-High	The remote areas/those difficult to access from communities should be canceled.
	Hoai An	Bok Toi An Nghia An Son	294.0		2,789.9		Hoai An PFMB	Less than 1,000 ha	Slightly fragmented but on a large scale	Watersheds of Van Ho reservoir (for irrigation), Lai Cing reservoir (for irrigation), and Ban Ne reservoir (for	The target sites are disparsed and located in the upper catchments of the reservoirs.	ditto	Bokoti: 35.9% An Nghia: 23.6%	Medium-High	ditto
	Phu My	My An My Hiep My Phong My Hoa	589.5		212.0		Phu My PFMB	Less than 1,000 ha	Rather fragmented	Watersheds of Hoa Ninh reservoir (for irrigation), Ho Da reservoir (for irrigation), Dai Son reservoir (for irrigation), Chi Hoa reservoir (for irrigation), Dap Pho reservoir (for irrigation), Hoc Cau reservoir (for irrigation), and Hoc Sinh reservoir (for	The target sites are disparsed and located in the upper part of the catchments of the reservoirs.	ditto	My An: 6.7% My Hiep: 11.9% My Phong: 6.9% My Hoa: 14.6%	High	ditto
	Vinh Thanh	Vinh Kim	875.5		1,692.4	247.3	Vinh Thanh PFMB	Less than 1,000 ha	Contiguous on a large scale	Watershed of Dinh Binh reservoir (for irrigation)	The target site lies direcly on the upper slopes of the reservoirs.	ditto	64.2%	High	The target for reforestation should be adjusted to less than 1,000 ha by cancelling
	Tay Son	Tay Phu Vinh An	340.5			3,462.7	Tay Son PFMB	Less than 1,000 ha	Contiguous on a large scale	Watershed of Phu Phong river (for irrigation)		ditto	Tay Phu: 12.2% Vinh An: 57.2%	Medium	The remote areas/those difficult to access from communities should be canceled.
Phu Yen	Son Hoa	Phuoc Tan	525.0		1,050.0	550.0	Son Hoa PFMB	Less than 1,000 ha	Contiguous on a large scale	Watersheds of Gia Lai river (flowing into Ba Ha Reservoir used for Hydropower generation) and Calui river used for irrigation of rice field	The target sites are in the upper slopes of the catchment of Gia Lai and Calu rivers.	Parts of the target sites are rather away from communities / residential areas,	39.4%	High	The target area is considered "justifiable" and "implementable".
	Dong Xuan	Phu Mo	1,745.0		530.0	3,805.0	Dong Xuan PFMB	More than 1,500 ha	Contiguous on a large scale	Wateshed of La Heng reservoir (for Hydropower generation)	The target sites lie on the upper slopes of the La Heng reservoir.	The target sites are away from the residential sites in general. Furthermore, some parts of the areas are difficult to	74.5%	High	The target for reforestation should be adjusted to less than 1,000 ha by cancelling the remore target sites.
	Song Hinh	Ea Trol Song Hinh	80.0		490.0	4,715.0	Song Hinh PFMB	Less than 1,000 ha	Contiguous on a large scale	Watershed of Song Hing reservioir (for Hydropower generation and irrigation)	The target sites are adjacent to the reservoir and there are still thick natural forest remaining.	ditto	Eatrol: 36.8% Song Hinh: 32.1%	Medium	The remote areas/those difficult to access from communities should be canceled.
Ninh Thuan	Bac Ai	Phuoc Thanh			340.7		Song Trau PFMB	Zero	Slightly fragmented on a medium scale	Watershed of Song Trau reservoir (for irrigation)	The target site lies direcly on the upper slopes of the reservoir.	Parts of the target sites are away from communities/residential areas and difficult to access.	Phuoc Chien: 38.3% Phuoc Thanh: n.a.	Medium	The remote areas/those difficult to access from communities should be canceled.
	Ninh Son	Lam Son	1,159.2		1,205.5	4,367.8	Krongpha PFMB	More than 1,000 ha	Contiguous on a large scale	Watershed of xxxx reservoir (for irrigation)	ditto	About half of the target sites are away from communities/residential areas and difficult to access.	24.8%	High	The target for afforestation should be adjusted to less than 1,000 ha and the areas difficult to access from communities should be
	Ninh Puoc	Phuoc Ha			964.0	2,630.3	Tan Giang PFMB	Zero	Contiguous on a large scale	Watershed of Giang reservoir (for irrigation)	Some parts of the area are not located in the catchment.	Parts of the target sites are away from communities/residential areas and difficult to access	45.8%	Medium	The remote areas/those difficult to access from communities should be canceled.
		Phuoc Nam	380.0				Nimh Phuoc PFMB	Less than 1,000 ha	Contiguous on a medium scale	Protection of nationa road No. 1 and residences along the road (from landslides	The area is not located in the upper slope of the national road, but on the hills between the road and communities.	The target site is rather accessible from communities.	10.0%	Medium-High	Accepted (Project intervention is necessary to stop illegal forest exploitation of communities.)
		Phuoc Dinh	50.0		674.2	890.8	Nimh Phuoc PFMB	Less than 1,000 ha	Contiguous on a large scale	Protection of industrial development zone and residential rea of Phuoc Dinh	The area for afforestation is strategically improtant to protect the industrial zone from sand	The site for reforestation is easy to access, but the other sites are away from communities.	16.8%	Medium	The remote areas/those difficult to access from communities should be canceled.

Province	District (Target site)	Communes involved	Proposed activities				Evaluation Criteira							Priority based on the criteria	Initial Evaluation (Comments)
			Afforestation (ha)	Improvement of Plantation	ANR (ha)	Protection (ha)	Forest owner	Area for reforestation	Gopgraphical contiguity	Function of protection forest	Location of the target site	Accessibility	Poverty ratio (%)		
Binh Thuan	Tuy Phong	Phan Dung			200.0	800.0	Tuy Phong PFMB	Zero	Contiguous on a large scale	Watershed of Long Song reservoir (for irrigation)	The target site is located in the upper part of the catchment of the reservoir.	Parts of the target site are away from communities / residential areas and difficult to access.	8.6%	Medium	The remote areas/those difficult to access from communities should be canceled.
		Chi Cong	100.0				Tuy Phong PFMB	Less than 1,000 ha	Slightly fragumented on a small scale since it is coastal protection forest	Protection of farm lands and houses of Chi Coms and Binh Than	The target site is adjacent to the residential areas of Chi Coms and Binh Than commune.	The target site is close to communities and easy to access from the residential areas.	Chi Coms: 5.3 % Binh Thanh: 6.7 %	Medium-High	The target area is considered "justifiable" and "implementable".
		Phong Phu			500.0	800.0	Long Song Da Bac PFMB	Zero	Contiguous on a medium scale	Watershed of Da Bac reservoir (for irrigation)	The taret site cover the catchment of a few of tributaries of the reservoir.	Parts of the target site are away from communities / residential areas and difficult to access.	26.8%	Meduim	The remote areas/those difficult to access from communities should be canceled.
	Bac Binh	Hoa Thang	650.0		1,600.0		Le Hong Phong PFMB	Less than 1,000 ha	Contiguous on a large scale	Protection of a reservoir for water supply to Hoa Thang commune	The target site is adjacent to the reservoir and would contribute to protection of the reservoir from inflow of	Parts of the target site are away from communities / residential areas.	7.0%	High	Ditto
		Phan Lam			700.0	100.0	Ca Giay PFMB	Zero	Contiguous on a large scale	Watershed of Ca Giay reservoir (for irrigation)	The target site lies directly on the upper slopes of the reservoir.	Parts of the target site are away from communities / residential areas and difficult to access.	22.7%	Medium	Ditto
	Ham Thuan Bac	Thuan Minh			900.0	800.0	Dong Giang PFMB	Zero	Contiguous on a large scale	Watersheds of small scale irrigation reservoirs in Dong Giang commune	The target site is adjacent to the reseroir and lies directly on the upper slopes of the reservoir.	Parts of the target site are away from communities / residential areas and difficult to access.	8.5%	Medium	Ditto
		Don Tien			800.0	900.0	Song Quao PFMB	Zero	Contiguous on a large scale	Watershed of Song Quao reservoir (for irrigation and hydropower generation)	The target site is located in the upper part of the catchment of the reservoir.	Parts of the target site are away from communities / residential areas and difficult to access.	Don Tien: 14.7% Dong Giang: n.a.	Medium	Ditto
		Da Mi			1,100.0	200.0	Ham Thuan Dami PFMB	Zero	Contiguous on a large scale	Watershed of Ham Thuan reservoir (forirrigation and hydropower generation)	The target site is adjacent to the reseroir and lies directly on the upper slopes of the reservoir.	Parts of the target site are away from communities / residential areas and difficult to access.	4.7%	Medium	Ditto
		Hong Son	350.0				Hong Phu PFMB	Less than 1,000 ha	Contiguous on a medium scale	Protection of farm lands and houses of Hong Song	The target site is adjacent to the residential areas of Hong Song	Parts of the target site are bit away from communities / residential areas.	5.2%	Medium	Ditto

Table J-3-3. List of Taraget Districts and Communes concerned with the Project Areas

Province	District	Management Board	Commune
Total			
12 Provinces	57 PFMB		
54 district			
1 township			
167 commune			
Thanh Hoa	Thuong Xuan	PFMB of Song Dan	Luan Khe, Luan Thanh, (2)
6 districts	Nhu Xuan	PFMB of Song Chang	Thanh Hoa (1)
6 PFMBs	Nhu Thanh	PFMB of Nhu Xuan	Xuan Thai (1)
12 communes	Thach Thanh	PFMB of Thach Thanh	Ngoc Trao, Thanh Long, Thach Lam (3)
	Thinh Gia	PFMB of Tinh Gia	Nguyen Binh, Dinh Hai, Truc Lam, Truong Lam, (4)
	Ha Trung	PFMB of Ha Trung	Ha Linh (1)
Nghe An	Tuong Duong	PFMB of Tuong Duong	Tam Thai, Tam Dinh, Tam Hop, Thach Giam, Yen Na, Yen Thang, Yen Thinh, (7)
6 districts	Nam Dan	PFMB of Nam Dan	Nam Giang, Nam Nghia, Nam Thai, Nam Hung, Nam Thanh, (5)
6 PFMBs	Nghi Loc	PFMB of Nghi Loc	Nghi Dong, Nghi Cong Bac, Nghi Quang, Nghi Thiet, Phuc Tho, Nghi Cong Nam, Nghi Yen, Nghi Lam, (8)
39 communes	Yen Thanh	PFMB of Yen Thanh	Dong Thanh, Hau Thanh, Minh Thanh, Thinh Thanh, (4)
	Tan Ky	PFMB of Tan Ky	Dong Van, Giai Xuan, Nghia Dung, (3)
	Quynh Luu	PFMB of Quynh Luu	Quynh Thang, Tan Son, Quynh Bang, Quynh Luong, Quynh Lap, Quynh Lien, Quynh Minh, Quynh Nghia, Quynh Phuong, Quynh Tho, Tien Thuy, Tan Thang, (12)
Ha Tinh	Nghi Xuan	PFMB of Hong Linh	Co Dam, Xuan Linh, Xuan Hong, Xuan Vien, (4)
5 districts	Can Loc		Thien Loc, Thuan Thien, (2)
4 PFMBs	Cam Xuyen	PFMB of Cam Xuyen	Cam Linh, Cam Minh, Cam Lac, Cam Quan, (4)
18 communes		PFMB of Thach Ha	Cam Thach, (1)
	Thach Ha		Thach Ban, Bac Son, Thach Xuan, Thach Dien, (4)
	Huong Son	PFMB of Ngan Pho	Son Lam, Son Le, Son Tien, (3)
Quang Binh	Quang Trach	PFMB of Quang Trach	Quang Hop, Quang Kim, Quang Luu, Quang Thach, (4)
3 districts	Quang Ninh	PFMB of Ba Ren	Truong Xuan, Truong Son (2)
4 PFMBs		PFMB of Long Dai	
15 communes		PFMB of Ven Bien Nam	Vo Ninh, Gia Ninh, Hai Ninh, (3)
	Le Thuy		Hung Thuy, Hong Thuy, Ngu Thuy Bac, Thanh Thuy, Cam Thuy, Sen Thuy, (6)
Quang Tri	Huong Hoa	PFMB of Huogn Hoa - Dakrong	Huong Phung, Huong Tan, Huong Linh, Tan Thanh, Huong Son, Tan Hop, (6)
6 districts	Dakrong		Dakrong, Huong Hiep, Mo O, Krong Klang, (4)
1 township	Vinh Linh	PFMB of Ben Hai	Vinh Ha, Vinh O, (2)
3 PFMBs	Gio Linh		Linh Thuong, (1)
17 communes	Hai Lang	PFMB of Thach Han River	Hai Lam, Hai Son, (2)
	Trieu Phong		Trieu Thuong, (1)
	Quang Tri (Town)		Hai Le, (1)
T.T.Hue	Huong Thuy	PFMB of Huong Thuy	Duong Hoa, (1)
3 disticts		PFMB of Huong River	Duong Hoa, (1)
3 PFMBs	Huong Tra		Huong Van, Hong Tien (SA 127), Binh Thanh, Binh Dien (SA 137,141,142,143,144,145, 146), Huong Tho, (5)
8 communes		PFMB of Bo River	Huong Van, Hong Tien (SA126), Binh Thanh, Binh Dien (SA 136,138,139), Huong Tho, (5)
	Phong Dien		Phong Xuan, Phong Son, (2)

Table J-3-3. List of Taraget Districts and Communes concerned with the Project Areas

Province	District	Management Board	Commune
Total			
12 Provinces	57 PFMB		
54 district			
1 township			
167 commune			
Quang Nam	Dong Giang	PFMB of Kon River	Song Kon, Jo Ngay, A Ting, (3)
6 districts		PFMB of A Vuong	Ma Cooih, (1)
6 PFMBs	Phuoc Son	PFMB of Dak Mi	Phuoc Hiep, Phuoc Hoa, (2)
19 communes	Bac Tra My	PFMB of Tranh River	Tra Bui, (1)
	Phu Ninh	PFMB of Phu Ninh	Tam Dai, Tam Dan, Tam Lanh, (3)
	Nui Thanh		Tam Son, Tam Thanh, Tam Tra, (3)
	Duy Xuyen	PFMB will be established	Duy Trung, Duy Son, Duy Hoa, Duy Phu, Duy Thu, Duy Trinh, (6)
Quang Ngai	Ba To	PFMB of Ba To East	Ba Trang, Ba Lien, (2)
4 districts		PFMB of Ba To West	Ba Xa, Ba Dinh, (2)
5 PFMBs	Son Ha	PFMB of Thach Nham	Son Ba, Son Ky, (2)
9 communes	Son Tay	PFMB of Son Tay	Son Bua, (1)
	Tay Tra	PFMB of Tay Tra	Tra Lanh, Tra Xinh, (2)
Binh Dinh	Hoai Nhon	PFMB of Hoai Nhon	Hoai Son, (1)
5 districts	Hoai An	PFMB of Hoai An	Bok Toi, An Nghia, An Son, (3)
5 PFMBs	Phu My	PFMB of Phu My	My Hiep, My Phong, My An, (3)
10 communes	Vinh Thanh	PFMB of Vinh Thanh	Vinh Kim, (1)
	Tay Son	PFMB of Tay Son	Tay Phu, Vinh An, (2)
Phu Yen	Dong Xuan	PFMB of Dong Xuan	Phu Mo, (1)
3 districts	Song Hinh	PFMB of Song Hinh	Ea Trol, Song Hinh, (2)
3 PFMBs	Son Hoa	PFMB of Son Hoa	Phuoc Tan, (1)
4 communes			
Ninh Thuan	Bac Ai	PFMB of Song Trau	Phuoc Thanh, (1)
4 districts	Thuan Bac		Phuoc Chien, Phuoc Khang, (2)
4 PFMBs	Ninh Son	PFMB of Krongpha	Lam Son, (1)
7 communes	Ninh Phuoc	PFMB of Tan Giang,	Phuoc Ha (1)
		PFMB of Ninh Phuoc	Phuoc Nam, Phuoc Dinh, (2)
Binh Thuan	Tuy Phong	PFMB of Tuy Phong,	Phan Dung, Chi Cong (2)
3 districts		PFMB of Long Son Da Bac	Phong Phu (1)
8 PFMBs	Bac Binh	PFMB of Le Hong Phong	Hoa Thang (1)
9 communes		PFMB of Ca Giay	Phan Lam (1)
	Ham Thuan Bac	PFMB of Dong Giang	Thuan Minh (1)
		PFMB of Song Quao	Don Tien (1)
		PFMB of Ham Thuan Dami	Da Mi (1)
		PFMB of Hong Phu	Hong Son (1)

Table J-3-4. Demographic Profile and Poverty Situation in the Target Communes

	Project Area		Population			Total No. of HH	No. of HH below poverty line	% HH below poverty line
	No of Target Districts	No of Target Communes	Female	Male	Total			
Thanh Hoa *	6	12	27,646	28,524	56,170	14,340	2,408	18%
Nghe An *	6	39	123,570	121,001	244,571	55,821	9,181	18%
Ha Tinh *	5	18	23,363	22,897	46,260	11,701	1,643	14%
Quang Binh *	3	15	35,652	35,765	71,417	16,334	3,681	23%
Quang Tri **	7	17	28,228	27,323	55,551	12,573	3,512	28%
T.T. Hue *	3	8	18,459	17,842	36,301	7,824	415	10%
Quang Nam	6	19	50,863	47,937	98,800	22,988	6,063	26%
Quang Ngai	4	9	13,097	13,065	26,162	6,356	3,775	59%
Bin Dhin	5	10	29,616	27,639	57,255	16,051	2,570	16%
Phu Yen	3	4	5,278	5,551	10,829	2,417	1,114	46%
Ninh Thuan *	4	7	23,907	23,936	47,843	9,244	2,198	24%
Binh Thuan	3	9	30,194	29,857	60,051	12,714	1,105	9%
Total	**55**	**167**	**409,873**	**401,337**	**811,210**	**188,363**	**37,665**	**21%**

Note: * Data were not available in some target communes..

** No.of taraget district included six dintricts and one township.

Source: JICA Survey Team

Table J-3-5. Ethnic Compostion of the Target Communes in 12 Provinces

Unit: No. of household

Name of Ethnic Group	Thanh Hoa	Nghe An	Ha Tinh	Quang Binh	Quang Tri *	T.T. Hue	Quang Nam	Quang Ngai *	Binh Dinh	Phu Yen	Ninh Thuan	Binh Thuan *	Total by Ethnic Group
Kinh	4,421	24,806	10,525	14,390	-	21,127	17,591	-	16,992	618	3,825	-	114,295
Thai	5,722	1,896	-	-	-	-	-	-	-	-	-	-	7,618
Mong	2,364	182	-	-	-	-	-	-	-	-	-	-	2,546
Tho	264	-	-	-	-	-	-	-	-	-	-	-	264
Khac	136	-	-	-	-	-	-	-	-	-	-	-	136
Bru-Van kieu	-	-	-	656	-	7	-	-	-	-	-	-	663
Pa Hy	-	-	-	-	-	181	-	-	-	-	-	-	181
Mo Nong	-	-	-	-	-	-	180	-	-	-	-	-	180
Ca dong	-	-	-	-	-	-	221	-	-	-	-	-	221
Co tu	-	-	-	-	-	-	1,258	-	-	-	-	-	1,258
Hre	-	-	-	-	-	-	-	-	80	-	-	-	80
Bana	-	-	-	-	-	-	-	-	954	358	-	-	1,312
Ede	-	-	-	-	-	-	-	-	-	570	-	-	570
Cham	-	-	-	-	-	-	-	-	-	865	2,299	-	3,164
Tay	-	-	-	-	-	-	-	-	-	5	-	-	5
Rac Lay	-	-	-	-	-	-	-	-	-	1	1,316	-	1,317
K Ho	-	-	-	-	-	-	-	-	-	-	625	-	625
Thanh	-	294	-	-	-	-	-	-	-	-	-	-	294
Pang	-	119	-	-	-	-	-	-	-	-	-	-	119
Kho mu	-	10	-	-	-	-	-	-	-	-	-	-	10
Others	-	-	-	-	-	-	664	-	12	-	82	-	758
Total No of reported HH	**12,907**	**27,307**	**10,525**	**15,046**	**12,573**	**21,315**	**19,914**	**11,300**	**18,038**	**2,417**	**8,147**	**6,040**	**135,616**
% of Kinh	34%	91%	100%	96%		99%	88%		94%	26%	47%		84%
% of Other groups	66%	9%	0%	4%		1%	12%		6%	74%	53%		16%

Note; * Data are not available.

Source: JICA Survey Team

Table J-3-6. Projected Assignment Schedule of and Cost Estimates for Consulting Services in the Project

	Rate	Man-Months												Amount											
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
Remuneration of International Experts (1,000 Yen/month)		-	11	26	24	24	19	14	11	8	10	-	147.0	-	29,900	71,000	66,400	66,400	52,500	38,800	30,700	22,400	27,400	-	348,800
1 Team Leader	2,900		4.0	8.0	8.0	8.0	6.0	5.0	5.0	4.0	4.0		52.0	-	11,600	23,200	23,200	23,200	17,400	14,500	14,500	11,600	11,600	-	150,800
2 Forest Development Planning and Monitoring	2,700		4.0	11.0	11.0	11.0	8.0	6.0	6.0	4.0	4.0		65.0	-	10,800	29,700	29,700	29,700	21,600	16,200	16,200	10,800	10,800	-	175,500
3 Community / Rural Development	2,700			3.0	5.0	5.0	5.0	3.0					21.0	-	-	8,100	13,500	13,500	13,500	8,100	-	-	-	-	
4 Satellite Data Analysis/ GIS	2,500		3.0	4.0							2.0		9.0	-	7,500	10,000	-	-	-	-	-	-	5,000	-	22,500
Direct Expenses (1,000 Yen)														-	6,150	13,700	12,600	12,600	10,350	7,900	6,350	5,000	6,100	-	80,750
Per Diem (per day)	15													-	4,950	11,700	10,800	10,800	8,550	6,300	4,950	3,600	4,500	-	66,150
International Travel (round trip)	200	0	3	7	6	6	6	5	4	4	5	0	46	-	600	1,400	1,200	1,200	1,200	1,000	800	800	1,000	-	9,200
International Communication (month)	50													-	600	600	600	600	600	600	600	600	600		5,400
Total (1,000 Yen)														-	36,050	84,700	79,000	79,000	62,850	46,700	37,050	27,400	33,500	-	486,250
Exchange Rate (1.0Yen= VND)														189	189	189	189	189	189	189	189	189	189	189	
VND Equivallent (mil. VND)														-	6,813	16,008	14,931	14,931	11,879	8,826	7,002	5,179	6,332	-	91,901
Remuneration of National Experts (mil. VND)		0.0	13.0	40.0	43.0	47.0	35.0	30.0	18.0	12.0	15.0	0.0	253.0	-	325	1,000	1,075	1,175	875	750	450	300	375	-	6,325
1 Forest Development and Management	25		4.0	11.0	11.0	11.0	11.0	8.0	6.0	6.0	6.0		74.0	-	100	275	275	275	275	200	150	150	150	-	1,850
2 Community Organizing	25		2.0	11.0	11.0	11.0	5.0	5.0	3.0				48.0	-	50	275	275	275	125	125	75	-	-	-	1,200
3 Livelihood Development	25			3.0	8.0	11.0	11.0	11.0	6.0	6.0	3.0		59.0	-	-	75	200	275	275	275	150	150	75	-	1,475
4 Institutional/ Capacity Development	25		4.0	6.0									10.0	-	100	150	-	-	-	-	-	-	-	-	250
5 NTFP Development	25			3.0	5.0	8.0	8.0	6.0	3.0				33.0	-	-	75	125	200	200	150	75	-	-	-	825
6 GIS	25		3.0	6.0	8.0	6.0					6.0		29.0	-	75	150	200	150	-	-	-	-	150	-	725
Remuneration of National Supporting Staff (mil. VND)		0.0	12.0	34.0	34.0	34.0	29.0	27.0	27.0	27.0	27.0	0.0	251.0	-	176	496	496	496	416	384	384	384	384	-	3,616
1 Administrative Officer	16		4.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		100.0	-	64	192	192	192	192	192	192	192	192	-	1,600
2 Interpreter	16		4.0	10.0	10.0	10.0	5.0	3.0	3.0	3.0	3.0		51.0	-	64	160	160	160	80	48	48	48	48	-	816
3 Secretary	12		4.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		100.0	-	48	144	144	144	144	144	144	144	144	-	1,200
Out-of-Pocket Expenses (mil. VND)	Unit Rate													-	1,317	2,127	2,162	2,248	2,102	1,584	1,282	1,109	1,203	-	15,131
Out of Station Allowance (per day for local experts/staff only)	0.65	0.0	12.5	37.0	38.5	40.5	32.0	28.5	22.5	19.5	21.0	0.0		-	244	722	751	790	624	556	439	380	410	-	4,914
Rental Vehicle in Hanoi (for 60% of Inter'l experts' MM)	5.00	0.0	6.6	15.6	14.4	14.4	11.4	8.4	6.6	4.8	6.0	0.0		-	33	78	72	72	57	42	33	24	30	-	441
Rental Vehicle (4x4) in the field (per day)	2.00	0	180	500	505	525	415	355	280	235	260	0		-	360	1,000	1,010	1,050	830	710	560	470	520	-	6,510
Travel Expenses (Airfare)	2.50	0	25	70	71	74	58	50	39	33	36	0		-	63	175	177	184	145	124	98	82	91	-	1,139
Office Equipment															553				294						847
Local Communication (per month)	6.00													-	24	72	72	72	72	72	72	72	72	-	600
Office Stationary (per month)	5.00													-	20	60	60	60	60	60	60	60	60	-	500
Printing															20	20	20	20	20	20	20	20	20		180
TOTAL (1) -mil. VND														-	8,631	19,631	18,664	18,850	15,272	11,544	9,118	6,971	8,293	-	116,973
- FC														-	6,813	16,008	14,931	14,931	11,879	8,826	7,002	5,179	6,332	-	91,901
- LC														-	1,818	3,623	3,733	3,919	3,393	2,718	2,116	1,793	1,962	-	25,072
Tax (CIT: 5%)														-	432	982	933	942	764	577	456	349	415	-	5,849
- FC	5%													-	341	800	747	747	594	441	350	259	317	-	4,595
- LC	5%													-	91	181	187	196	170	136	106	90	98	-	1,254
TOTAL (2) - mil. VND														-	9,063	20,612	19,597	19,792	16,035	12,122	9,574	7,320	8,708	-	122,822
- FC														-	7,154	16,809	15,678	15,678	12,473	9,268	7,353	5,438	6,648	-	96,496
- LC														-	1,908	3,804	3,919	4,114	3,563	2,854	2,222	1,882	2,060	-	26,326
Price Escalation														-	418	1,882	2,844	4,012	4,311	4,148	3,943	3,745	5,020	-	30,323
- FC (% per annum.)	3.1%													-	222	1,058	1,504	2,036	2,057	1,863	1,752	1,504	2,102	-	14,098
- LC (% per annum.)	10.3%													-	197	824	1,340	1,975	2,254	2,285	2,191	2,241	2,917	-	16,225
TOTAL (3) -mil. VND														-	9,481	22,495	22,440	23,804	20,346	16,270	13,517	11,065	13,727	-	153,145
- FC														-	7,376	17,867	17,181	17,714	14,529	11,131	9,104	6,942	8,750	-	110,595
- LC														-	2,105	4,628	5,259	6,090	5,817	5,139	4,412	4,123	4,977	-	42,550
Physical Contingency (5%)														-	474	1,125	1,122	1,190	1,017	813	676	553	686	-	7,657
- FC	5%													-	369	893	859	886	726	557	455	347	438	-	5,530
- LC	5%													-	105	231	263	304	291	257	221	206	249	-	2,128
TOTAL (4) - mil. VND														-	9,955	23,619	23,562	24,994	21,364	17,083	14,193	11,618	14,414	-	160,802
- FC														-	7,745	18,760	18,040	18,600	15,256	11,687	9,560	7,289	9,188	-	116,124
- LC														-	2,210	4,859	5,522	6,394	6,108	5,396	4,633	4,330	5,226	-	44,678
VAT (10%)														-	995	2,362	2,356	2,499	2,136	1,708	1,419	1,162	1,441	-	16,080
- FC	10%													-	774	1,876	1,804	1,860	1,526	1,169	956	729	919	-	11,612
- LC	10%													-	221	486	552	639	611	540	463	433	523	-	4,468
GRAND TOTAL (mil. VND)														-	10,950	25,981	25,919	27,493	23,500	18,792	15,612	12,780	15,855	-	176,882
- FC														-	8,519	20,636	19,844	20,459	16,782	12,856	10,516	8,018	10,107	-	127,737
- LC														-	2,431	5,345	6,074	7,034	6,718	5,936	5,096	4,762	5,748	-	49,146

Table J-4-1 Estimated Project Cost by Province

724,572

Project components	Unit	Total of 12 Provinces + CPMU				CPMU				Thanh Hoa				Nghe An				Ha Tinh				Quang Binh				Quang Tri			
		Q'ty	Unit Cost (mil. VND)	Amount (mil. VND)		Q'ty	Unit Cost (mil. VND)	Amount (mil. VND)		Q'ty	Unit Cost (mil. VND)	Amount (mil. VND)		Q'ty	Unit Cost (mil. VND)	Amount (mil. VND)		Q'ty	Unit Cost (mil. VND)	Amount (mil. VND)		Q'ty	Unit Cost (mil. VND)	Amount (mil. VND)		Q'ty	Unit Cost (mil. VND)	Amount (mil. VND)	
1 Preparatory Work				15,432	1%			1,204	0%			1,154	1%			1,154	1%			1,154	1%			1,154	1%			1,265	0%
1.1 Procurement of equipment				15,432				1,204				1,154				1,154				1,154				1,154				1,265	
2 Survey and Planning				20,750	1%			8,062	3%			893	0%			1,701	1%			1,126	1%			1,010	1%			1,309	1%
2.1 Forest Inventory (including purchase of satellite images)				6,503		133,000	0.05	6,503																					
2.2 Participatory Land Use Planning		167	26.90	4,492						12	26.90	323		39	26.90	1,049		18	26.90	484		15	26.90	404		17	26.90	457	
2.3 Detailed Designing (1 % of sum of 4, 5 and 6)				8,196								570				652				642				607				852	
2.4 Socio-economic Baseline Survey		1	1,559.20	1,559		1	1,559.20	1,559																					
3 Capacity Development and Phase-in/-out Works				53,160	2%			5,494				3,993				3,774				3,909				3,321				4,564	
3.1 Capacity building of staff/local gov.				32,477				4,561				2,471				2,471				2,369				2,164				2,574	
3.2 Capacity building of local communities				19,156				415				1,452				1,253				1,460				1,113				1,871	
3.3 Phase-in/-out works				1,527				518				70				50				80				45				119	
4 Development of Watershed Protection Forest				845,441	29%							63,262	32%			78,117	35%			74,560	36%			47,299	24%			91,506	36%
4.1 Afforestation	ha	23,090	21.03	485,483						1,270	21.03	26,703		2,300	21.03	48,359		1,960	21.03	41,210		1,600	21.03	33,641		2,900	21.03	60,974	
4.2 Improvement of existing plantations	ha	3,300	13.82	45,590						1,400	13.82	19,341		900	13.82	12,434		1,000	13.82	13,815									
4.3 Forest Protection (5years)	ha	63,970	1.08	69,088						6,600	1.08	7,128		4,100	1.08	4,428		8,510	1.08	9,191		3,000	1.08	3,240		4,000	1.08	4,320	
4.4 ANR + Enrichment	ha	4,700	7.23	33,960																						300	7.23	2,168	
4.5 ANR	ha	21,250	4.26	90,450						900	4.30	3,874										800	4.30	3,443		2,450	4.30	10,545	
4.6 Silviculture Infrastructure				120,869	*(17%)*			*#DIV/0!*				6,216	*(11%)*			12,896	*(20%)*			10,343	*(16%)*			6,974	*(17%)*			13,498	*(17%)*
> Forestry roads	km	387	224.35	86,825						19	220.34	4,186		50	220.34	11,017		34	220.34	7,492		20	220.34	4,407		40	220.34	8,814	
> Fire beakline (FBL)	km	412	24.49	10,090						6	24.49	147						30	24.49	735		24	24.49	588		140	24.49	3,429	
> Fire watch towers	no.	62	120.97	7,500						6	121.22	727		3	121.22	364		6	121.22	727		5	121.22	606		4	121.22	485	
> Forest protection stations	no.	60	208.95	12,537						5	208.40	1,042		5	208.40	1,042		5	208.40	1,042		5	208.40	1,042		3	208.40	625	
> Information boards	no.	67	16.19	1,085						7	16.19	113		6	16.19	97		6	16.19	97		5	16.19	81		9	16.19	146	
> Nursery	no.	22	128.77	2,833										3	125.35	376		2	125.35	251		2	125.35	251					
5 Improvement of SPL-3 forests				38,927	1%																							7,415	3%
5.1 Forest Protection	ha	4,450	0.65	2,884																						1,610	0.65	1,043	
5.2 Enrichment planting	ha	1,000	3.00	2,996																						400	3.00	1,198	
5.3 Vegetation clearing & thinning	ha	10,220	3.23	33,047																						1,600	3.23	5,174	
6 Development of Coastal Protection Forest				61,732	2%																			22,107	11%				
6.1 Afforestation in sandy area	ha	1,550	23.89	37,032																		400	23.89	9,557					
6.2 Improvement of existing plantations	ha	800	13.49	10,794																		800	13.49	10,794					
6.3 Forest Protection (5years)	ha																												
6.4 ANR/ Enrichment Planting in sandy area	ha	1,600	5.71	9,130																									
6.5 Silviculture Infrastructure				4,775																			532.18	1,756					
> Forestry roads	km	16	197.25	3,156																		5	197.11	986					
> Fire beakline (FBL)	km	28	21.35	598																		6	21.35	128					
> Fire watch towers	no.	2	108.80	218																		2	108.80	218					
> Forest protection stations	no.	4	189.89	760																		2	190.18	380					
> Information boards	no.	3	14.74	44																		3	14.74	44					
> Nursery	no.	1	107.79	108																		1	107.79	108					
7 Livelihood Development Assistance				75,127	3%							5,680	3%			4,319	2%			6,228	3%			3,580	2%			8,416	3%
7.1 Livelihood Development Support				75,127								5,680				4,319				6,228				3,580				8,416	
8 Infrastructure for Livelihood Development				231,158	8%							21,414	11%			20,831	9%			13,835	7%			19,600	10%			15,459	6%
8.1 Rural roads (Watershed)	km	170	1,084.39	183,912						16.6	1,030.60	17,108		18.0	1,030.60	18,551		9.0	1,030.60	9,275		10.0	1,030.60	10,306		15.0	1,030.60	15,459	
8.2 Rural roads (Coastal)	km	16	941.64	15,066																		10	929.42	9,294					
8.3 Irrigation system	ha	558	51.92	28,973						85.00	50.66	4,306		45.00	50.66	2,280		90.00	50.66	4,560									
8.4 Water supply system	no.	8	400.87	3,207																									
9 Forest Fire Control				5,274	0.2%							569	0%			548	0%			407	0%			340	0%			386	0%
9.1 Purchase of equipment & tools				3,186								378				324				216				216				162	
9.2 Training				2,088								191				224				191				124				224	
10 Monitoring and Evaluation				15,661	1%			15,661	6%																				
10.1 Mide-term evaluation		1	1,621.08	1,621		1	1,621.08	1,621																					
10.2 Terminal Evaluation		1	14,039.45	14,039		1	14,039.45	14,039																					
11 Sub-total of Direct Costs (1~10)				1,362,662				30,421				96,964				110,443				101,219				98,411				130,320	
12 Project Management				113,580	4%			20,620	7%			7,650	4%			7,650	3%			7,650	4%			7,650	4%			8,350	3%
12.1 Staff salary and allowance	year			62,580		10	1,066.00	10,660		10	425.00	4,250		11	386.36	4,250		10	425.00	4,250		10	425.00	4,250		10	483.00	4,830	
12.1 Direct operation expenses	year			51,000		10	996.00	9,960		10	340.00	3,400		11	309.09	3,400		10	340.00	3,400		10	340.00	3,400		10	352.00	3,520	
13 Sub-total (11+12)				1,476,242				51,041	18%			104,614	53%			118,093	53%			108,869	53%			106,061	53%			138,670	54%
14 Price contingency (LC: 10.3%/year, FC: 3.1%/year)				933,584	32%			41,098	15%			67,613	34%			74,851	34%			69,621	34%			67,158	34%			85,051	33%
15 Sub-total (13+14)				2,409,826	82%			92,139	33%			172,227	87%			192,944	87%			178,489	87%			173,218	87%			223,721	87%
16 Physical Contingency (5%)				120,491	4%			4,607	2%			8,611	4%			9,647	4%			8,924	4%			8,661	4%			11,186	4%
17 Consulting Services				160,802	5%			160,802	57%																				
17.1 Consulting services w/o contingencies				122,822				122,822																					
17.2 Physical and price contigencies				37,980				37,980																					
18 Taxes and Duties				258,484	9%			22,882	8%			17,450	9%			19,625	9%			18,107	9%			17,554	9%			22,753	9%
19 GRAND TOTAL (15+16+17+18)				2,949,603	100%			280,430	100%			198,288	100%			222,216	100%			205,521	100%			199,433	100%			257,660	100%

Table J-4-1 Estimated Project Cost by Province

Project components	Unit	T.T. Hue			Quang Nam			Quang Ngai			Binh Dinh			Phu Yen			Ninh Thuan			Binh Thuan		
		Q'ty	Unit Cost (mil. VND)	Amount (mil. VND)	Q'ty	Unit Cost (mil. VND)	Amount (mil. VND)	Q'ty	Unit Cost (mil. VND)	Amount (mil. VND)	Q'ty	Unit Cost (mil. VND)	Amount (mil. VND)	Q'ty	Unit Cost (mil. VND)	Amount (mil. VND)	Q'ty	Unit Cost (mil. VND)	Amount (mil. VND)	Q'ty	Unit Cost (mil. VND)	Amount (mil. VND)
1 Preparatory Work				1,308 0%			1,165 1%			1,154 0%			1,154 0%			1,214 1%			1,199 1%			1,154 1%
1.1 Procurement of equipment				1,308			1,165			1,154			1,154			1,214			1,199			1,154
2 Survey and Planning				1,169 0%			1,035 0%			1,294 0%			1,023 0%			537 0%			775 0%			815 0%
2.1 Forest Inventory (including purchase of satellite images)																						
2.2 Participatory Land Use Planning		8	26.90	215	19	26.90	511	9	26.90	242	10	26.90	269	4	26.90	108	7	26.90	188	9	26.90	242
2.3 Detailed Designing (1 % of sum of 4, 5 and 6)				954			524			1,052			754			429			586			573
2.4 Socio-economic Baseline Survey																						
3 Capacity Development and Phase-in/-out Works				4,511 2%			4,459 2%			4,129 1%			3,954 2%			3,360 2%			3,861 2%			3,831 2%
3.1 Capacity building of staff/local gov.				2,164			2,471			2,267			2,369			2,164			2,267			2,164
3.2 Capacity building of local communities				2,198			1,878			1,763			1,506			1,146			1,510			1,592
3.3 Phase-in/-out works				149			109			100			80			50			85			75
4 Development of Watershed Protection Forest				92,465 35%			62,137 29%			105,719 38%			88,650 35%			48,387 26%			64,175 33%			29,168 15%
4.1 Afforestation	ha	3,000	21.03	63,077	970	21.03	20,395	3,500	21.03	73,590	2,480	21.03	52,144	1,500	21.03	31,539	1,610	21.03	33,851			
4.2 Improvement of existing plantations	ha																					
4.3 Forest Protection (5years)	ha	8,000	1.08	8,640	7,000	1.08	7,560	3,200	1.08	3,456	3,710	1.08	4,007	4,350	1.08	4,698	7,900	1.08	8,532	3,600	1.08	3,888
4.4 ANR + Enrichment	ha	500	7.23	3,613	2,100	7.23	15,174	600	7.23	4,335							1,200	7.23	8,671			
4.5 ANR	ha	2,000	4.30	8,609	1,100	4.30	4,735	2,700	4.30	11,622	4,700	4.09	19,215	900	4.30	3,874	1,500	4.30	6,456	4,200	4.30	18,078
4.6 Silviculture Infrastructure				8,526 *(10%)*			14,273 *(30%)*			12,716 *(14%)*			13,284 *(18%)*			8,276 *(21%)*			6,664 *(12%)*			7,202 *(33%)*
> Forestry roads	km	23	220.34	5,068	44	230.36	10,136	40	230.36	9,214	40	230.36	9,214	30	230.36	6,911	20	220.55	4,411	27	220.55	5,955
> Fire beakline (FBL)	km	38	24.49	931	20	24.49	490	40	24.49	980	50	24.49	1,225	30	24.49	735	34	24.49	833			
> Fire watch towers	no.	8	121.22	970	8	121.53	972	9	121.53	1,094	9	121.53	1,094				4	115.35	461			
> Forest protection stations	no.	6	208.40	1,250	9	210.24	1,892	4	210.24	841	5	210.24	1,051	3	210.24	631	4	207.82	831	6	207.82	1,247
> Information boards	no.	19	16.19	308				4	16.21	65	11	16.21	178									
> Nursery	no.				6	130.55	783	4	130.55	522	4	130.55	522				1	127.81	128			
5 Improvement of SPL-3 forests				11,448 4%			4,702 2%			12,255 4%						3,106 2%						
5.1 Forest Protection	ha	700	0.65	454	120	0.65	78							2,020	0.65	1,309						
5.2 Enrichment planting	ha													600	3.00	1,797						
5.3 Vegetation clearing & thinning	ha	3,400	3.23	10,994	1,430	3.23	4,624	3,790	3.23	12,255												
6 Development of Coastal Protection Forest																			1,195 1%			38,431 20%
6.1 Afforestation in sandy area	ha																50	23.89	1,195	1,100	23.89	26,281
6.2 Improvement of existing plantations	ha																					
6.3 Forest Protection (5years)	ha																					
6.4 ANR/ Enrichment Planting in sandy area	ha																			1,600	5.71	9,130
6.5 Silviculture Infrastructure																						3,019
> Forestry roads	km																			11.0	197.32	2,171
> Fire beakline (FBL)	km																			22.0	21.35	470
> Fire watch towers	no.																					
> Forest protection stations	no.																			2.0	189.60	379
> Information boards	no.																					
> Nursery	no.																					
7 Livelihood Development Assistance				9,829 4%			7,865 4%			6,960 2%			6,228 2%			3,972 2%			6,431 3%			5,618 3%
7.1 Livelihood Development Support				9,829			7,865			6,960			6,228			3,972			6,431			5,618
8 Infrastructure for Livelihood Development				14,623 5%			26,086 12%			11,489 4%			25,851 10%			28,782 16%			18,635 9%			14,554 8%
8.1 Rural roads (Watershed)	km	12.0	1,030.60	12,367	22.0	1,148.92	25,276	10.0	1,148.92	11,489	22.5	1,148.92	25,851	18.0	1,148.92	20,681	9.0	1,063.57	9,572	7.5	1,063.57	7,977
8.2 Rural roads (Coastal)	km																			6	962.00	5,772
8.3 Irrigation system	ha	13.00	50.66	659	15.00	54.01	810							150.00	54.01	8,101	160.00	51.61	8,258			
8.4 Water supply system	no.	4	399.28	1,597													2	402.46	805	2	402.46	805
9 Forest Fire Control				407 0%			548 0%			427 0%			461 0%			286 0%			340 0%			556 0%
9.1 Purchase of equipment & tools				216			324			270			270			162			216			432
9.2 Training				191			224			157			191			124			124			124
10 Monitoring and Evaluation																						
10.1 Mide-term evaluation																						
10.2 Terminal Evaluation																						
11 Sub-total of Direct Costs (1~10)				135,760			107,998			143,427			127,320			89,644			96,611			94,126
12 Project Management				8,350 3%			7,610 4%			7,610 3%			7,610 3%			7,610 4%			7,610 4%			7,610 4%
12.1 Staff salary and allowance	year	10	483.00	4,830	10	421.00	4,210	10	421.00	4,210	10	421.00	4,210	10	421.00	4,210	10	421.00	4,210	10	421.00	4,210
12.1 Direct operation expenses	year	10	352.00	3,520	10	340.00	3,400	10	340.00	3,400	10	340.00	3,400	10	340.00	3,400	10	340.00	3,400	10	340.00	3,400
13 Sub-total (11+12)				144,110 54%			115,608 53%			151,037 54%			134,930 53%			97,254 53%			104,221 53%			101,736 54%
14 Price contingency (LC: 10.3%/year, FC: 3.1%/year)				88,501 33%			72,607 33%			91,840 33%			84,599 33%			61,902 34%			66,494 34%			62,249 33%
15 Sub-total (13+14)				232,611 87%			188,215 87%			242,877 87%			219,529 87%			159,156 87%			170,715 87%			163,985 87%
16 Physical Contingency (5%)				11,631 4%			9,411 4%			12,144 4%			10,976 4%			7,958 4%			8,536 4%			8,199 4%
17 Consulting Services																						
17.1 Consulting services w/o contingencies																						
17.2 Physical and price contigencies																						
18 Taxes and Duties				23,689 9%			19,138 9%			24,875 9%			22,424 9%			16,088 9%			17,309 9%			16,592 9%
19 GRAND TOTAL (15+16+17+18)				267,930 100%			216,764 100%			279,896 100%			252,929 100%			183,202 100%			196,559 100%			188,776 100%

Table J-4-2 Annual Cost Disbursement Schedule of the Project

Project components	Unit	Q'ty	Unit Cost (mil. VND)	Project Cost (mil. VND)				Annual Cost Estimation (mil. VND)																			
								1st (2010)		2nd (2011)		3rd (2012)		4th (2013)		5th (2014)		6th (2015)		7th (2016)		8th (2017)		9th (2018)		10th (2019)		11th (2020)	
				Total		LC	FC	LC	FC	LC	FC	LC	FC	LC	FC	LC	FC	LC	FC	LC	FC	LC	FC	LC	FC	LC	FC	LC	FC
1 Preparatory Work				15,432	1%		15,432				13,810								1,621										
1.1 Procurement of equipment		-	-	15,432			15,432				13,810								1,621										
2 Survey and Planning				20,750	1%	20,750						8,506		5,163		4,622		2,458											
2.1 Forest Inventory (including purchase of satellite images)				6,503		6,503						6,503																	
2.2 Participatory Land Use Planning		167	26.90	4,492		4,492						1,184		1,964		1,345													
2.3 Detailed Designing		1		8,196		8,196						820		1,640		3,277		2,458											
2.4 Socio-economic Baseline Survey				1,559		1,559								1,559															
3 Capacity Development and Phase-in/-out Works				53,160	2%	53,160				1,536		13,621		8,433		7,444		5,831		5,967		4,935		3,449		1,944			
3.1 Capacity building of staff/local gov.				32,477		32,477				1,536		8,742		4,850		5,569		3,337		3,337		2,492		1,664		949			
3.2 Capacity building of local communities				19,156		19,156						4,879		3,583		1,875		2,368		2,154		1,980		1,323		994			
3.3 Phase-in/-out works				1,527		1,527												126		476		463		463					
4 Development of Watershed Protection Forest				845,441	29%	845,441								129,746		234,902		244,467		139,490		67,117		29,415		305			
4.1 Afforestation	ha	23,090	21.03	485,483		485,483								79,381		136,649		138,186		72,173		41,365		17,728					
4.2 Improvement of existing plantations	ha	3,300	13.82	45,590		45,590								6,210		11,186		12,365		8,227		5,321		2,280					
4.3 Forest Protection (5years)	ha	63,970	1.08	69,088		69,088								6,909		13,818		13,818		13,818		13,818		6,909					
4.4 ANR + Enrichment	ha	4,700	7.23	33,960		33,960								5,402		9,560		10,365		5,088		2,531		711		305			
4.5 ANR	ha	21,250	4.26	90,450		90,450								13,714		27,429		27,429		16,009		4,082		1,787					
4.6 Silviculture Infrastructure				120,869		120,869								18,130		36,261		42,304		24,174									
> Forestry roads	km	387	224.35	86,825		86,825								13,024		26,047		30,389		17,365									
> Fire beakline (FBL)	km	412	24.49	10,090		10,090								1,513		3,027		3,531		2,018									
> Fire watch towers	no.	62	120.97	7,500		7,500								1,125		2,250		2,625		1,500									
> Forest protection stations	no.	60	208.95	12,537		12,537								1,881		3,761		4,388		2,507									
> Information boards	no.	67	16.19	1,085		1,085								163		326		380		217									
> Nursery	no.	22	128.77	2,833		2,833								425		850		992		567									
5 Improvement of SPL-3 forests				38,927	1%	38,927						678		14,653		16,142		3,447		2,839		1,169							
5.1 Forest Protection	ha	4,450	0.65	2,884		2,884								481		961		961		481									
5.2 Enrichment planting	ha	1,000	3.00	2,996		2,996						678		995		864		243		151		65							
5.3 Vegetation clearing & thinning	ha	10,220	3.23	33,047		33,047								13,177		14,316		2,243		2,208		1,104							
6 Development of Coastal Protection Forest				61,732	2%	61,732								11,385		18,839		18,278		7,835		3,716		1,576		104			
6.1 Afforestation in sandy area	ha	1,550	23.89	37,032		37,032								7,840		12,335		11,043		3,501		1,619		694					
6.2 Improvement of existing plantations	ha	800	13.49	10,794		10,794								1,202		2,359		2,851		2,249		1,493		640					
6.3 Forest Protection (5years)	ha																												
6.4 ANR/ Enrichment Planting in sandy area	ha	1,600	5.71	9,130		9,130								1,627		2,712		2,713		1,129		603		242		104			
6.5 Silviculture Infrastructure				4,775		4,775								716		1,433		1,671		955									
> Forestry roads	km	16	197.25	3,156		3,156								473		947		1,105		631									
> Fire beakline (FBL)	km	28	21.35	598		598								90		179		209		120									
> Fire watch towers	no.	2	108.80	218		218								33		65		76		44									
> Forest protection stations	no.	4	189.89	760		760								114		228		266		152									
> Information boards	no.	3	14.74	44		44								7		13		15		9									
> Nursery	no.	1	107.79	108		108								16		32		38		22									
7 Livelihood Development Assistance				75,127	3%	75,127						533		15,691		12,888		17,291		17,975		4,740		4,342		1,667			
7.1 Livelihood Development Support				75,127		75,127						533		15,691		12,888		17,291		17,975		4,740		4,342		1,667			
8 Infrastructure for Livelihood Development				231,158	8%	231,158										46,232		92,463		69,348		23,116							
8.1 Rural roads (Watershed)	km	170		183,912		183,912										36,782		73,565		55,174		18,391							
8.2 Rural roads (Coastal)	km	16		15,066		15,066										3,013		6,026		4,520		1,507							
8.3 Irrigation system	ha	558		28,973		28,973										5,795		11,589		8,692		2,897							
8.4 Water supply system	no.	8		3,207		3,207										641		1,283		962		321							
9 Forest Fire Control				5,274	0%	5,274								3,186		1,091		997											
9.1 Purchase of equipment & tools				3,186		3,186								3,186															
9.2 Training				2,088		2,088										1,091		997											
10 Monitoring and Evaluation				15,661	1%	15,661												1,621								14,039			
10.1 Mide-term evaluation	no.			1,621		1,621												1,621											
10.2 Terminal Evaluation	no.			14,039		14,039																				14,039			
11 Sub-total of Direct Costs (1~10)				1,362,662	46%	1,347,230	15,432			1,536	13,810	23,338		188,257		342,161		386,852	1,621	243,453		104,792		38,782		18,059			
12 Project Management				113,580	4%	113,580		2,840		11,358		11,358		11,358		11,358		11,358		11,358		11,358		11,358		11,358		8,519	
12.1 Staff salary and allowance	year	10		62,580	0	62,580		1,565		6,258		6,258		6,258		6,258		6,258		6,258		6,258		6,258		6,258		4,694	
12.2 Direct operation expenses	year	10		51,000	13	51,000		1,275		5,100		5,100		5,100		5,100		5,100		5,100		5,100		5,100		5,100		3,825	
13 Sub-total (11+12)				1,476,242	50%	1,452,292	15,432	2,840		12,894	13,810	34,696		199,615		353,519		398,210	1,621	254,811		116,150		50,140		29,417		8,519	
14 Price contingency (LC: 10.3%/year, FC: 3.1%/year)				933,584	32%	932,889	696			1,328	428	7,516		68,252		169,738		251,905	267	204,040		114,550		59,707		41,667		14,186	
15 Sub-total (13+14)				2,409,826	82%	2,370,994	16,127	2,840		14,222	14,238	42,212		267,867		523,256		650,115	1,889	458,851		230,699		109,848		71,084		22,705	
16 Physical Contingency (5% of items 15)			5%	120,491	4%	119,685	806	142		711	712	2,111		13,393		26,163		32,506	94	22,943		11,535		5,492		3,554		1,135	
17 Consulting Services				160,802	5%	44,678	116,124			2,210	7,745	4,859	18,760	5,522	18,040	6,394	18,600	6,108	15,256	5,396	11,687	4,633	9,560	4,330	7,289	5,226	9,188		
17.1 Consulting services w/o contingencies				122,822		26,326	96,496			1,908	7,154	3,804	16,809	3,919	15,678	4,114	15,678	3,563	12,473	2,854	9,268	2,222	7,353	1,882	5,438	2,060	6,648		
17.2 Physical and price contigencies				37,980		18,352	19,628			302	591	1,055	1,952	1,603	2,363	2,280	2,922	2,545	2,783	2,542	2,420	2,412	2,207	2,447	1,851	3,166	2,540		
18 Taxes and Duties				258,484	9%	235,034	23,450			399	12,325	3,467	1,876	27,078	1,804	53,816	1,860	66,926	1,813	46,571	1,169	22,318	956	9,354	729	5,105	919		
19 GRAND TOTAL (15+16+17+18)				2,949,603	100%	2,769,256	156,508	2,981		17,542	35,020	52,648	20,636	313,861	19,844	609,630	20,459	755,654	19,052	533,761	12,856	269,185	10,516	129,024	8,018	84,968	10,107	23,840	

Table J-4-3. Financial Plan of the Project

Project components	Unit	Q'ty	Unit Cost (mil. VND)	Project Cost (mil. VND) Total		JICA	GOV	Annual Cost Estimation (mil. VND) 1st (2010) JICA	GOV	2nd (2011) JICA	GOV	3rd (2012) JICA	GOV	4th (2013) JICA	GOV	5th (2014) JICA	GOV	6th (2015) JICA	GOV	7th (2016) JICA	GOV	8th (2017) JICA	GOV	9th (2018) JICA	GOV	10th (2019) JICA	GOV	11th (2020) JICA	GOV
1 Preparatory Work				15,432	1%	15,432				13,810								1,621											
1.1 Procurement of equipment		-	-	15,432		15,432				13,810								1,621											
2 Survey and Planning				20,750	1%	20,750						8,506		5,163		4,622		2,458											
2.1 Forest Inventory (including purchase of satellite images)				6,503		6,503						6,503																	
2.2 Participatory Land Use Planning		167	26.90	4,492		4,492						1,184		1,964		1,345													
2.3 Detailed Designing		1		8,196		8,196						820		1,640		3,277		2,458											
2.4 Socio-economic Baseline Survey				1,559		1,559								1,559															
3 Capacity Development and Phase-in/-out Works				53,160	2%	53,160				1,536		13,621		8,433		7,444		5,831		5,967		4,935		3,449		1,944			
3.1 Capacity building of staff/local gov.				32,477		32,477				1,536		8,742		4,850		5,569		3,337		3,337		2,492		1,664		949			
3.2 Capacity building of local communities				19,156		19,156						4,879		3,583		1,875		2,368		2,154		1,980		1,323		994			
3.3 Phase-in/-out works				1,527		1,527												126		476		463		463					
4 Development of Watershed Protection Forest				845,441	29%	845,441								129,746		234,902		244,467		139,490		67,117		29,415		305			
4.1 Afforestation	ha	23,090	21.03	485,483		485,483								79,381		136,649		138,186		72,173		41,365		17,728					
4.2 Improvement of existing plantations	ha	3,300	13.82	45,590		45,590								6,210		11,186		12,365		8,227		5,321		2,280					
4.3 Forest Protection (5years)	ha	63,970	1.08	69,088		69,088								6,909		13,818		13,818		13,818		13,818		6,909					
4.4 ANR + Enrichment	ha	4,700	7.23	33,960		33,960								5,402		9,560		10,365		5,088		2,531		711		305			
4.5 ANR	ha	21,250	4.26	90,450		90,450								13,714		27,429		27,429		16,009		4,082		1,787					
4.6 Silviculture Infrastructure				120,869		120,869								18,130		36,261		42,304		24,174									
> Forestry roads	km	387	224.35	86,825		86,825								13,024		26,047		30,389		17,365									
> Fire beakline (FBL)	km	412	24.49	10,090		10,090								1,513		3,027		3,531		2,018									
> Fire watch towers	no.	62	120.97	7,500		7,500								1,125		2,250		2,625		1,500									
> Forest protection stations	no.	60	208.95	12,537		12,537								1,881		3,761		4,388		2,507									
> Information boards	no.	67	16.19	1,085		1,085								163		326		380		217									
> Nursery	no.	22	128.77	2,833		2,833								425		850		992		567									
5 Improvement of SPL-3 forests				38,927	1%	38,927						678		14,653		16,142		3,447		2,839		1,169							
5.1 Forest Protection	ha	4,450	0.65	2,884		2,884								481		961		961		481									
5.2 Enrichment planting	ha	1,000	3.00	2,996		2,996						678		995		864		243		151		65							
5.3 Vegetation clearing & thinning	ha	10,220	3.23	33,047		33,047								13,177		14,316		2,243		2,208		1,104							
6 Development of Coastal Protection Forest				61,732	2%	61,732								11,385		18,839		18,278		7,835		3,716		1,576		104			
6.1 Afforestation in sandy area	ha	1,550	23.89	37,032		37,032								7,840		12,335		11,043		3,501		1,619		694					
6.2 Improvement of existing plantations	ha	800	13.49	10,794		10,794								1,202		2,359		2,851		2,249		1,493		640					
6.3 Forest Protection (5years)	ha																												
6.4 ANR/ Enrichment Planting in sandy area	ha	1,600	5.71	9,130		9,130								1,627		2,712		2,713		1,129		603		242		104			
6.5 Silviculture Infrastructure				4,775		4,775								716		1,433		1,671		955									
> Forestry roads	km	16	197.25	3,156		3,156								473		947		1,105		631									
> Fire beakline (FBL)	km	28	21.35	598		598								90		179		209		120									
> Fire watch towers	no.	2	108.80	218		218								33		65		76		44									
> Forest protection stations	no.	4	189.89	760		760								114		228		266		152									
> Information boards	no.	3	14.74	44		44								7		13		15		9									
> Nursery	no.	1	107.79	108		108								16		32		38		22									
7 Livelihood Development Assistance				75,127		75,127						533		15,691		12,888		17,291		17,975		4,740		4,342		1,667			
7.1 Livelihood Development Support		-	-	75,127		75,127						533		15,691		12,888		17,291		17,975		4,740		4,342		1,667			
8 Infrastructure for Livelihood Development				231,158	8%	231,158										46,232		92,463		69,348		23,116							
8.1 Rural roads (Watershed)	km	170		183,912		183,912										36,782		73,565		55,174		18,391							
8.2 Rural roads (Coastal)	km	16		15,066		15,066										3,013		6,026		4,520		1,507							
8.3 Irrigation system	ha	558		28,973		28,973										5,795		11,589		8,692		2,897							
8.4 Water supply system	no.	8		3,207		3,207										641		1,283		962		321							
9 Forest Fire Control				5,274	0%	5,274								3,186		1,091		997											
9.1 Purchase of equipment & tools				3,186		3,186								3,186															
9.2 Training				2,088		2,088										1,091		997											
10 Monitoring and Evaluation				15,661	1%	15,661												1,621								14,039			
10.1 Mide-term evaluation	no.			1,621		1,621												1,621											
10.2 Terminal Evaluation	no.			14,039		14,039																				14,039			
11 Sub-total of Direct Costs (1~10)				1,362,662	46%	1,362,662				15,346		23,338		188,257		342,161		388,474		243,453		104,792		38,782		18,059			
12 Project Management				113,580	4%		113,580		2,840		11,358		11,358		11,358		11,358		11,358		11,358		11,358		11,358		11,358		8,519
12.1 Staff salary and allowance	year	10		62,580			62,580		1,565		6,258		6,258		6,258		6,258		6,258		6,258		6,258		6,258		6,258		4,694
12.2 Direct operation expenses	year	10		51,000			51,000		1,275		5,100		5,100		5,100		5,100		5,100		5,100		5,100		5,100		5,100		3,825
13 Sub-total (11+12)				1,476,242	50%	1,362,662	105,062		2,840	15,346	11,358	23,338	11,358	188,257	11,358	342,161	11,358	388,474	11,358	243,453	11,358	104,792	11,358	38,782	11,358	18,059	11,358		8,519
14 Price contingency (LC: 10.3%/year, FC: 3.1%/year)				933,584	32%	849,336	84,248			586	1,170	5,055	2,460	64,369	3,884	164,284	5,453	244,987	7,185	194,945	9,095	103,348	11,202	46,182	13,525	25,579	16,088		14,186
15 Sub-total (13+14)				2,409,826	82%	2,211,998	189,310		2,840	15,933	12,528	28,394	13,818	252,626	15,242	506,445	16,811	633,461	18,543	438,398	20,453	208,140	22,560	84,965	24,883	43,638	27,446		22,705
16 Physical Contingency (5% of items 15)			5%	120,491	4%	110,600	9,891		142	797	626	1,420	691	12,631	762	25,322	841	31,673	927	21,920	1,023	10,407	1,128	4,248	1,244	2,182	1,372		1,135
17 Consulting Services				160,802	5%	160,802				9,955		23,619		23,562		24,994		21,364		17,083		14,193		11,618		14,414			
17.1 Consulting services w/o contingencies				122,822		122,822				9,063		20,612		19,597		19,792		16,035		12,122		9,574		7,320		8,708			
17.2 Physical and price contigencies				37,980		37,980				892		3,007		3,966		5,202		5,328		4,962		4,619		4,299		5,706			
18 Taxes and Duties				258,484	9%		258,484				12,724		5,343		28,882		55,676		68,738		47,740		23,274		10,083		6,023		
19 GRAND TOTAL (15+16+17+18)				2,949,603	100%	2,483,400	457,685		2,981	26,684	25,878	53,432	19,852	288,819	44,886	556,761	73,328	686,497	88,208	477,402	69,216	232,739	46,961	100,831	36,210	60,233	34,842		23,840

Table J-6-1 Analysis of Household Economy under With-Project Condition

Case 1: Afforestation/Reforestation **Area: 2 ha**

Items	Unit	Year																								
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1. Basic Income <1		**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**
2. Income from the project <2		**17.9**	**8.5**	**4.8**	**4.8**	**0.0**	**0.0**	**5.2**	**7.8**	**10.3**	**12.7**	**12.5**	**11.2**	**10.9**	**13.3**	**14.8**	**17.3**	**17.0**	**17.4**	**0.0**	**20.3**	**0.0**	**0.0**	**31.3**	**0.0**	**0.0**
2.1 Wage from the project	VND Mil.	17.9	8.5	4.8	4.8																					
2.2 Gross Benefit from harvest		0.0	0.0	0.0	0.0	0.0	0.0	5.2	7.8	10.3	12.7	12.5	11.2	10.9	13.3	14.8	17.3	17.0	17.4	0.0	20.3	0.0	0.0	31.3	0.0	0.0
3. Cash expenditures <2		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.9**	**1.2**	**1.6**	**1.9**	**1.9**	**1.7**	**1.6**	**1.9**	**2.2**	**2.5**	**2.4**	**2.5**	**0.0**	**2.3**	**0.0**	**0.0**	**3.5**	**0.0**	**0.0**
3.1 Cost for harvesting and transportation	VND Mil.	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5	0.6	0.7	0.7	0.6	0.6	0.7	0.8	0.9	0.8	0.8	0.0	0.3	0.0	0.0	0.4	0.0	0.0
3.2 Sharing benefit with the Government	10% of N.I.	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.7	1.0	1.2	1.2	1.1	1.0	1.3	1.4	1.6	1.6	1.7	0.0	2.0	0.0	0.0	3.1	0.0	0.0
4. Labor Requirement after the project support<3																										
4.1 Site development	MD	273.7	16.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.2 Tending, weeding, thinning and pruning	MD	9.4	110.1	64.4	64.4	6.0	6.0	8.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0	2.0	4.0	2.0	2.0
4.3 Forest protection	MD	14.6	14.6	14.6	14.6	7.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6
4.4 Clearing for fire break line	MD	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Total	**MD**	**298.7**	**142.2**	**80.0**	**80.0**	**14.6**	**21.6**	**23.6**	**21.6**	**21.6**	**19.6**	**19.6**	**19.6**	**19.6**	**19.6**	**19.6**	**19.6**	**19.6**	**19.6**	**19.6**	**19.6**	**17.6**	**17.6**	**19.6**	**17.6**	**17.6**
(Equivallent to VND based on the prevailing labor c	VND Mil.	(17.9)	(8.5)	(4.8)	(4.8)	(0.9)	(1.3)	(1.4)	(1.3)	(1.3)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.1)	(1.1)	(1.2)	(1.1)	(1.1)
5. Net Cash Benefit																										
5.1 Total Net Cash Income	VND Mil.	**22.1**	**12.7**	**9.0**	**9.0**	**4.2**	**4.2**	**8.6**	**10.8**	**12.9**	**15.0**	**14.9**	**13.7**	**13.5**	**15.6**	**16.9**	**19.0**	**18.8**	**19.1**	**4.2**	**22.2**	**4.2**	**4.2**	**32.0**	**4.2**	**4.2**
5.2 Additional Income	VND Mil.	**17.9**	**8.5**	**4.8**	**4.8**	**0.0**	**0.0**	**4.4**	**6.6**	**8.7**	**10.8**	**10.7**	**9.5**	**9.3**	**11.4**	**12.7**	**14.8**	**14.6**	**14.9**	**0.0**	**18.0**	**0.0**	**0.0**	**27.8**	**0.0**	**0.0**
(Additional income per required labor force)	VND Th. /MD	(60.0)	(60.0)	(60.0)	(60.0)	(0.0)	(0.0)	(185.8)	(305.0)	(404.3)	(550.4)	(545.6)	(488.2)	(474.7)	(580.5)	(646.9)	(757.6)	(746.0)	(760.9)	(0.0)	(921.9)	(0.0)	(0.0)	(1421.0)	(0.0)	(0.0)
5.3 Average cash income for a certain period																										
(1) Average C.I for 5 year from 1st to 5th	VND Mil./yr	7.2																								
(2) Average C.I. for 10 years from 6th to 15th	VND Mil./yr	7.6																								
(3) Average C.I. for 10 years from 16th to 25th	VND Mil./yr	9.0																								

Case2: ANR with Enrichment **Area: 5 ha**

Items	Unit	Year																								
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1. Basic Income <1		**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**
2. Income from the project <2		**12.3**	**8.7**	**7.2**	**2.8**	**2.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**10.0**	**0.0**	**0.0**	**30.3**	**0.0**
2.1 Wage from the project	VND Mil.	12.3	8.7	7.2	2.8	2.8																				
2.2 Gross Benefit from harvest		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	30.3	0.0
3. Cash expenditures <2		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**1.1**	**0.0**	**0.0**	**3.4**	**0.0**
3.1 Cost for harvesting and transportation	VND Mil.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.4	0.0
3.2 Sharing benefit with the Government	10% of N.I.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	3.0	0.0
4. Labor Requirement after the project support <2																										
4.1 Clearing climers and insect affedted trees	MD	61.5	61.5	61.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.2 Spots weeding for the regenerating trees	MD	21.5	21.5	21.5	10.0	10.0	5.0	5.0	5.0	5.0	5.0	0.0	5.0	0.0	5.0	0.0	5.0	0.0	5.0	0.0	5.0	0.0	5.0	0.0	5.0	0.0
4.3 Hole digging & back filling for indigenous spec	MD	56.2	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.4 Application of fertilizer	MD	19.1	19.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.5 Transport & planting of tree seedlings	MD	10.5	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.6 Thinning of Hopea	MD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	10.0	0.0
4.7 Protection	MD	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4
Total	**MD**	**205.1**	**144.5**	**119.4**	**46.4**	**46.4**	**41.4**	**41.4**	**41.4**	**41.4**	**41.4**	**36.4**	**41.4**	**36.4**	**41.4**	**36.4**	**41.4**	**36.4**	**41.4**	**36.4**	**41.4**	**46.4**	**41.4**	**36.4**	**51.4**	**36.4**
(Equivallent to VND based on the prevailing labor c	VND Mil.	(12.3)	(8.7)	(7.2)	(2.8)	(2.8)	(2.5)	(2.5)	(2.5)	(2.5)	(2.5)	(2.2)	(2.5)	(2.2)	(2.5)	(2.2)	(2.5)	(2.2)	(2.5)	(2.2)	(2.5)	(2.8)	(2.5)	(2.2)	(3.1)	(2.2)
5. Net Cash Benefit																										
5.1 Total Net Cash Income	VND Mil.	**16.5**	**12.9**	**11.4**	**7.0**	**7.0**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**13.1**	**4.2**	**4.2**	**31.1**	**4.2**
5.2 Additional Income	VND Mil.	**12.3**	**8.7**	**7.2**	**2.8**	**2.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**8.9**	**0.0**	**0.0**	**26.9**	**0.0**
(Additional income per required labor force)	VND Th. /MD	(60.0)	(60.0)	(60.0)	(60.0)	(60.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(192.3)	(0.0)	(0.0)	(523.4)	(0.0)
5.3 Average cash income for a certain period																										
(1) Average C.I for 5 year from 1st to 5th	VND Mil./yr	6.7																								
(2) Average C.I. for 10 years from 6th to 15th	VND Mil./yr	0.3																								
(3) Average C.I. for 10 years from 16th to 25th	VND Mil./yr	3.6																								

Table J-6-1 Analysis of Household Economy under With-Project Condition

Case 3: Protection		**20 ha**																								
Items	Unit	Year																								
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1. Basic Income <1		**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**
2. Income from the project <2		**8.7**	**8.7**	**8.7**	**8.7**	**8.7**	**0.0**	**0.0**	**0.0**	**0.0**	**130.6**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**253.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
2.1 Wage from the project	VND Mil.	8.7	8.7	8.7	8.7	8.7																				
2.2 Gross Benefit from harvest		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	130.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	253.5	0.0	0.0	0.0	0.0	0.0
3. Cash expenditures <2		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**14.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**27.6**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
3.1 Cost for harvesting and transportation	VND Mil.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0
3.2 Sharing benefit with the Government	10% of N.I.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.1	0.0	0.0	0.0	0.0	0.0
4. Labor Requirement after the project support <2																										
4.1 Protection	MD	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6
4.2 selective cutting	MD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0
Total	**MD**	**145.6**	**145.6**	**145.6**	**145.6**	**145.6**	**145.6**	**145.6**	**145.6**	**145.6**	**205.6**	**145.6**	**145.6**	**145.6**	**145.6**	**145.6**	**145.6**	**145.6**	**145.6**	**145.6**	**205.6**	**145.6**	**145.6**	**145.6**	**145.6**	**145.6**
(Equivallent to VND based on the prevailing labor c	VND Mil.	(8.7)	(8.7)	(8.7)	(8.7)	(8.7)	(8.7)	(8.7)	(8.7)	(8.7)	(12.3)	(8.7)	(8.7)	(8.7)	(8.7)	(8.7)	(8.7)	(8.7)	(8.7)	(8.7)	(12.3)	(8.7)	(8.7)	(8.7)	(8.7)	(8.7)
5. Net Cash Benefit																										
5.1 Total Net Cash Income	VND Mil.	**12.9**	**12.9**	**12.9**	**12.9**	**12.9**	**4.2**	**4.2**	**4.2**	**4.2**	**120.5**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**230.1**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**
5.2 Additional Income	VND Mil.	**8.7**	**8.7**	**8.7**	**8.7**	**8.7**	**0.0**	**0.0**	**0.0**	**0.0**	**116.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**225.9**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(Additional income per required labor force)	VND Th. /MD	(60.0)	(60.0)	(60.0)	(60.0)	(60.0)	(0.0)	(0.0)	(0.0)	(0.0)	(565.8)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(1098.6)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
5.3 Average cash income for a certain period																										
(1) Average C.I for 5 year from 1st to 5th	VND Mil./yr	8.7																								
(2) Average C.I. for 10 years from 6th to 15th	VND Mil./yr	11.4																								
(3) Average C.I. for 10 years from 16th to 25th	VND Mil./yr	22.6																								

Note:

<1 Basic income is based on the results of household interview survey conducted by JICA Survey Team in July 2009.

<2 Data of harvestable volume of wood/timber and labor requirement for forest management and exploitation are based on the cost benefit analysis presented in Appendix xxxx.

<3 Constant price in 2009 is applied for estimation.

Table J-6-2 Breakdown of Economic Costs of the Project Components

Project Components		Total	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1. Preparatory Survey		**14,968**	**0**	**13,396**	**0**	**0**	**0**	**1,572**	**0**	**0**	**0**	**0**	**0**
1.1 Procurement of equipment			0	13,396	0	0	0	1,572	0	0	0	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	0	0	0	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	13,396	0	0	0	1,572	0	0	0	0	0
2. Survey and Planning		**19,880**	**0**	**0**	**8,250**	**4,763**	**4,483**	**2,384**	**0**	**0**	**0**	**0**	**0**
2.1 Forest Inventory			0	0	6,307	0	0	0	0	0	0	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	0	0	0	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	6,307	0	0	0	0	0	0	0	0
2.2 Participatory Land Use Planning			0	0	1,148	1,905	1,304	0	0	0	0	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	0	0	0	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	1,148	1,905	1,304	0	0	0	0	0	0
2.3 Detailed Designing			0	0	795	1,591	3,178	2,384	0	0	0	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	0	0	0	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	795	1,591	3,178	2,384	0	0	0	0	0
2.4 Socio-economi Baseline Survey			0	0	0	1,268	0	0	0	0	0	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	396	0	0	0	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	872	0	0	0	0	0	0	0
3. Capacity Development and Information Dissemination		**51,556**	**0**	**1,490**	**13,210**	**8,179**	**7,219**	**5,655**	**5,787**	**4,786**	**3,345**	**1,885**	**0**
3.1 Capacity Buidling			0	1,490	8,478	4,704	5,401	3,236	3,236	2,417	1,614	921	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	0	0	0	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	1,490	8,478	4,704	5,401	3,236	3,236	2,417	1,614	921	0
3.2 Information Dissemination			0	0	4,732	3,475	1,818	2,296	2,089	1,920	1,283	964	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	0	0	0	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	4,732	3,475	1,818	2,296	2,089	1,920	1,283	964	0
3.2 Information Dissemination			0	0	0	0	0	122	462	449	449	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	0	0	0	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	0	0	122	462	449	449	0	0
4. Development of Watershed Protection Forest		**565,464**	**0**	**0**	**0**	**86,910**	**157,674**	**164,926**	**93,787**	**43,118**	**18,849**	**200**	**0**
4.1 Afforestation of watershed protection forest			0	0	0	52,032	89,570	90,577	47,308	27,114	11,620	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	40,484	69,691	70,475	36,808	21,096	9,041	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	11,548	19,879	20,102	10,499	6,018	2,579	0	0
4.2 Improvement of existing plantation			0	0	0	4,208	7,580	8,379	5,575	3,606	1,545	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	2,944	5,302	5,861	3,900	2,522	1,081	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	1,265	2,278	2,518	1,676	1,084	464	0	0
4.3 Forest protection			0	0	0	4,145	8,291	8,291	8,291	8,291	4,145	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	4,145	8,291	8,291	8,291	8,291	4,145	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	0	0	0	0	0	0	0	0
4.4 ANR with enrichment			0	0	0	3,541	6,266	6,794	3,335	1,659	466	200	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	2,755	4,875	5,286	2,595	1,291	362	155	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	786	1,391	1,508	740	368	103	44	0
4.5 ANR			0	0	0	8,229	16,457	16,457	9,606	2,449	1,072	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	8,229	16,457	16,457	9,606	2,449	1,072	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	0	0	0	0	0	0	0	0
4.6 Silvicultural Infrastructure			0	0	0	14,755	29,510	34,428	19,673	0	0	0	0
(1) Silviculture Infra (Foresty Road)													
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	3,985	7,970	9,299	5,314	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	6,189	12,378	14,441	8,252	0	0	0	0
(2) Silviculture Infra (Fire Breakline)													
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	0	0	0	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	1,468	2,936	3,425	1,957	0	0	0	0
(3) Silviculture Infra (Watch tower)													
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	182	365	425	243	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	796	1,593	1,858	1,062	0	0	0	0
(4) Silviculture Infra (Protection station)													
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	327	654	763	436	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	1,295	2,590	3,021	1,727	0	0	0	0
(5) Silviculture Infra (Information board)													
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	38	76	89	51	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	96	193	225	128	0	0	0	0
(6) Silviculture Infra (Nursery)													
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	56	112	131	75	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	321	643	750	429	0	0	0	0

Table J-6-2 Breakdown of Economic Costs of the Project Components

Project Components		Total	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
5. Improvement of SPL III Forests		**23,933**	**0**	**0**	**482**	**9,000**	**9,887**	**2,111**	**1,737**	**716**	**0**	**0**	**0**
5.1 Forest Protection			0	0	0	288	577	577	288	0	0	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	288	577	577	288	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	0	0	0	0	0	0	0	0
5.2 Enrichment planting			0	0	482	707	615	173	107	46	0	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	285	418	363	102	64	27	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	197	289	252	71	44	19	0	0	0
5.3 Vegetation clearing and thninning			0	0	0	8,004	8,696	1,362	1,341	670	0	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	7,748	8,418	1,319	1,298	649	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	256	278	43	43	21	0	0	0
6. Development of Coastal Protection Forest		**40,715**	**0**	**0**	**0**	**7,982**	**13,011**	**12,337**	**4,612**	**1,864**	**778**	**132**	**0**
6.1 Afforestation			0	0	0	5,313	8,359	7,483	2,373	1,097	470	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	3,716	5,847	5,234	1,660	768	329	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	1,597	2,512	2,249	713	330	141	0	0
6.2 Improvement of existing plantation			0	0	0	976	1,627	1,628	678	362	145	62	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	976	1,627	1,628	678	362	145	62	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	0	0	0	0	0	0	0	0
6.3 Forest protection			0	0	0	0	0	0	0	0	0	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	0	0	0	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	0	0	0	0	0	0	0	0
6.4 ANR with enrichment			0	0	0	1,090	1,818	1,818	757	404	162	69	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	791	1,318	1,318	549	293	118	50	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	300	500	500	208	111	45	19	0
6.5 Silviculture Infrastructure			0	0	0	603	1,207	1,408	804	0	0	0	0
(1) Silviculture Infra (Foresty Road)													
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	145	290	338	193	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	225	450	525	300	0	0	0	0
(2) Silviculture Infra (Fire Breakline)													
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	0	0	0	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	87	174	203	116	0	0	0	0
(3) Silviculture Infra (Watch tower)													
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	5	11	12	7	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	23	46	54	31	0	0	0	0
(4) Silviculture Infra (Protection station)													
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	20	40	46	26	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	78	157	183	105	0	0	0	0
(5) Silviculture Infra (Information board)													
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	2	3	4	2	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	4	8	9	5	0	0	0	0
(6) Silviculture Infra (Nursery)													
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	2	4	5	3	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	12	24	29	16	0	0	0	0
7. Livelihood Development Support		**72,859**	**0**	**0**	**517**	**15,217**	**12,499**	**16,769**	**17,432**	**4,597**	**4,211**	**1,617**	**0**
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	0	0	0	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	517	15,217	12,499	16,769	17,432	4,597	4,211	1,617	0
8. Infrastructure for Livelihood Development		**207,205**	**0**	**0**	**0**	**0**	**41,441**	**82,882**	**62,161**	**20,720**	**0**	**0**	**0**
8.1 Rural road (watershed)		100,895	0	0	0	0	33,632	67,264	50,448	16,816	0	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	3,310	6,621	4,966	1,655	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	0	30,321	60,643	45,482	15,161	0	0	0
8.2 Rural road (coastal)			0	0	0	0	2,755	5,510	4,133	1,378	0	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	271	542	407	136	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	0	2,484	4,968	3,726	1,242	0	0	0
8.3 Irrigation			0	0	0	0	4,527	9,054	6,790	2,263	0	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	1,773	3,546	2,660	887	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	0	2,754	5,507	4,131	1,377	0	0	0
8.4 Water supply			0	0	0	0	527	1,054	791	264	0	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	154	308	231	77	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	0	373	746	560	187	0	0	0

Table J-6-2 Breakdown of Economic Costs of the Project Components

Project Components		Total	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
9. Forest Fire Control		**5,115**	**0**	**0**	**0**	**3,090**	**1,058**	**967**	**0**	**0**	**0**	**0**	**0**
9.1 Purchase of equipment			0	0	0	3,090	0	0	0	0	0	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	0	0	0	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	3,090	0	0	0	0	0	0	0
9.2 Training			0	0	0	0	1,058	967	0	0	0	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	0	0	0	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	0	1,058	967	0	0	0	0	0
10. Monitoring and Evaluation		**14,890**	**0**	**0**	**0**	**0**	**0**	**1,519**	**0**	**0**	**0**	**13,371**	**0**
10.1 Mid-term evaluation			0	0	0	0	0	1,519	0	0	0	0	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	0	86	0	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	0	0	1,432	0	0	0	0	0
10.2 Terminal evaluation (Physical)			0	0	0	0	0	0	0	0	0	12,104	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	0	0	0	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	0	0	0	0	0	0	12,104	0
10.3 Terminal evaluation (Social)			0	0	0	0	0	0	0	0	0	1,268	0
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	0	0	0	0	0	396	0
Skilled labor / Material / equipment	SCF 0.97		0	0	0	0	0	0	0	0	0	872	0
11. Project Management		**101,891**	**2,754**	**11,015**	**11,015**	**11,015**	**11,015**	**11,015**	**11,015**	**11,015**	**11,015**	**11,015**	**8,261**
Unskilled / Semi-skilledLabour	conversion factor 0.60		0	0	0	0	0	0	0	0	0	0	0
Skilled labor / Material / equipment	SCF 0.97		2,754	11,015	11,015	11,015	11,015	11,015	11,015	11,015	11,015	11,015	8,261
12. Sub total (1-10)		1,118,476	**2,754**	**25,900**	**33,474**	**146,156**	**258,287**	**302,138**	**196,532**	**86,817**	**38,198**	**28,220**	**8,261**
13. Physical Contingency	0.05	55,924	138	1,295	1,674	7,308	12,914	15,107	9,827	4,341	1,910	1,411	413
14. Consulting Services		**128,129**	**0**	**9,455**	**21,522**	**20,452**	**20,651**	**16,724**	**12,637**	**9,982**	**7,626**	**9,078**	**0**
15. GRAND TOTAL		1,302,528	**2,891**	**36,651**	**56,670**	**173,916**	**291,853**	**333,969**	**218,995**	**101,140**	**47,734**	**38,709**	**8,674**

Table J-6-3 Results of Economic Evaluation of the Project

Yr	Investment Cost (1)													O&M Cost (2)			Replacement Cost (3)		Benefit (4)					Balance
	P. Works	S&P	CD & ID	Dev. of WPF	SPL3 Improve.	Dev. of CPF	Live Dev.	Small Infra	FFC	M&E	PM	P.C.	CS/ES	Small Infra	Silvi Infra	P. Forest	Small Infra	Silvi Infra	Wood/Timber	AR-CDM	REDD	VOC	Crop	(4-1-2-3)
1	0	0	0	0	0	0	0	0	0	0	2,754	138	0	0	0	0	0	0	0	(3,054)	0	0	-5,946
2	13,396	0	1,490	0	0	0	0	0	0	0	11,015	1,295	9,455	0	0	0	0	0	0	4,120	0	0	-32,531
3	0	8,250	13,210	0	482	0	517	0	0	0	11,015	1,674	21,522	0	0	0	0	0	0	(13,128)	4,539	0	0	-65,260
4	0	4,763	8,179	86,910	9,000	7,982	15,217	3,090	3,090	0	11,015	7,308	20,452	0	0	0	0	0	0	0	5,000	0	0	-172,006
5	0	4,483	7,219	157,674	9,887	13,011	12,499	1,058	1,058	0	11,015	12,914	20,651	15	77	0	0	0	0	0	5,506	0	0	-246,056
6	1,572	2,384	5,655	164,926	2,111	12,337	16,769	967	967	1,519	11,015	15,107	16,724	21	230	0	0	0	0	0	6,064	7	0	-246,235
7	0	0	5,787	93,787	1,737	4,612	17,432	0	0	0	11,015	9,827	12,637	26	410	0	0	0	0	0	6,677	14	2,918	-147,660
8	0	0	4,786	43,118	716	1,864	4,597	0	0	0	11,015	4,341	9,982	26	512	1,399	0	0	28,816	0	7,352	20	5,836	-40,332
9	0	0	3,345	18,849	0	778	4,211	0	0	0	11,015	1,910	7,626	26	512	11,228	0	0	29,165	0	8,094	20	8,754	-13,466
10	0	0	1,885	200	0	132	1,617	0	0	13,371	11,015	1,411	9,078	26	512	20,641	0	0	17,347	0	8,910	20	8,754	-24,855
11	0	0	0	0	0	0	0	0	0	0	8,261	413	0	26	512	21,134	0	0	48,213	(4,508)	9,808	20	8,754	31,942
12														26	512	21,162	0	0	84,294	0	10,796	20	8,754	82,165
13														26	512	22,960	0	0	144,154	0	11,883	20	8,754	141,314
14														26	512	22,582	0	0	163,597	0	13,078	20	8,754	162,330
15														26	512	20,558	0	0	134,542	0	14,393	20	8,754	136,614
16														26	512	20,508	0	0	127,059	45,802	15,839	20	8,754	176,429
17														26	512	20,211	0	0	128,330	0	17,430	20	8,754	133,786
18														26	512	20,422	0	0	397,604	0	19,179	20	8,754	404,599
19														26	512	20,529	0	1,007	421,327	0	21,104	20	8,754	429,132
20														26	512	20,305	0	2,014	182,174	0	23,222	20	8,754	191,313
21														26	512	20,529	0	2,350	190,220	78,511	25,551	20	8,754	279,641
22														26	512	20,422	0	1,343	132,728	0	28,113	20	8,754	147,314
23														26	512	22,344	0	0	414,790	0	30,931	20	8,754	431,615
24														26	512	23,016	0	1,720	447,251	0	34,031	20	8,754	464,783
25														26	512	20,751	5,054	3,441	144,288	0	37,441	20	8,754	160,721
26														26	512	20,082	10,108	4,014	127,026	109,401	41,192	20	8,754	251,652
27														26	512	20,790	7,581	2,294	251,102	0	45,318	20	8,754	273,993
28														26	512	20,701	2,527	0	790,376	0	49,857	20	8,754	825,241
29														26	512	20,016	0	0	756,174	0	54,850	20	8,754	799,245
30														26	512	21,088	0	0	332,856	0	60,341	20	8,754	380,346
31														26	512	21,069	0	0	279,868	107,338	66,382	20	8,754	440,756
32														26	512	20,082	0	0	236,544	0	73,028	20	8,754	297,727
33														26	512	23,186	0	0	1,046,595	0	80,337	20	8,754	1,111,984
34														26	512	23,194	0	1,007	979,653	0	88,378	20	8,754	1,052,067
35														26	512	20,162	0	2,014	273,617	0	97,223	20	8,754	356,901
36														26	512	21,119	0	2,350	506,445	0	106,952	20	8,754	598,165
37														26	512	20,995	0	1,343	424,176	0	117,654	20	8,754	527,730
38														26	512	22,159	0	0	936,249	0	129,426	20	8,754	1,051,753
39														26	512	23,273	0	0	1,208,157	0	142,376	20	8,754	1,335,497
40														26	512	21,089	0	0	462,712	0	156,620	20	8,754	606,480
41														26	512	20,133	0	0	304,547	323,416	172,289	20	8,754	788,357
42														26	512	20,245	0	0	371,772	0	189,525	20	8,754	549,290
43														26	512	23,153	0	0	1,759,886	0	208,485	20	8,754	1,953,455
44														26	512	24,332	0	1,720	1,490,298	0	229,340	20	8,754	1,701,822
45														26	512	24,434	5,054	3,441	25,204	0	252,281	20	8,754	252,793
46														26	512	24,434	10,108	4,014	0	0	277,516	20	8,754	247,197
47														26	512	24,434	7,581	2,294	0	0	305,274	20	8,754	279,203
48														26	512	24,434	2,527	0	0	0	335,809	20	8,754	317,085
49														26	512	24,434	0	1,007	0	0	369,397	20	8,754	352,192
50														26	512	24,434	0	2,014	0	0	406,343	20	8,754	388,132
Results:																			989,606	30,401	166,240	114	44,314	
	NPV @10%		478	billion		EIRR		13.3%											15,799,156	646,833	4,422,199	899	376,433	21,245,520

Notes:

1 Operation and maintenance costs for small scale infrastructure, silvicultural infrastructure, and protection forests were calcuated as follows:
- O&M Cost for small scale infrastructure: 0.5 % of the total investment cost for the component
- O&M Cost for protection forest: Labor cost for tending, cleaning, and protection activities

2 Replacement cost
- Rplacement cost for silviculture infrastructure was estimated based on the assumption that watch towers and forest protection stations would be replaced every 15 and 20 years, respectively.
- Rplacement cost for small scale rural infrastructure was estimated assuming that the irrigation systems and water supply systems would be replaced every 20 years.

Table J-6-4. Check List for the Environmental Considerations

Category	Environmental Item	Main Check Items	Present Conditions/Related Project Plans	Possible Impacts/Mitigation Measures	Conclusion
1 Permits and Explanation	(1) EIA and Environmental Permits	EIA requirement under the existing guidelines	EIA is required for forestation projects over 1,000ha under the Law on Environmental Protection (No.52/2005/QH11, Nov 29th, 2005), Decree No.80/2006/ND-CP (August 9th, 2006), Decree No.21/2008/ND-CP (February w8th, 2008), and MONRE Circular No.08/2006/TT-BTNMT (September 8th, 2006) in Vietnam. All the sub-programs proposed in the 12 provinces plan to reforest, improve and protect more than 1,000 ha of protection forest.		Either an EIA report for the entire project or EIA reports for the respective sub-projects in the 12 provinces shall be prepared. In the former case, an EIA report will be prepared by MBFP/CPMU and submitted to the appraisal council headed by Minister of MARD, while each DARD shall prepare and submit an EIA report to the provincial council under PPC in the latter case.
		① Have EIA reports been officially completed?	MARD plans to prepare an EIA report for the entire project upon the approval of the project by the government.	-	An EIA report for the entire project should be completed upon the official approval of the project by the government.
		② Have EIA reports been approved by authorities of the host country's government?	Same as above. (An EIA report may be approved in the middle of 2010.)		The appraisal council of MARD will review and examine an EIA report.
		③ Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied?	ditto	-	As clearly stipulated in the Clause 3.2 of MONRE Circular No.08/2006/YY-BTNMT, an EIA report should be reviewed and re-examined when there are any conditions put for the approval.
		④ In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	None	-	None
	(2) Explanation to the Public	① Are contents of the project and the potential impacts adequately explained to the public based on appropriate procedures, including information disclosure? Is understanding obtained from the public?	According to the government's regulation (Circular No. 08/2006/TT-BTNMT), MBFP should conduct the public consultations to explain to the relevant communes the outlines of the projects, anticipated impacts, and proposed countermeasures in the course of the EIA report preparation.	-	Public consultation should be organized to explain the project to the public prior to the submission of an EIA report.
		② Are proper responses made to comments from the public and regulatory authorities?	ditto		ditto
2 Mitigation Measures	(1) Air Quality	① Do air pollutants, such as dust, soot and dust, sulfur oxides (SOx), nitrogen oxides (NOx), and organic chemical substances emitted from various sources, such as logging operations, forest products manufacturing processes, and incinerators comply with the country's emission standards and ambient air quality standards?	A large scale logging in protection forest is not planned in the project. Selective-cum-small-scale tree cutting may be undertaken by local communities in the post-project period. No incineration or wood processing activities is also planned in the project. Harvest of sub-ordinate species (or fast growing species) will start in the middle of the 2020s.	There may be a need to cut and transport the fast growing species in a mechanical way. However, the operation period will be short and not continuous, and thus, no additional manufacturing or processing factory is expected to be established for the products from the project.	There is no air pollution anticipated in the Project.
	(2) Water Quality	① Is there a possibility that the use of chemicals, such as fertilizers, and agrochemicals will cause water pollution?	A total of 80 kg of compound type fertilizer (16-16-18) will be used for one hectare of reforestation for four years. Such a volume of fertilizer is quite small as compared to those used for agricultural purposes. Furthermore, it is also expected that fertilizer will not flow out into a river since fertilizer is put on the planting holes when seedlings are planted.	In case local households do not follow the technical guidelines and broadcast fertilizer in the surface, some part of applied fertilizer might outflow to rivers. But again, the future impact will be minimal since the volume of fertilizer used for reforestation is quite small.	Prior to the application of fertilizer, PFMB will provide necessary technical guidance to local households who take part in reforestation activities. It would not be difficult for local households to apply fertilizer in a proper manner since it is a simple and easy-to-apply technique. In fact, no adverse impact on water quality has taken place during the SPL-3 project.
		② Where facilities, such as forest products manufacturing facilities are installed, do effluents from the facilities comply with the country's effluent standards and ambient water quality standards?	There is no plan to establish a forest products manufacturing facilities in the plan.	None	This criterion is not applicable to the project. (N/A: Not applicable)
	(3) Wastes	① Are wastes properly treated and disposed of in accordance with the country's standards?	There is no waste emitted in the project.	None	N/A
	(4) Soil Contamination	① Are adequate measures taken to prevent contamination of soil and groundwater by use of chemicals, such as agrochemicals?	As mentioned above, the volume of fertilizer used for afforestation is not as large as used for farming. No agrochemical will be used in the project.	None	The possibility of soil and water contamination is expected to be quite low in the project.

Table J-6-4. Check List for the Environmental Considerations

Category	Environmental Item	Main Check Items	Present Conditions/Related Project Plans	Possible Impacts/Mitigation Measures	Conclusion
3 Natural Environment	(1) Protected Areas	① Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	No protected area designated by the government law or international treaties is located in and around the project areas.	None	N/A
	(2) Ecosystem	① Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)?	There may be primary forests or tropical rain forests where valuable ecosystems still exist in the project areas, especially in the areas for the protection of natural forests. But such areas are expected to be quite limited in the project areas.	During the project period, natural forests will be protected and managed by local communities. In the post-project period, forest exploitation might progress in case local communities neglect their tasks under the long-term contract with PFMBs.	As indicated, the areas with primary or tropical rain forest are limited. It is also expected that local communities will tend to protect natural resources in their own areas once they realize that such resources are their own assets. Hence, the possibility of unregulated exploitation is expected to be minimal if adequate guidance and orientation are given to local communities prior to the introduction of the long-term agreement. Furthermore, PFMBs can terminate the long-term contract when it finds any negligence resulting the damage to natural forest. Hence, the possibility of the adverse impact on primary or tropical forests is evaluated as "minimal."
		② Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions?	No protected habitats of endangered species designated by the government law or international treaties is located in and around the project areas.	None	N/A
		③ Is there a possibility that changes in localized micro-meteorological conditions, such as solar radiation, temperature, and humidity due to a large-scale timber harvesting will affect the surrounding vegetation?	Reforestation in bare land and ANR in degraded forests will help in increasing vegetation cover and developing the canopies of forests.	Recovery of vegetation/forest cover will result in the improvement of micro-meteorological conditions in the project areas.	The positive effect might be generated by the project eventually.
		④ Is there a possibility that a large-scale timber harvesting will result in loss of breeding and feeding grounds for wildlife?	No large scale timber harvesting or logging is planned in the project.	No large scale logging is not expected to take place either even in the post-project period.	N/A
		⑤ In the case of reforestation projects, is there a possibility that mono-species plantations will adversely affect wildlife habitats? Is there a possibility that mono-species plantations will cause outbreaks of pests?	Mixed planting of indigenous species (main species) and fast growing species (sub-ordinate species) is the standard design of reforestation in the project. Tree species introduced are those that have been used in the provinces for years and already proved environmentally adaptable/suitable to the site conditions.	In general, tree species for main species are selected with the aim of improving the functions of protection forest. Hence, it is expected that the impact on ecosystems in and around the project areas will be minimal.	Tree species short-listed are proved adaptable and suitable to the respective site conditions in the 12 provinces. Hence, there is least possibility of pest infestation or outbreak of diseases due to the project implementation. In addition, since the main species are indigenous ones, the impact on ecosystems is expected to be minimal, or if anything, effective in improving the current ecosystems.
		⑥ If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem?	No significant impacts on ecosystems in the project areas is anticipated in the project.	None	N/A
	(3) Hydrology	① Is there a possibility that alteration of rainwater runoff and runoff characteristics due to a large-scale timber harvesting and access road construction will cause impacts on the hydrology of the surrounding areas?	No large scale timber harvesting or logging is planned in the project.	There will not be any large scale deforestation taking place in the post-project period.	N/A
		② Is there a possibility that decreased water retention capacity due to deforestation will affect the existing drainage patterns of the forest?	ditto	ditto	N/A
	(4) Topography and Geology	① Is there a possibility that loss of forest stability due to timber harvesting will cause slope failures or landslides?	No large scale timber harvesting is planned in the project; the possibility of slope failure or landslide will be minimal.	Since the selective cutting is only the practice that local communities is allowed to do under the long-term contract, there would be little possibility of slope failures/landslides as long as PFMBs periodically monitor/supervise local communities' activities. On the other hand, reforestation and ANR will be effective in increasing vegetation cover and protecting sloping areas from slope failure/landslide.	The possibility of slope failures/landslides caused by the project is minimal, while the project will contribute to the slope stabilization.

Table J-6-4. Check List for the Environmental Considerations

Category	Environmental Item	Main Check Items	Present Conditions/Related Project Plans	Possible Impacts/Mitigation Measures	Conclusion
3 Natural Environment	(3) Management of Abandoned Sites	① Are adequate restoration and revegetation plans considered for the harvested areas? In particular, are adequate measures taken to prevent soil runoff from the harvested areas?	Harvest of forest products is not planned during the project period. Restoration of bare lands or improvement of degraded forests is the main objective of the project.	In the post-project period, local communities, who will enter into the long-term contract, will be allowed to harvest trees, especially sub-ordinate/fast growing species. But no one is allowed to practice the clear cutting. Only thinning or selective cutting is allowed.	As long as local communities follow the regulations and apply the selective cutting method, forest can regenerate by itself.
		② Is a sustainable management system for the harvested areas established?	There is no plan to harvest trees in the plan.	As mentioned above, local communities will be allowed to harvest trees under the long-term contract with PFMBs. But the long-term contract will specify that local communities shall follow the code of practices when harvesting trees in protection forest. At the same time, they will prepare a forest management plan with the assistance of PFMBs prior to the conclusion of the long-term contracts.	A management system will be prepared and part of the long-term contract between local communities and PFMBs.
		③ Are adequate financial provisions secured to manage the harvested areas?	During the project period, adequate financial support will be made for protection, management, improvement and reforestation of protection forests. In the post project period, some of protection forest will be managed by local communities under the long-term contract with PFMBs, while some will be directly managed by PFMBs.	There may be no financial support give for forest protection after the project.	There is an adequate financial support in the project period, while no financial support is determined in the post-project period. However, it would not be much difficult for local communities to protect the assigned protection forests since the cost for protection is minimal. It is also expected that local communities would protect forests on their own initiative once they realize that they are entitled to harvest forest resources in the assigned areas.
4 Social Environment	(1) Resettlement	① Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement?	No involuntary resettlement caused by the project is anticipated.	None	N/A
		② Is adequate explanation on relocation and compensation given to affected persons prior to resettlement?	Ditto	None	N/A
		③ Is the resettlement plan, including proper compensation, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement?	Ditto	None	N/A
		④ Does the resettlement plan pay particular attention to vulnerable groups or persons, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples?	Ditto	None	N/A
		⑤ Are agreements with the affected persons obtained prior to resettlement?	Ditto	None	N/A
		⑥ Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan?	Ditto	None	N/A
		⑦ Is a plan developed to monitor the impacts of resettlement?	Ditto	None	N/A
	(2) Living and Livelihood	① Is there a possibility that the project will adversely affect the living conditions of inhabitants? Are adequate measures considered to reduce the impacts, if necessary? Is particular attention paid to the inhabitants whose livelihoods are based on primary industries, such as farming, raising livestock, or hunting and gathering in the forests?	Areas currently used by local communities for farming are not selected as the project areas in the project. Thus, the project will not adversely affect the livelihoods of local communities. On the contrary, the project will directly provide local communities short-term cash income and also allow them to use forest and non-timber forest products in their assigned areas under the long-term contract.	Local communities involved in reforestation / ANR / protection of natural forests can be paid by PFMBs. Moreover, those who enter into the long-term contract with PFMBs will be allowed to harvest 100 % of sub-ordinate species and less than 20 % of indigenous species under the long-term contract. In addition, the livelihood improvement component and small scale rural infrastructure development component will improve the livelihood of local communities.	No adverse impact on the living conditions and livelihoods of local communities is anticipated. On the contrary, the project will directly and indirectly improve the livelihoods of local communities by cash payment of labor cost and provision of technical training on livelihood activities.

Table J-6-4. Check List for the Environmental Considerations

Category	Environmental Item	Main Check Items	Present Conditions/Related Project Plans	Possible Impacts/Mitigation Measures	Conclusion
4 Social Environment	(2) Living and Livelihood	② Are adequate measures taken to prevent illegal entry into the forestry resource areas from the outside through newly constructed access roads?	More than 400 km of forestry roads are planned in the project.	Improvement of accessibility to the project areas may facilitate the illegal entry or cutting in protection forests. The public awareness raising of the importance of protection forest is one of the activities planned in the project. In addition, the project plans to involve local communities in protection and management of protection forests through the long-term forest management contract in order to protect and manage protection forests even after the end of the project. Under the long-term contract, local communities will be responsible for the protection of forests while they will be entitled to harvest forest resources in the assigned areas.	The proposed measures against the illegal entry into protection forests are considered practical as well as cost-effective.
	(3) Heritage	① Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage sites? Are adequate measures considered to protect these sites in accordance with the country's laws?	There is no archeological, historical, cultural, and religious heritage site in and around the project areas.	None	N/A
	(4) Landscape	① Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?	Lands without vegetation or with less vegetation will be converted to plantations or natural forests. Landscape will be changed but not adversely, if anything, rather positively.	Scenery in the project areas will be diversified or greened by the project.	No adverse impact on the landscape in the project area is anticipated.
	(5) Ethnic Minorities and Indigenous Peoples	① Does the project comply with the country's laws for rights of ethnic minorities and indigenous peoples?	The Vietnamese constitution clearly states that the ethnic minorities in the country have a right to protect their own customs, traditions, languages, and identities. In addition, the GoV has implemented the programs (135 and 136 programs) to financially support people in ethnic minorities and mountainous areas. The proposed project is also in line with the existing programs and aims to improve their economic conditions.	No activity that would affect the identities of ethnic minorities or discriminate them is planned in the project.	The activities planned in the project are in line with the GoV's laws.
		② Are considerations given to reduce the impacts on culture and lifestyle of ethnic minorities and indigenous peoples?	The project will not target the areas where ethnic minorities are currently using for farming, so that the project will not give any adverse impact on their lifestyle. Ethnic minorities willing to participate in the project may have more income generating opportunities than they usually have. Construction of small-scale infrastructure, such as rural roads, water supply systems, and irrigation facilities, will also give a certain impact on their lifestyle positively.	Increase of cash income might affect their traditional lifestyle or culture. Since ethnic minorities even residing in mountainous areas have been already involved in the money economy, the increased cash income is not expected to cause any drastic change of their cultures. The lifestyle of the minorities might be changed as they have more opportunities to earn cash income, access the social services, secure their food (agricultural production) and/or safe water. There may also be a worry that the project might widen the economic disparity among the ethnic minority groups or only economically advanced households might have more opportunities to gain cash income from the project. In order for all the communities to obtain the opportunities, the project plans to organize several orientation and guidance sessions at the beginnning of the project so that local communities can get a picture of the project when they participate in the project. Moreover, the participatory land use planning, which will be conducted in coordination with the commune/village leaders, will help them fairly allocate the project areas (opportunities) among the communiies.	Due consideration is given to ethnic minorities residing in and around the project areas. The project activities, such as i) small scale infrastructure development, ii) involvement of local communities in the forest development, and iii) introduction of the long-term contract, will positively affect the living conditions and lifestyle of ethnic minorities. The negative impact on culture and lifestyle, such as changes of traditional lifestyle, is expected to be "minor." Furthermore, the expansion of economic disparity among the communities would also not be likely to occur if the project provides the adequate project information to local communities and consult with the village leaders as well as the communities when identifying the project areas and selecting the local households who would take part in the project.

Table J-6-4. Check List for the Environmental Considerations

Category	Environmental Item	Main Check Items	Present Conditions/Related Project Plans	Possible Impacts/Mitigation Measures	Conclusion
5 Others	(1) Impacts during Construction	① Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)?	Small scale infrastructures will be constructed in the course of the project.	All the proposed infrastructures are small- or micro scale. Therefore, there is no major adverse impact (e.g., noise, vibrations, turbid water, dust, exhaust gasses, and wastes) anticipated in the project. However, there might be possibility of causing soil erosion due to improper slope protection works during the construction.	Although no major adverse impact caused by the infrastructure development is anticipated, PPMUs need to provide necessary guidance to the contractors for rural infrastructure development so that the proper construction methods will be employed and slopes will be treated in a proper manner.
		② If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts?	ditto	ditto	ditto
		③ If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts?	No land acquisition, involuntary resettlement, or loss of means of livelihoods is expected due to the construction of infrastructures. The construction period ranges from three to six months. Hence, the influx of laborers will be temporary. In addition, local communities will be hired as laborers during the construction.	Local communities could earn cash income engaging in the construction works as casual laborers.	No adverse impact on socio-economic conditions, such as land acquisition, involuntary resettlement, and loss of means of livelihoods, is anticipated. Rather, the construction of infrastructures might positively improve the economic conditions of local communities.
		④ If necessary, is health and safety education (e.g., traffic safety, public health) provided for project personnel, including workers?	Construction works planned in the project are so small and short that the risk of accidents / transmitted diseases is quite limited.	No major adverse impact on health in local communities and laborers is anticipated.	The health and safety education is not necessary required in the implementation of the construction works.
	(2) Monitoring	① Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts?	MARD has yet to develop or implement a monitoring program so far. It should be examined and prepared in the preparation of an EIA report. On the other hand, the project will be monitored by PPMUs on a monthly basis. The monthly monitoring will cover the environmental items.	-	The environmental monitoring plan or program should be examined and specified in the EIA report.
		② Are the items, methods and frequencies included in the monitoring program judged to be appropriate?	Likewise, the items and methods of a environmental monitoring plan will be finalized along with an EIA report. On the other hand, the outlines of the regular monitoring are described in the final report or FS report of the project.	-	Likewise, the detailed procedures for monitoring the environmental items should be clarified in the EIA report.
		③ Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)?	PPMU in coordination with DARD and DONRE will be responsible for environmental monitoring. PPMU will be established after the official approval of the project by the government.	-	PPMUs should be organized upon the approval of the project by the government. Monitoring of the environmental items should be specified in the tasks of PPMUs when they are organized in the beginning of the project.
		④ Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?	The government's regulation (Circular No. 08/2006/TT-BTNMT) stipulates that a monitoring plan be prepared and implemented by the proponent.	-	An EIA report should be prepared in accordance with the said regulation.
6 Note	Reference to Checklist of Other Sectors	① Where necessary, pertinent items described in the Agriculture and Livestock Projects, and Irrigation Projects checklists should also be checked.	The project plans to improve or rehabilitate the existing small or micro scale irrigation systems. No livestock or agricultural development is proposed in the project.	-	N/A
	Note on Using Environmental Checklist	① If necessary, the impacts to transboundary or global issues should be confirmed (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).	No large scale forest cutting, construction or change in land use is planned in the project. Hence, no impact to transboundary or global issues is expected in the project.	-	N/A

1) Regarding the term “Country’s Standards” mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are made, if necessary. In cases where local environmental regulations are yet to be established in some areas, considerations should be made based on comparisons with appropriate standards of other countries (including Japan' experience).

2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of the country and locality in which it is located.

Table J-6-5. Project Logical Framework

Project Logic	Objectively Verifiable Indicators	Means of Verification	Assumptions/ Risks
Overall Goal 1. Self-sustained management and protection of protection forests by forest owners 2. Restoration and conservation of biodiversity 3. Reduction of poverty in mountainous area	1. Proportion of Group IV Forest in the target watersheds in 2040 will increase by ( ) % from the level in 2010. 2. Income level of local communities in the target communes/villages in 2030 will increase by ( )% from the average in 2010.	Forest classification survey (by FIPI) District statistics Impact assessment (household survey)	1. There is no drastic change in climatic conditions, such as rainfall and temperature. 2. Macro economy of the country is not adversely changed drastically.
Project Purpose 1. To restore and improve watershed and coastal protection forests for both environmental and economic purposes	1. Forest cover in the target watersheds in 2020 will increase by 26,000 ha. 2. Quality of vegetation/forest covers in the target protection forests will be improved in 2020. - 30,100 ha of recovering forest from bush/woodlot - 23,200 ha of quality plantations from young plantations / poorly maintained plantations - 67,500 ha of natural forest under proper maintenance and management 3. Incidence of forest fire in 2020 will be reduced by 50% as compared to the level in 2010.	Terminal evaluation using high resolution satellite images Terminal evaluation using high resolution satellite images PPMU/ FPMB data on fire incidence	1. No drought or cyclone takes place. 2. PPCs do not change the categories of watershed protection forest or forest classification. 3. Climatic conditions are not significantly unfavorable for restoration of forests.
2. To strengthen the capacity of the local governments and the owners of protection forests such as protection forest management boards, organizations, groups of households, and individuals for sustainable management of protection forests	1. ( ) % of the project areas will be managed by the forest management groups under the long-term contract with PFMBs concerned 2. More than ( ) % of the forest management groups, which enter into the long-term contract, will prepare a forest management plan for the assigned protection forest by 2020. 3. Regulations on benefit sharing mechanism will be officially approved and Forest Development and Protection Fund will be developed by PPCs concerned by 2020.	Records of PPMUs and CPMU Completion report of the project Completion report of the project Annual report by PFMBs and DARDs Completion report of the project Annual reports by DARDs	1. The prices of wood chips and timbers do not drop drastically. 2. Employment conditions in rural areas in the regions/target provinces are not changed.
3. To improve the livelihood of communities who would manage protection forests	1. The income level of members of the forest management groups (local households who participate in the project) in the target communes / villages in 2020 will increase by ( ) % as compared to the level in 2010.	Terminal evaluation (Socio-economic impact survey)	1. Regional economy in the target provinces is not adversely changed.

Project Logic	Objectively Verifiable Indicators	Means of Verification	Assumptions/ Risks
Outputs 1. Institutional arrangements necessary for implementation will be made prior to the actual physical development in the field.	1. Project implementation guidelines will be developed and finalized in 2011. 2. Regulations on benefit sharing mechanism at provincial level will be finalized in 2011. 3. Forest Development and Protection Fund will be established at least in five (5) provinces in 2011. 4. Target villages will be initially selected.,	Project implementation guidelines (Government circular) PPCs' circulars PPCs' circulars Annual report of the project	1. There is no delay in fund disbursement. 2. There is no delay in procurement, approval and any other decision making by CPMU/MARD and DARDs/PPCs. 3. There is no change in forest development strategies and polices. 4. There is no social conflict or dispute taking place in the target communes / villages.
2. Detailed plans and designs for development and improvement of protection forests will be made in a participatory manner.	1. Land use and forest classification maps covering 127,800 ha[1] of protection forest will be updated. 2. A total of 61 detailed plans including land use plan will be prepared in a participatory manner.	Updated land use and forest classification map Detailed plans	
3. Capacities of the stakeholders will be enhanced and local communities in the target villages will be organized as forest management groups so that the project could be implemented as planned.	1. The staff of 1 CPMU, 12 PPMUs, 12 DARDs, 61 PFMBs, 54 DPCs, and 162 CPCs will be trained[1]. 2. Forest management groups will be organized in 162 communes[1] in the project areas.	Annual report of the project (Records of PPMUs/CPMU) Annual report of the project (Records of PPMUs/CPMU)	
4. Target Protection forests in both watershed and coastal areas will be developed and improved by PFMBs concerned in a participatory manner.	1. Watershed protection forest - 23,3000 ha of afforestation - 3,300 ha of improved existing plantation - 93,600 ha of protected natural forest 2. Coastal protection forest - 2,1000 ha of afforestation - 800 ha of improved existing plantation - 2,300 ha of protected natural forest - Improved SPL-3 sites: 15,600 ha	Annual reports of the project (Records of PPMUs/CPMU) Annual reports of the project (Records of PPMUs/CPMU)	
5. Livelihood development options will be introduced in the target communes/villages.	1. Development needs of livelihood development options will be identified in a participatory manner. 2. ( ) of livelihood development models will be demonstrated and introduced in the target villages. 3. ( ) members of the forest management groups will be trained on livelihood development options/models.	Annual reports of the project (Reports from the contractors) Annual reports of the project (Reports from the contractors) Annual reports of the project (Reports from the contractors)	

[1] The numbers/figures are subject to change based on the results of the preparatory works.

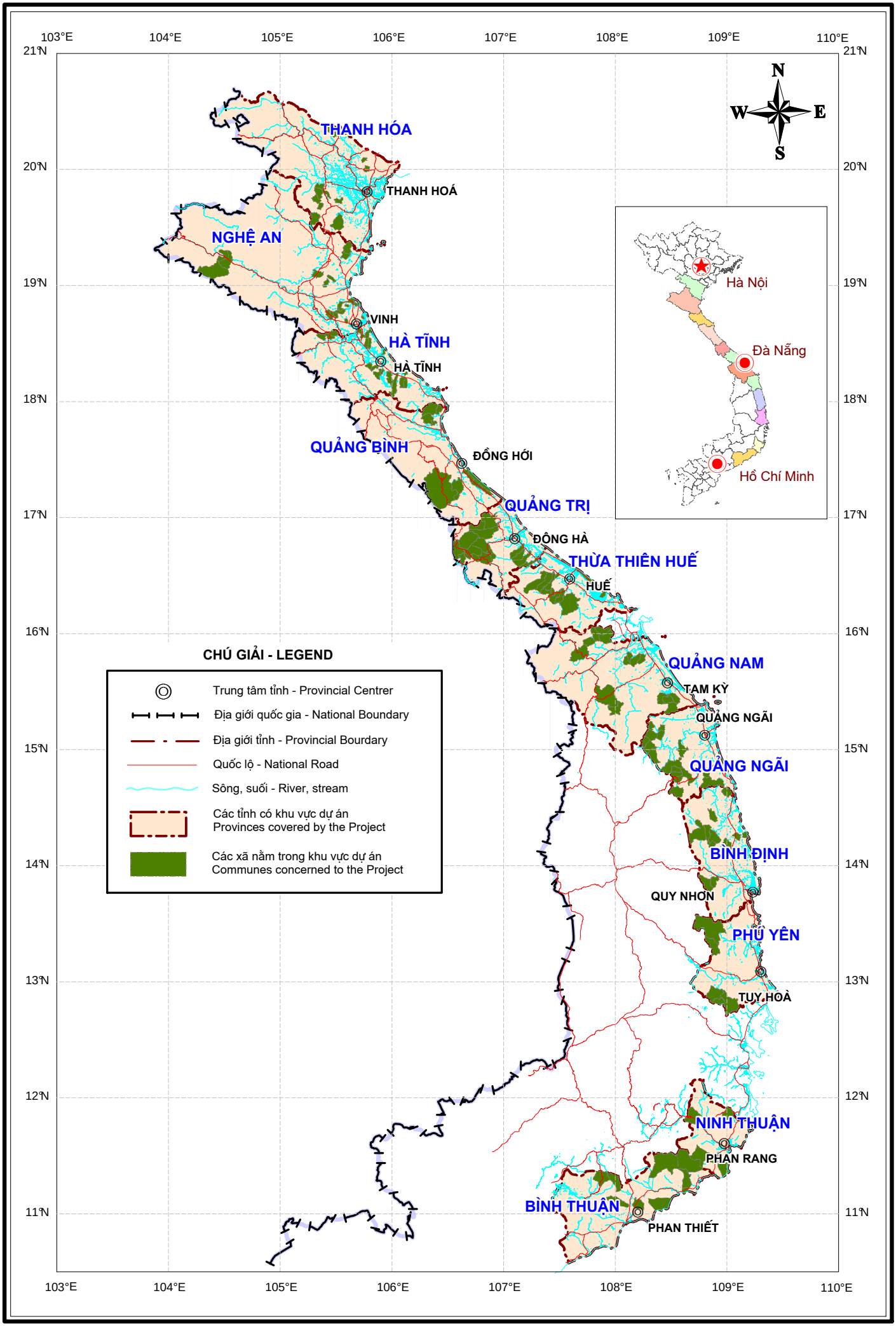
Project Logic	Objectively Verifiable Indicators	Means of Verification	Assumptions/ Risks
6. Small scale infrastructure facilities will be developed for improvement of livelihoods of local communities in the target communes / villages.	1. Development needs of small scale infrastructure will be identified in a participatory manner. 2. ( ) km of rural road, ( ) irrigation schemes, ( ) water supply systems will be developed and handed over to CPCs concerned.	Annual reports of the project (Reports from the contractors) Annual reports of the project (Reports from the contractors)	
7. Capacity of PFMBs and DPCs concerned for forest fire prevention will be enhanced.	1. Forest fire control / extinction equipments will be provided to 62 PFMBs. 2. ( ) staff of PFMBs and ( ) members of the forest management groups were trained on forest fire control.	Annual reports of the project Annual reports of the project	
Activities 1. Preparatory Works a. Establishment of CPMU and PPMUs b. Review and finalization of project implementation guidelines c. Identification of potential target villages d. Development of benefit sharing regulations e. Facilitation of the establishment of Forest Development and Protection Funds f. Purchase of high resolution satellite images			
2. Survey, Mapping and Planning a. Survey and mapping in the target communes through analysis of high resolution satellite pictures and field surveys b. Setting up land marks in forest boundary c. Updating forest maps for land use planning and forest management d. Land use planning with participation of management boards of protection forest and local communities d. Baseline survey in the project areas e. Detailed planning and design of each forest development contract f. Detailed design of infrastructure construction			
3. Training and extension a. Orientation for CPMU, PPMUs, DARDs, and local government b. Consultation and group organization of forest users' groups c. Capacity development of the staff of PPMUs, DARDs, PFMB, DPCs, and Extension workers on project implementation, management and other technical aspects related to forest protection and management d. Information dissemination to local communities and forest users e. Development/publication of information dissemination materials f. Strengthening of forest users' groups			

Project Logic	Objectively Verifiable Indicators	Means of Verification	Assumptions/ Risks
4. Improvement of watershed protection forest a. Afforestation of bare land in very critical watersheds b. Protection of natural protection forests c. Improvement of planted forests established by SPL III Afforestation project in five provinces d. Assisted natural regeneration (ANR) e. ANR with enrichment planting f. Construction of silvicultural infrastructure			
5. Improvement of coastal protection forest a. Afforestation in sandy area to minimize sand movement b. Enrichment planting in poor quality coastal protection forests in sandy area c. Construction of silvicultural infrastructure			
6. Livelihood Development Assistance a. Assessment of livelihood development needs b. Introduction/development of demonstration model and provision of extension services / training on livelihood development c. Assistance in formulation of community fund for livelihood development			
7. Construction and improvement of small-scale infrastructure for livelihood development a. Construction of rural roads, small scale irrigation system and water supply system			
8. Forest fire control a. Procurement of forest fire control equipment and tools b. Implementation of forest fire control drills			
9. Phase-in/Phase-out work a. Provision of assistance to forest users in the preparation of forest management plans b. Transfer of ownership from PPMUs to PFMBs c. Preparation for long-term agreements between forest users' groups and PFMBs			
10. Project management a. Project administration and monitoring b. Procurement of equipment			
11. Technical assistance a. Assistance to CPMU and PPMUs in implementing, monitoring and managing the project b. Organizing of overseas training for CPMU and PPMU staff			

Figure J-1-1

Location Map of the Selected Project Area

LOCATION MAP OF THE PROJECT AREA
BẢN ĐỒ VỊ TRÍ CỦA KHU VỰC DỰ ÁN



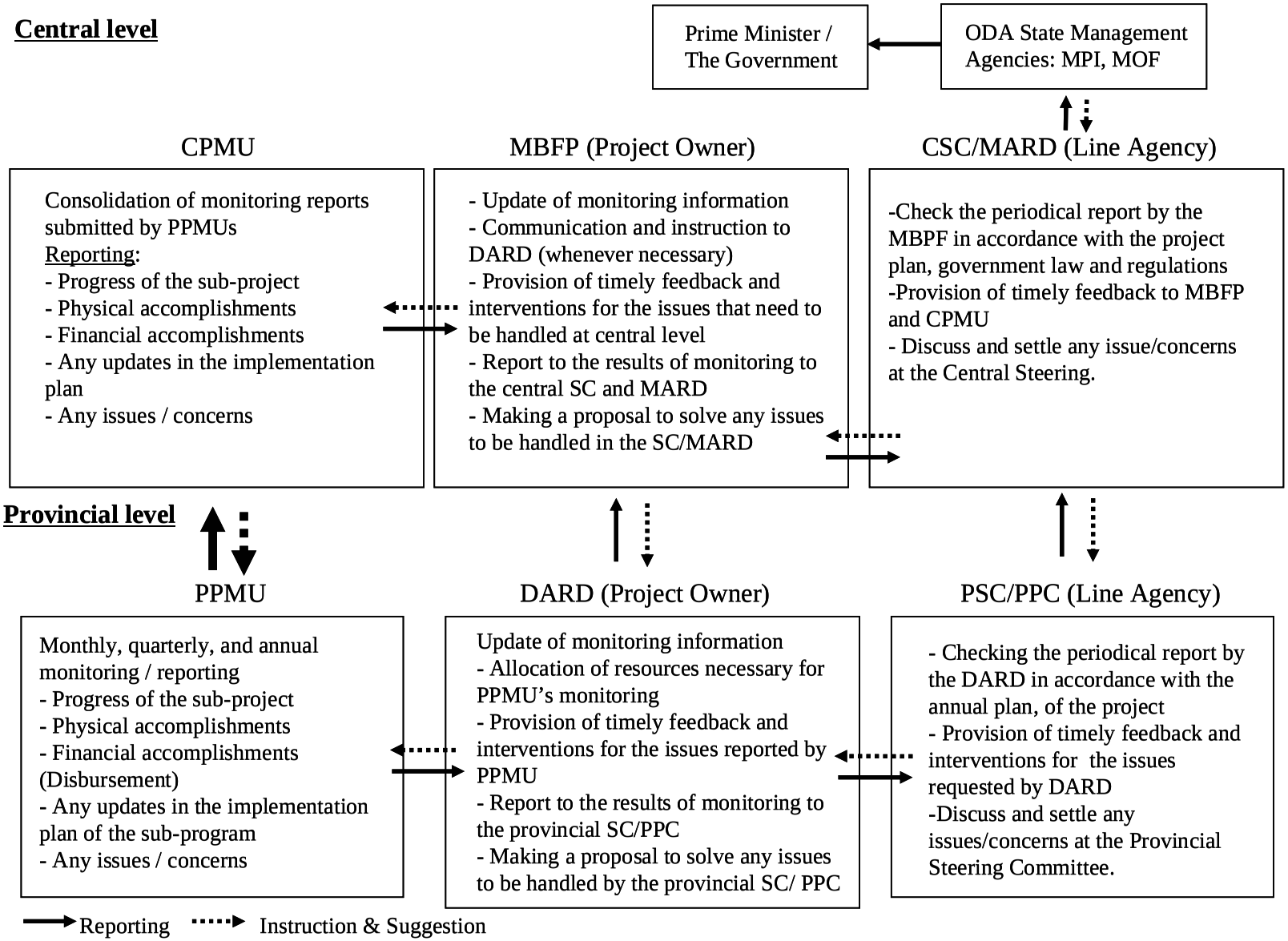


Figure J-3-1. Reporting and Communication System to Monitor the Project Implementation

Figure J-5-1 Implementation Schedule of the Project

Proposed Implementation Schedule
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	Responsible party	Excecuter (contractor)	Participation party
	MARD CPMU PPC DARD PPMU	PFMB PAFEC Others( )	1. Local people 2. Village Chief 3. CPC 4. Others( )
JICA Appraisal			
Pledge of Loan			
Signing of Loan Agreement			
Loan Agreement period (10 years)			
Project Implementation Period			
1 Preparatory Works			
1.1 Approval of the Project			
1.1.1 Submission of project document to the Government	MARD		
1.1.2 Approval of the Project by the Government	Gov.		
1.1.3 Submission of provincial project	DARD		
1.1.4 Approval of project by PPC	PPC		
1.1.5 Preparation of Overall EIA	MARD	Contractor	
1.1.6 Submission of EIA	MARD		
1.1.7 Approval of consolidated EIA by MARD	MARD		
1.2 Organizational Setup			
1.2.1 Establishment of CPMU	MBFP		
1.2.2 Formation of Central Steering Committee (CSC)	MBFP		
1.2.3 Establishment of PPMU	DARD		
1.2.4 Formation of Provincial Steering Committee (PSC)	DARD		
1.2.5 Delegation of procurement approval authority from PPC to DARD	PPC/DARD		
1.2.6 Procurement of equipment and vehicles	CPMU		
1.3 Preparation and Approval of Regulations and Guidelines			
1.3.1 Issuance of Circular on financial management of the project	MOF		
1.3.2 Project implementation guidelines	CPMU		
1.3.3 Benefit Sharing Regulation of the Project	MARD		
1.3.4 Benefit Sharing Regulation at Provincial level	PPC/DARD		
1.4 Selection of Consultant	MBFP		
2 Survey and Detailed Planning			
2.1 Forest Inventory and Mapping			
2.1.1 Procurement of Contractor	CPMU/MBFP		
2.1.2 Procurement of Satellite Images	CPMU/MBFP	FIPI	
2.1.3 Satellite image analysis and ground truth verification	CPMU/MBFP	FIPI	4. (Sub-FIPI)
2.1.4 Preparation of land use map on a scale of 1/10,000	CPMU/MBFP	FIPI	4. (Sub-FIPI)
2.1.5 Preparation of photo-like base maps on a scale of 1/10,000	CPMU/MBFP	FIPI	4. (Sub-FIPI)
2.2 Selection of sites for forest protection and development			
2.2.1 Site selection	PPMU	PFMB	1, 2, 3
2.2.2 Site demarcation	PPMU	PFMB/contractor	1, 2, 3
2.3 Participatory land use planning	PPMU	PFMB/contractor	1, 2, 3
2.3.1 For new sites	PPMU	PFMB/contractor	1, 2, 3
2.3.2 For SPL-3 sites	PPMU	PFMB/contractor	1, 2, 3
2.4 Detailed planning and designing of forest development			
2.4.1 Procurement of contractor			
(1) For new sites	DARD(approval),		
(2) For SPL-3 sites	PPMU		
2.4.2 detailed planning and designing			
(1) For new sites	PPMU	Design center	
(2) For SPL-3 sites	PPMU	Design center	
2.5 Socio-economic baseline survey			
2.5.1 Procurement of contractor (agency)	CPMU/MBFP		
2.5.2 Survey proper	CPMU/MBFP	NAFEC	4 (PAFEC, Univ., DEC)

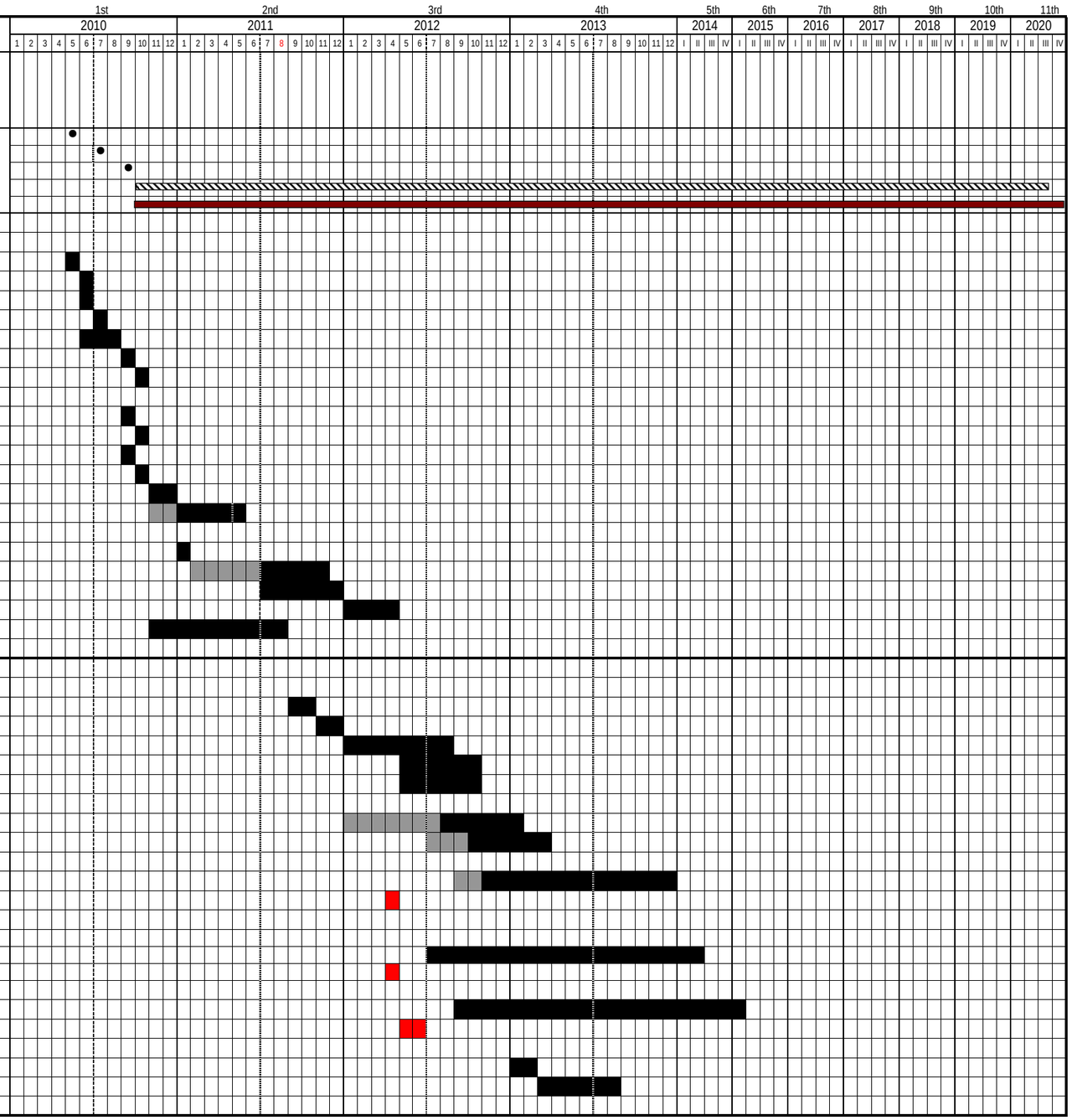

Figure J-5-1 Implementation Schedule of the Project

Proposed Implementation Schedule
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	Responsible party	Excecuter (contractor)	Participation party
3 Capacity Development, Information Dissemination, and Phase-in / Phase-out Works			
3.1 Capacity developent of Government Staff			
3.1.1 Capacity developent at the Central Level (by CPMU)			
(1) Procurement of Contractor (with guidance to the contractor)	CPMU		
(2) Project orientation to CPMU, MBFP and Relevant Depts. of MARD	CPMU	NAFEC	4 (Consultant)
(3) Project orientation to PPMU and DARD	CPMU	NAFEC	4 (Consultant)
(4) Technical guidance to PAFEC	CPMU	NAFEC	4 (Consultant)
(5) Training of and guidance to CPMU on Project Management	CPMU	NAFEC	
(6) Training of and guidance to PPMU on Project Management	CPMU	NAFEC	
(7) Guidance to MARD and CPMU on Benefit Sharing Mechanism and FDP Fund	CPMU	Consultant	
(8) Guidance to DARD and PPMUon Benefit Sharing Mechanism and FDP Fund	CPMU	Consultant	
(9) Guidance to CPMU on Monitoring and Evaluation	CPMU	NAFEC	4 (Consultant)
(10 Monitoring of PAFEC's Performance (every six months)	CPMU	NAFEC	
3.1.2 Capacity developent at the Provincial Level (by PPMUs)			
(1) Procurement of Contractor	ppmu		
(2) Project orientation to Relevant Depts of PPC/DARD and DPCs	PPMU	PAFEC	4 (CPMU/Consultant)
(3) Project orientation to PFMBs, DECs, CPCs	PPMU	PAFEC	
(4) Training of PPMU			
(5) Training of PFMBs			
(6) Training of DEC amd extension workers for facilitation of local people			
- Detailed planning stage	PPMU	PAFEC	
- Project implementation stage	PPMU	PAFEC	
3.1.3 Study tour			
(1) Overseas tours	CPMU	CPMU	
3.1.4 Review Meetings			
(1) Semi-annual Review meeting at central level	CPMU	CPMU	4 (Consultant)
(2) Semi-annual Review meeting at provincial level	PPMU	PPMU	4 (Consultant)
3.2 Capacity Development of Local Communities			
3.2.1 Information dissemination to local households in the new sites			
3.2.2 Information dissemination to local households in the SPL-3 sites			
3.2.3 Publication			
(1) Prepatation of information dissemination materials	CPMU/PPMU	CPMU/PAFEC	4 (Consultant)
- Project brief			
- Newsletter (Annual)			
- Environmental education booklet			
- Poster and DVD/VCD			
(2) Review and finalization of information dissemination materials	CPMU	Consultant	
(3) Distriution of information dissemination materials	PPMU	PAFEC	4 (PFMBs)
3.2.4 Guidance and Training on Forest Management in the new sites			
(1) Consultation of long-term agreement and benefit sharing	PPMU	PAFEC	4 (PFMBs)
(2) Facilitation of group organization for contract	PPMU	PAFEC	4 (PFMBs)
(3) Preparation of a work plan under the sub-contract with PFMB	PPMU	PAFEC	4 (PFMBs)
(4) Silvicultural techniques	PPMU	PFMBs	4 (PFMBs)
(5) Development of rules on forest protection and management	PPMU	PAFEC	4 (PFMBs)
(6) Guidance on forest management planning (only for those willing to enter into the long-term contract)	PPMU	PAFEC	4 (PFMBs)
(7) Trial preparation of a forest management plan	PPMU	PAFEC	4 (PFMBs)
(8) Bi-annual meetings with local communities	PPMU	PAFEC	4 (PFMBs)
3.2.5 Guidance and Training on Forest Management in the SPL-3 sites			
(1) Consultation of long-term agreement and benefit sharing	PPMU	PAFEC	4 (PFMBs)
(2) Facilitation of group organization for contract	PPMU	PAFEC	4 (PFMBs)
(3) Preparation of a work plan under the sub-contract with PFMB	PPMU	PAFEC	4 (PFMBs)
(4) Silvicultural techniques	PPMU	PFMBs	4 (PFMBs)
(5) Development of rules on forest protection and management	PPMU	PAFEC	4 (PFMBs)
(6) Guidance on forest management planning (only for those willing to enter into the long-term contract)	PPMU	PAFEC	4 (PFMBs)
(7) Trial preparation of a forest management plan	PPMU	PAFEC	4 (PFMBs)
(8) Bi-annual meetings with local communities	PPMU	PAFEC	4 (PFMBs)
3.3 Phase-out/ Phase-in works			
3.3.1 Facilitation of hand-over of forest ownership from PPMU to PFMB	CPMU	Consultant	4 (PPMU)
3.3.2 Guidance to PPMUs, PFMBs and PAFECs for the new sites			
3.3.3 Guidance to PPMUs, PFMBs and PAFECs for the SPL-3 sites			
3.3.4 Guidance to local communities in the new sites			
3.3.4 Guidance to local communities in the SPL-3 sites			

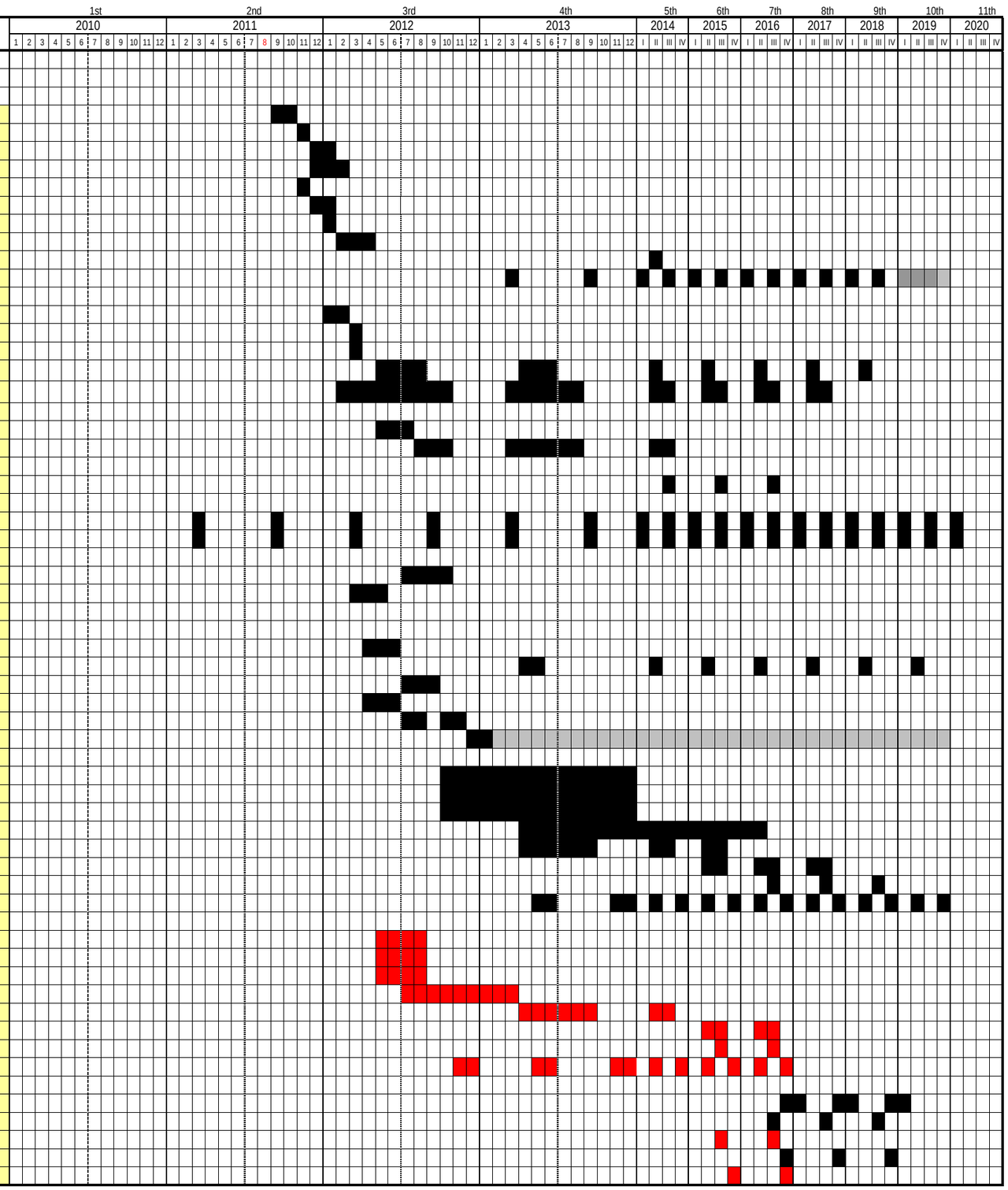

Figure J-5-1 Implementation Schedule of the Project

Proposed Implementation Schedule
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	Responsible party	Excecuter (contractor)	Participation party
4 Development and Improvement of Protection Forest			
4.1 Procurement of Contractors	PPMU	PFMB	
4.1.1 For the new sites			
4.1.2 For the SPL-3 sites			
4.2 Development and Improvement of Watershed Protection Forest			
4.2.1 Reforestation / Afforestation	PPMU	PFMB	1, 2
(1) 1st batch			
(2) 2nd batch			
(3) 3rd batch			
4.2.2 Improvement of existing plantations	PPMU	PFMB	1, 2
(1) 1st batch			
(2) 2nd batch			
(3) 3rd batch			
4.2.3 Natural forest protection	PPMU	PFMB	1, 2
(1) 1st batch			
(2) 2nd batch			
4.2.4 ANR with enrichment planting	PPMU	PFMB	1, 2
(1) 1st batch			
(2) 2nd batch			
4.2.5 ANR	PPMU	PFMB	1, 2
(1) 1st batch			
(2) 2nd batch			
4.3 Development and Improvement of Coastal Protection Forest			
4.3.1 Afforestation in sandy area	PPMU	PFMB	1, 2
(1) 1st batch			
(2) 2nd batch			
(3) 3rd batch			
4.3.2 Improvement of existing plantations	PPMU	PFMB	1, 2
(1) 1st batch			
(2) 2nd batch			
(3) 3rd batch			
4.3.3 Enrichment planting	PPMU	PFMB	1, 2
(1) 1st batch			
(2) 2nd batch			
4.4 Improvement of SPL-3 Forests			
4.4.1 Protection of Plantations	PPMU	PFMB	1, 2
(1) 1st batch			
(2) 2nd batch			
4.4.2 Enrichment Planting	PPMU	PFMB	1, 2
(1) 1st batch			
(2) 2nd batch			
(3) 3rd batch			
4.4.3 Vegetation Clearing & Thinning	PPMU	PFMB	1, 2
(1) 1st batch			
(2) 2nd batch			
4.5 Construction of Silviculture Infrastructure			
4.5.1 Forestry road	PPMU	PFMB/ contractor	1, 2, 3
4.5.2 Fire breakline	PPMU	PFMB/ contractor	1, 2, 3
4.5.3 Fire watch tower	PPMU	PFMB/ contractor	1, 2, 3
4.5.4 Forest protection station	PPMU	PFMB/ contractor	1, 2, 3
4.5.5 Information board	PPMU	PFMB/ contractor	1, 2, 3
4.5.6 Nursery	PPMU	PFMB/ contractor	1, 2, 3

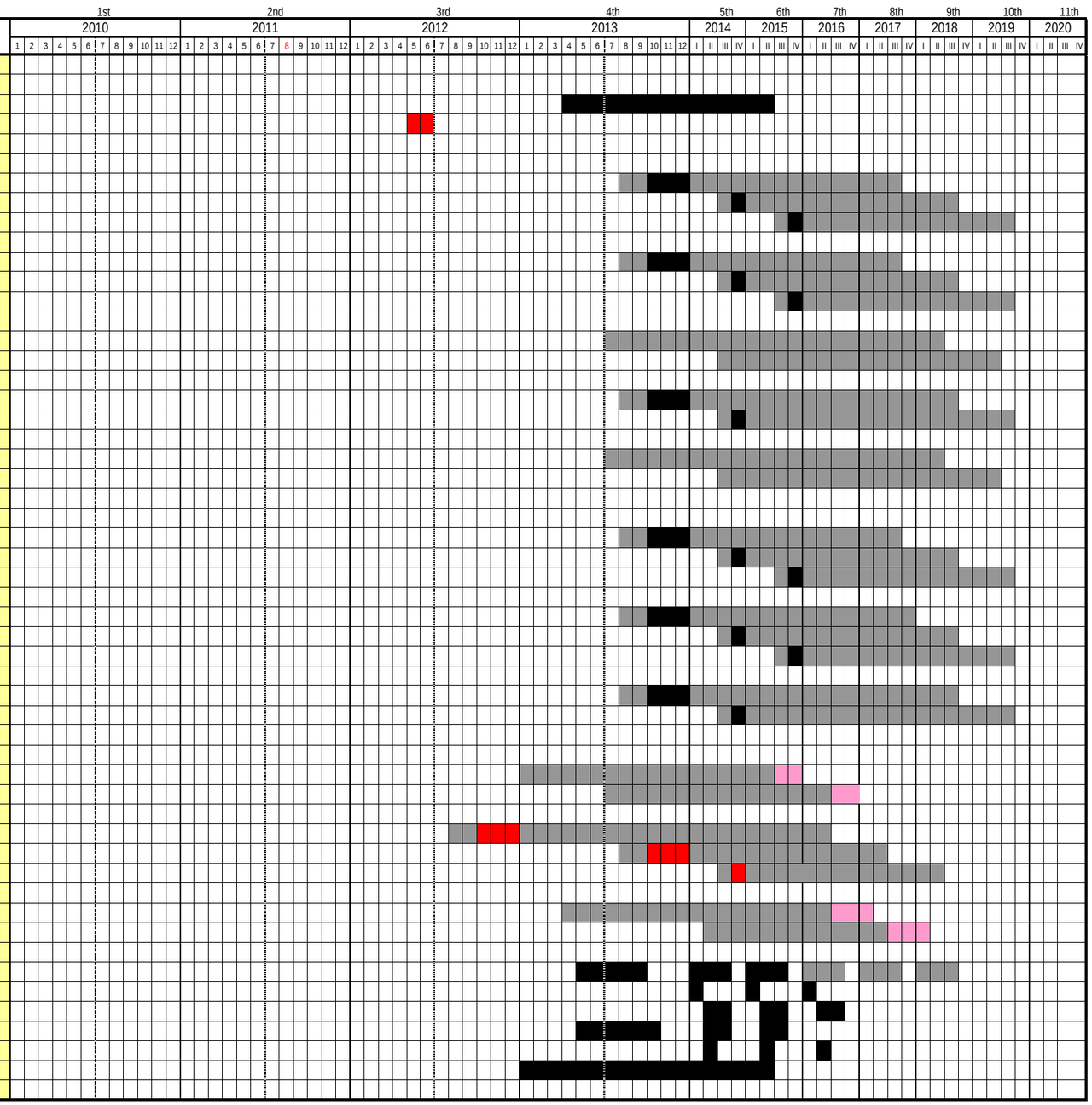

Figure J-5-1 Implementation Schedule of the Project

Proposed Implementation Schedule
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	Responsible party	Excecuter (contractor)	Participation party
5 Livelihood Improvement			
5.1 Needs Assessment for Livelihood Development in the new sites			
5.1.1 Scoping	PPMU	PAFEC	4 (DAC, Extension staff)
5.1.2 Detailed survey	PPMU	PAFEC	4 (DAC, Extension staff)
5.2 Needs Assessment for Livelihood Development in the SPL-3 sites			
5.2.1 Scoping	PPMU	PAFEC	4 (DAC, Extension staff)
5.2.2 Detailed survey	PPMU	PAFEC	4 (DAC, Extension staff)
5.3 Development of Demo Plots & Livelihood Development Models for the New Sites			
5.3.1 Guidance on the techniques introduced and identification of demonstration plots	PPMU	PAFEC	4 (DAC, Extension staff)
5.3.2 Development of demonstration plots	PPMU	PAFEC	4 (DAC, Extension staff)
5.4 Development of Demo Plots & Livelihood Development Models for the SPL-3 Sites			
5.4.1 Guidance on the techniques introduced and identification of demonstration plots	PPMU	PAFEC	4 (DAC, Extension staff)
5.4.2 Development of demonstration plots	PPMU	PAFEC	4 (DAC, Extension staff)
5.5 Technical Assistance in Livelihood Development for the New Sites			
5.5.1 Technical training on livelihood development activities			
(1) Organization of technical training at the demonstration plots	PPMU	PAFEC	4 (DAC, Extension staff)
(2) Organization of technical training at the district level			
(3) Quartely coaching to local communities by field coordinators	PPMU	PAFEC	4 (DAC, Extension staff)
5.5.2 Periodical meetings with communities			
(1) Quartely meeting between field coordinatos and PAFEC	PAFEC	PAFEC	
(2) Bi-annual monitoring by PAFEC	PAFEC	PAFEC	4 (DAC, Extension staff)
5.6 Technical Assistance in Livelihood Development for the SPL-3 Sites			
5.6.1 Technical training on livelihood development activities			
(1) Organization of technical training at the demonstration plots	PPMU	PAFEC	4 (DAC, Extension staff)
(2) Organization of technical training at the district level			
(3) Quartely coaching to local communities by field coordinators	PPMU	PAFEC	4 (DAC, Extension staff)
5.6.2 Periodical meetings with communities			
(1) Quartely meeting between field coordinatos and PAFEC	PAFEC	PAFEC	
(2) Bi-annual monitoring by PAFEC	PAFEC	PAFEC	4 (DAC, Extension staff)
5.7 Cross Field Visit			
5.7.1 Inter-province Exchange Field Visit for the New Sites	PPMU	PAFEC	4 (DAC, Extension staff)
5.7.2 Inter-province Exchange Field Visit for the SPL-3 Sites	PPMU	PAFEC	4 (DAC, Extension staff)
6 Small Scale Infrastructure Development for Livelihood Improvement			
6.1 Selection of priority sub-projects	PPMU	PAFEC	1, 2, 3
6.2 Planning	PPMU	Design center	
6.3 Survey and detailed design	PPMU	Design center	
6.4 Tender	PPMU		
6.5 Construction	PPMU	Contractor	1
6.6 Operation and maintenance	CPC	CPC/ local people	1, 2
7 Forest Fire Control			
7.1 Procurement of Fire Control Equipment	PPMU	Supplier	
7.2 Training on Forest Fire Control	PPMU	Contractor	1, 2, 3

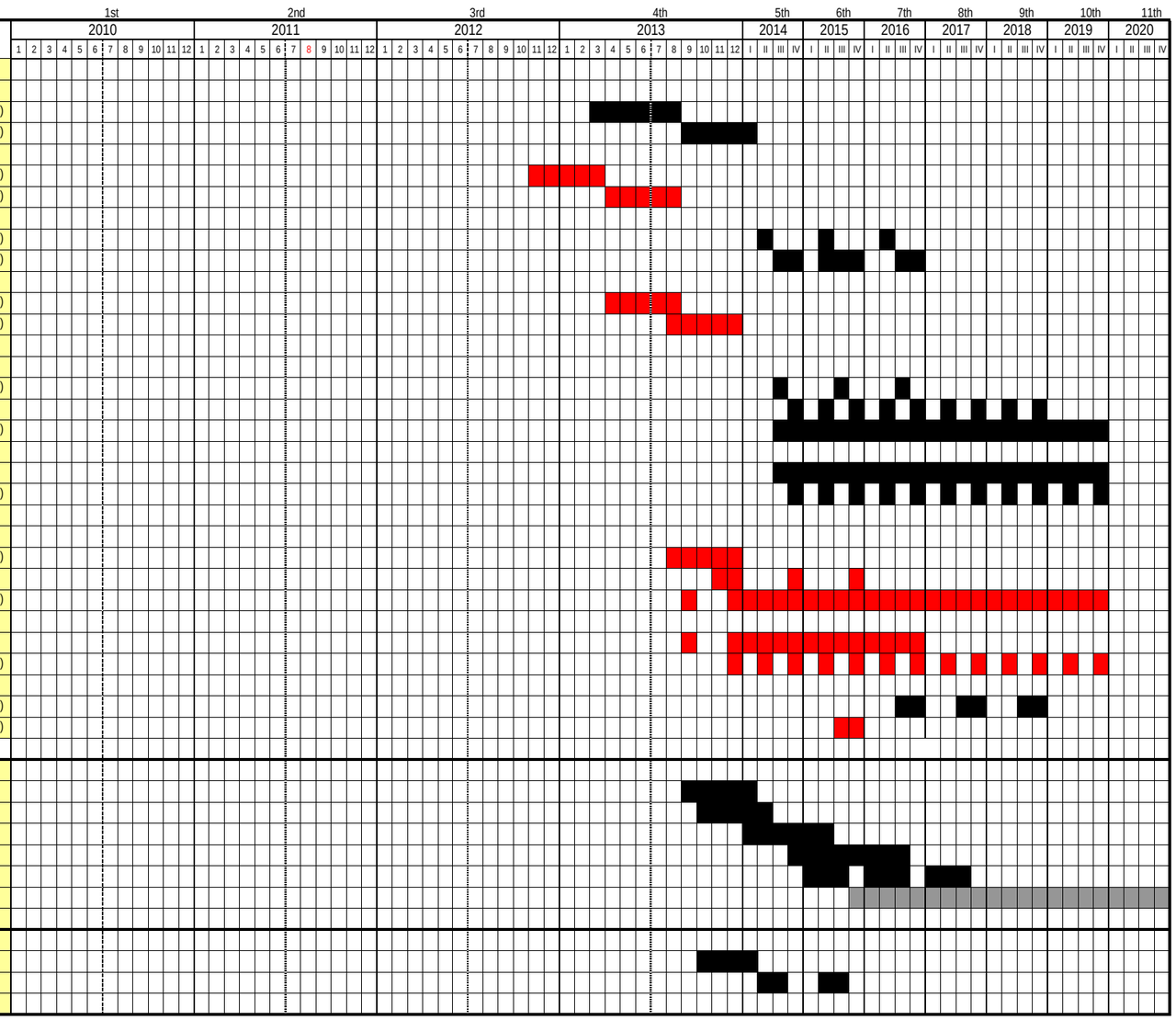
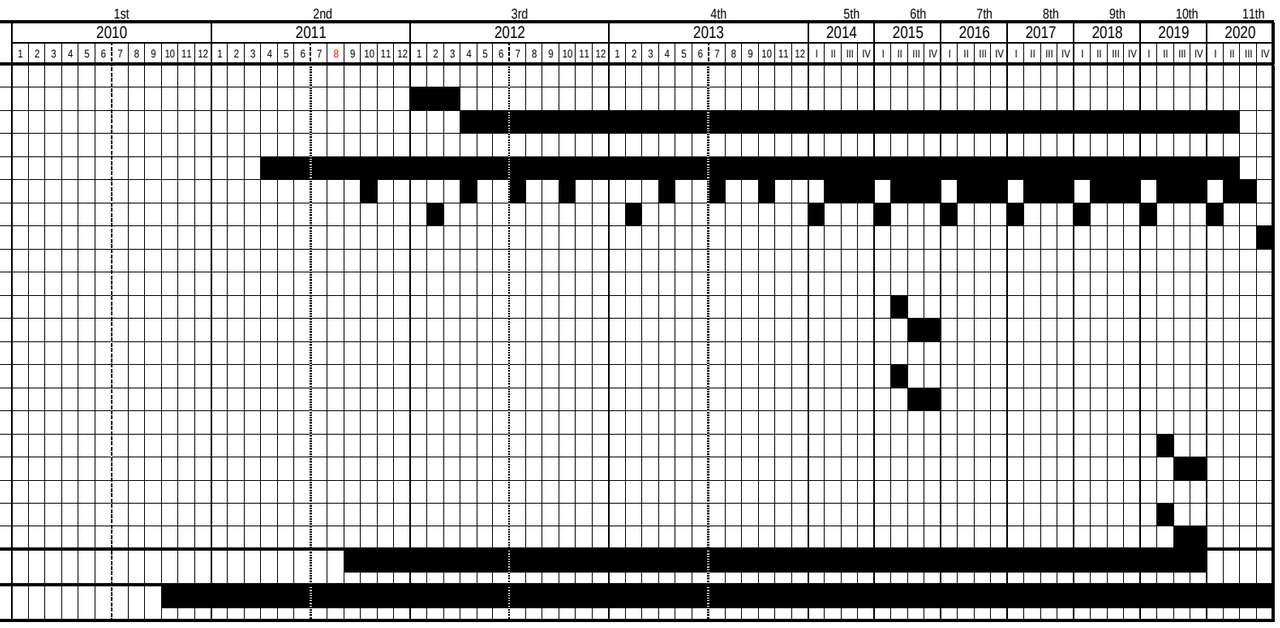


Figure J-5-1 Implementation Schedule of the Project

Proposed Implementation Schedule
Please fill in the cell colored yellow.

	Responsible party	Excecuter (contractor)	Participation party
8 Monitoring and Evaluation			
7.1 Development of Monitoring Formats	CPMU	Consultant	
7.2 Progress Monitoring and Update of Database	CPMU/PPMU	Consultant	
7.3 Preparation of Reports			
7.3.1 Monthly progress reports	CPMU/PPMU		
7.3.2 Quarterly progress reports	CPMU/PPMU		
7.3.3 Annual reports	CPMU/PPMU		
7.3.4 Completion report	CPMU/PPMU		
7.4 Evaluation of the Project			
7.4.1 Mid-term evaluation (Physical)			
(1) Procurement of contractors	CPMU		
(2) Field survey and report making	CPMU	FIPI	4 (Sub-FIPI)
7.4.2 Mid-term evaluation (Social)			
(1) Procurement of contractors	CPMU		
(2) Field survey and report making	CPMU	NAFEC	PAFEC, DEC
7.4.3 Terminal evaluation (Physical)			
(1) Procurement of contractors	CPMU		
(2) Field survey and report making	CPMU	FIPI	4 (Sub-FIPI)
7.4.4 Terminal evaluation (Social)			
(1) Procurement of contractors	CPMU		
(2) Field survey and report making	CPMU	NAFEC	PAFEC, DEC
8 Consulting Services	Consultant		
9 Project Management	CPMU/PPMU		



Annex K

Final Report
for
the Preparatory Survey
on the Project for Restoration and Sustainable Management of Protection Forests in the Socialist Republic of Vietnam

Annex K: Project Implementation Guidelines (Draft)

Table of Contents

Annex K: Project Implementation Guidelines (Draft)

1. Introduction

The Guidelines present key features, principles and the most important implementation procedures and mechanisms of the Project for Restoration and Sustainable Management of Protection Forests in the Central Coastal Provinces of Vietnam. It aims that the project staff at central and provincial levels could grasp the Project and the implementation procedures quickly. Flexibility, small innovative actions, and timely implementation of what the communities accepted are often necessary to secure quality of the implementation of this kind of project. Hence, the Guidelines are limited to provide basic rule of the project implementation to avoid rigid implementation of the project activities.

The Guidelines can be served as a reference material of the project orientation at the initial stage of the Project. It shall be revised based on the comments, clarifications and suggestions from the participants of the project orientation. Thereafter it shall also be updated and improved when needs arise.

2. Project Description

2.1 Goals and Objectives

The overall goals of the Project are:

i) Sustainable management and protection of protection forests in the country;

ii) Restoration and conservation of biodiversity; and

iii) Poverty reduction in mountainous areas.

To achieve these overall goals, the Project sets the following immediate objectives:

a. To restore and improve watershed and coastal protection forests in the 12 provinces

b. To strengthen the capacity of the local governments and the owners of protection forests; and

c. To improve the livelihoods of communities who would manage protection forests.

2.2 Basic Approach

The Project intends to introduce and materialize “long-term contract for protection and management of protection forests by local communities and Protection Forest Management Boards (PFMBs)” in which PFMBs as the owners of important protection forests would entrust local communities in the post project period the major tasks of forest management and protection without cash payment. Capacity development and livelihood development of the local communities or forest management group (FMG) are the key to materialize long-term forest protection and management by them. The Project thus supports not only forest development but also livelihood development of local communities and capacity development of all stakeholders in an integrated manner.

2.3 Project Area

The Project will be implemented in a total of 167 communes in the following districts in 12 provinces. The list of 167 communes for new sites and 35 communes for SPL-III sites are provided in **Appendixes K-1 and K-2**. The Project Area is subject to minor changes as a result of the Survey and Detailed Planning to be implemented at the initial stage of the Project.

Districts covered by the Project (new sites only)

Province	Districts
1. Thanh Hóa	Thường Xuân, Như Xuân, Như Thành, Thạch Thành, Hà Trung, Thinh Gia
2. Nghệ An	Tương Dương, Nam Đàn, Nghị Lộc, Yên Thành, Tân Kỳ, Quỳnh Lưu
3. Hà Tĩnh	Nghi Xuân, Can Lộc, Cẩm Xuyên, Thạch Hà, Hương Sơn
4. Quảng Bình	Quảng Trạch, Quảng Ninh, Lệ Thủy
5. Quảng Trị	Hướng Hóa, Đakrông, Vĩnh Linh, Gio Linh, Hải Lăng, Triệu Phong, Quảng Trị (Township)
6. T.T. Huế	Hướng Thủy, Hướng Trà, Phong Điền
7. Quảng Nam	Đông Giang, Phước Sơn, Bắc Trà My, Phú Ninh, Núi Thành, Duy Xuyên
8. Quảng Ngãi	Ba Tơ, Sơn Hà, Sơn Tây, Tây Trà
9. Bình Định	Hoài Nhơn, Hoài Ân, Phú Mỹ, Vĩnh Thạnh, Tây Sơn
10. Phú Yên	Đông Xuân, Sông Hinh, Sơn Hòa,
11. Ninh Thuận	Bác Ái, Thuan Bac, Ninh Sơn, Ninh Phước
12. Bình Thuận	Tuy Phong, Bắc Bình, Hàm Thuận Bắc
Total	**54 districts & 1 township**

2.4 Project Components

The project activities are broadly divided into nine (9) components. The main purposes and indicative work quantity of each component are shown below:

Main Purposes and Indicative Work Quantity of the Project Components

Component	Main purposes / Work Quantity
1. Preparatory work	**Main purposes** ♦ to establish organizational structures at both central and provincial levels and deploy / hire personnel necessary for project implementation and management ♦ to prepare the project implementation guidelines / regulations for CPMU and PPMUs ♦ to prepare base maps that would be used for the survey and mapping using the satellite images ♦ to procure equipment and vehicles for CPMU and PPMUs ♦ to prepare detailed benefit sharing regulations in the target provinces ♦ to prepare technical handbooks for PFMBs and forest management groups
	Work Quantity ➢ Establishment of one CPMU at the central level and 12 PPMUs at the provincial level ➢ Deployment and employment of the project staff ➢ Preparation and establishment of regulations and guidelines for implementation of the project ➢ Development of forms/formats for regular monitoring and monitoring ➢ Development of draft TORs for the contractors to be hired for implementation of the project components ➢ Procurement of equipment for CPMU and PPMUs including a total of 26 nos. of 4x4 vehicles and 62 nos. of motorcycles.

Component	Main purposes / Work Quantity
2. Survey and detailed planning	**Main purposes** ♦ to acquire high resolution satellite images covering the proposed project areas ♦ to prepare the updated forest classification maps covering the proposed project areas based on the latest and accurate information ♦ to prepare future land use / forest development plans with participation of local communities who would participate in the forest development and management activities ♦ to prepare detailed plans of forest development/improvement components
	Work Quantity ➢ About 120,260 ha of forest inventory and mapping (new sites only) ➢ Preparation of land use plan of about 120,260 ha with 167 communes (new sites only) ➢ Baseline surveys in 167 communes ➢ Preparation of detailed designs for forest development and improvement component
3. Capacity development and information dissemination	**Main purposes** ♦ to make CPMU, MBFP, PPMUs, DARDs, and PFMBs understand the project concept, guidelines/regulations and procedures for project implementation ♦ to capacitate CPMU, MBFP, PPMUs, DARDs to implement and manage the project in a proper and effective manner ♦ to enable PFMBs to implement the project activities and protect the respective protection forests in their jurisdictions in a proper and sustainable manner ♦ to enable PFMBs, DPCs, and extension workers to provide technical assistance to local communities ♦ to make local communities in the target communes/villages aware of the project (outlines, concepts, activities, expected benefits and obligations of the communities) ♦ to initially organize local communities who show willingness to participate in the project into groups for management of protection forest ♦ to enable the forest management groups to manage their assigned protection forests in a proper and sustainable manner ♦ to have discussions among PFMBs, forest management groups, and DARDs on structure and mechanisms of forest management in the post-project period ♦ to enable PFMBs, forest management groups, and DARDs to identify and understand the necessary action to be taken for strengthening the forest management groups and making them prepare for non-project mode
	Work Quantity ➢ Capacity development of i) 12 CPMU staff members, ii) 149 PPMU staff members in the 12 provinces, iii) 570 PFMB staff members (@10 staff/PFMBs) in 57 PFMBs, and iv) district and commune extension workers in the 12 provinces ➢ Capacity development of local communities/households in 167 communes in improving/preserving protection forests ➢ Organization of participating households into community groups in 162 communes ➢ Periodical coaching and guidance to local communities and organized community groups in 167 communes to protect and manage the assigned protection forests in a proper manner ➢ Assistance in the conclusion of the long-term agreements/contracts on protection and management of protection forests in 167 communes

Component	Main purposes / Work Quantity
4. Development/ improvement of protection forests	**Main purposes** ♦ to rehabilitate and improve the degraded protection forests to enhance/improve the functions of either watershed or coastal protection forest ♦ to manage and protect existing natural forests in a sustainable manner to maintain the functions of either watershed or coastal protection forest ♦ to improve the plantations developed by SPL-3 and other government programs in critical watershed areas to enhance the functions of watershed protection forests ♦ to improve and develop silviculture infrastructure
	Work Quantity Watershed Protection Forest ➢ Reforestation/Afforestation: 23,090 ha ➢ Improvement of existing plantation: 3,300 ha ➢ Assisted natural regeneration (ANR) with enrichment: 4,700 ha ➢ Assisted natural regeneration (ANR): 21,250 ha ➢ Forest protection: 63,970 ha Coastal Protection Forest ➢ Reforestation/Afforestation:1,550 ha ➢ Improvement of existing plantation: 800 ha ➢ Enrichment planting: 1,600 ha Improvement of SPL-III forests ➢ Forest protection: 4,450 ha ➢ Enrichment planting: 1,000 ha ➢ Vegetation clearing & thinning: 10,220 ha Silviculture Infrastructure Development ➢ Forestry roads: 387 km (watershed) and 16 km (coastal) ➢ Firebreak line: 412 km (watershed) and 28 km (coastal) ➢ Fire watch tower: 62 units (watershed) and 2 units (coastal) ➢ Forest protection station: 60 units (watershed) and 4 units (coastal) ➢ Information board: 67 units (watershed) and 3 units (coastal) ➢ Nursery: 22 units (watershed) and 1 unit (coastal)
5. Livelihood improvement	**Main purposes** ♦ to develop the capacity of local communities to introduce new farming and forestry technologies including NTFP processing ♦ to create the conducive environment where local communities can take part in the project ♦ to assist the forest management groups / group members in improving and stabilizing their livelihoods by introduction of income generating activities and micro-enterprises
	Work Quantity ➢ Livelihood development needs assessment in 167communes ➢ Introduction and development of demonstration plots/livelihood development models in 167 communes ➢ Technical training of the participating households on livelihood development and fund management in 167 communes ➢ Periodical coaching to local communities in 167 communes by the contractors ➢ Inter-province cross field visit for the participating households in 162 communes Small-scale Infrastructure Development ➢ Survey and detailed design of proposed infrastructure ➢ Construction of small-scale infrastructure; the following are tentative targets: ➢ Rural road: 170 km (watershed) and 16 km (coastal) ➢ Irrigation : 558 ha (check dam, irrigation canal & culvert in watershed) ➢ Water supply system: 6 units (watershed) and 2 units (coastal)

Component	Main purposes / Work Quantity
6. Forest fire control	**Main purposes** ♦ to capacitate DARDs, PFMBs, and local communities to prevent and control forest fires by provision of fire extinction equipment and training on forest fire control
	Work Quantity ➢ Provision of equipment for forest fire control to 57 PFMBs (new sites) ➢ Forest fire control training in 12 DARDs, 57 PFMB, 54 DPCs, and one township
7. Monitoring and evaluation	**Main purposes** ♦ to understand physical / financial progress and issues/problems that would affect the smooth and effective project implementation ♦ to provide adequate and timely information for proper project management ♦ to evaluate the impact of the project
	Work Quantity ➢ Progress monitoring: Monthly, Biannual and Annual monitoring ➢ Evaluation: Initial, Mid-term and Terminal evaluations
8. Phase-out/Phase-in works	**Main purposes** ♦ to have discussions among PFMBs, forest management groups, and DARDs on structure and mechanisms of forest management in the post-project period ♦ to enable PFMBs, forest management groups, and DARDs to identify and understand the necessary action to be taken for strengthening the forest management groups and making them prepare for non-project mode
	Work Quantity - All the forest management groups

2.5 Project Implementation Schedule

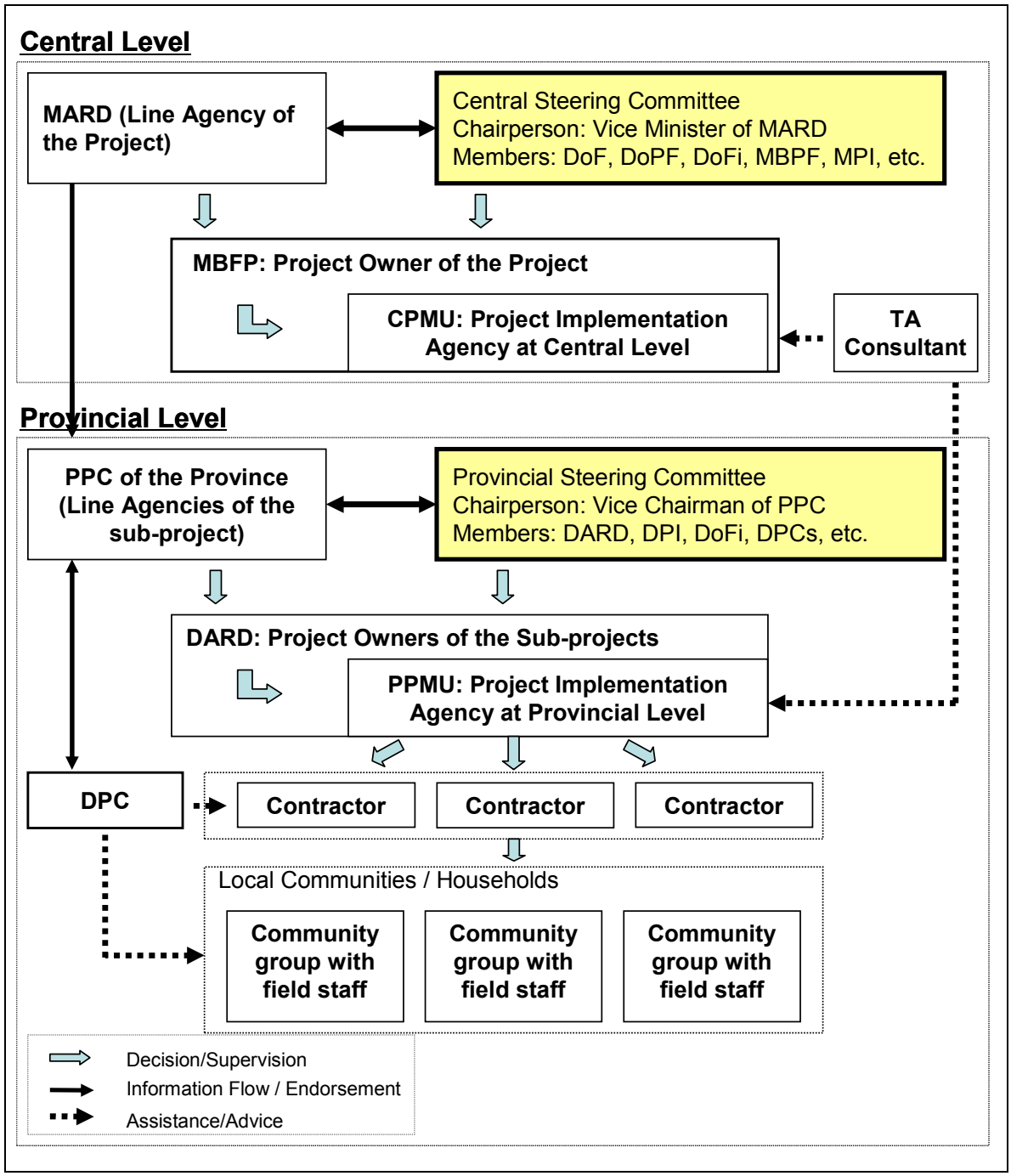
The project implementation schedule is given below. The implementation will start with preparatory works followed by survey and detailed planning and capacity development of the project stakeholders. Forest development and improvement except improvement of SPL-III forests will start at third year in some area at the earliest and will be full-swing at fifth year.

Implementation Schedule of the Project

Year	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11
Project Period											
1. Preparatory Works											
2. Survey and Detailed planning											
3. Capacity Development, Information Dissemination, and Phase-in/-out Works											
4. Development of Protection Forest											
5. Livelihood Development											
6. Small Scale Infrastructure for Livelihood Development											
7. Forest Fire Control											
8. Monitoring & Evaluation											
9. TA / Consulting Services											

3. Project Organization and Management

MARD is the line agency of the Project and has overall responsibility of the project implementation. The organizations involved in the project implementation at central and provincial levels and their roles and responsibilities are described hereinafter.



Organizational Set-up of the Project

3.1 Project Organization at Central Level

3.1.1 Management Board of Forestry Projects (MBFP)

Management Board of Forestry Project (MBFP) under MARD is entrusted to be the owner of the Project pursuant to MARD Decision No. 3240/QD-BNN-TCCB dated 22/10/2008 regarding stipulation of function, task, authority and organization structure of MBFP. MBFP has following tasks, responsibilities and authorities for the Project:

1) To organize the management and implementation of programs and projects;

2) To conduct appraisal and approval of technical design, total cost estimates and cost estimate of work items of the provincial projects;

3) To negotiate, sign, supervise the implementation of contracts to be executed at central level and settle contract violation issues;

4) To recommend to MARD mechanisms and policies to ensure that the implementation of the Project conforms with the agreements with JICA;

5) To appraise the overall project plan and annual project plan of the provincial projects and to endorse them to DARD for the approval by PPC;

6) To provide the provinces concerned technical and managerial guidance on the project implementation;

7) To establish Central Project Management Unit (CPMU) after approval of the Project by Minister; and

8) To guide CPMU on the implementation of the project and monitoring and supervision of the provincial project.

3.1.2 Central Project Steering Committee (CPSC)

MARD Minister shall establish a Central Project Steering Committee (CPSC) within MARD to oversee the implementation of the Project. CPSC shall be chaired by Vice Minister of MARD and consist of representatives of concerned departments and offices:

a) Vice Minister of MARD or the Director of DOF (Chairman);
b) Department of Forestry
c) Department of Forest Protection
d) Department of Planning
e) Department of Finance
f) International Cooperation Department
g) Department of Legislation
h) MBFP
i) CPMU (Secretariat)

CPSC shall organize a meeting every year and provide direction and guidance for the implementation of the Project, approve the overall plans and project regulations, handle/solve cross sectoral issues,

and facilitate the coordination between/among the departments and sub-departments under MARD for enhancing synergy and convergence effects.

3.1.3 Central Project Management Unit (CPMU)

MBFP shall establish CPMU of the Project and appoint and/or recruit the staff. CPMU should have following tasks, responsibilities and authorities:

1) To manage and supervise the overall project implementation under the guidance of MBFP;

2) To prepare regulations pertaining to the project implementation and the project implementation guidelines for approval and issuance by MARD;

3) To organize bidding of contracts to be executed at the central level and to manage and supervise the implementation of the contracts;

4) To organize orientations, workshops/ seminars, and trainings for the provinces,

5) To guide the Provincial Project Management Units (PPMUs) to develop and revise overall plan and annual plan of the provincial projects including the total cost estimation, annual cost estimation and cost estimation of each work items;

6) To assist MBFP in appraising the overall plan and annual plan of the provincial projects;

7) To monitor and supervise the technical and financial management of the provincial projects;

8) To prepare progress reports of the Project by compiling periodical reports of the provincial projects and submit them to MBFP, MARD, MPI, MOF and JICA;

9) To check and consolidate the payment requests from PPMUs and submit them to MOF for further checking and disbursement;

10) To conduct auditing of the whole project by independent auditing firm as required by the government and JICA;

11) To organize periodical review meetings of the Project; and

12) To coordinate with JICA on the implementation of the Project and revolving issues pertaining to the Project and the project implementation.

CPMU shall be headed by a director and composed of at least one (1) vice director, one (1) planning officer, three (3) technical staff, three (3) accounting staff and three (3) administrative staff including drivers.

3.2 Project Organization at Provincial Level

3.2.1 Provincial People's Committee (PPC)

Provincial People's Committees of 12 provinces have overall responsibility for the implementation of provincial projects with tasks, responsibilities and authorities as below:

1) To decide organization to implement provincial project and its mechanism in line with those guided by MARD and the loan agreement signed with JICA;

2) To establish Provincial Steering Committee of the Project and delegate some authorities to the committee;

3) To approve and issue the provincial regulations related to the provincial project implementation;

4) To approve the provincial project, total cost estimation and investment procedures of the provincial project;

5) To approve annual plan of operation and financial plan of the provincial project;

6) To secure sufficient counterpart fund for the provincial project;

7) To use the budget allocated by MARD in accordance with the approved plan; and

8 To check and evaluate the performance of the provincial project.

3.2.2 Provincial Project Steering Committee (PPSC)

PPC in each province concerned shall establish Provincial Project Steering Committee (PPSC). PPSC shall be chaired by Vice Chairman of PPC and composed of representatives of concerned departments and offices as below:

a) Vice Chairman of PPC (Chairman)

b) DARD (sub-departments of Forestry, Forest Protection, Rural Development, and Planning and Finance Section)

c) Finance Department

d) DPI

e) DONRE

f) Chairman or Vice Chairman of DPCs concerned

g) PPMU (Secretariat)

PPSC shall organize meetings twice a year and be tasked to i) approve the overall plan as well as annual plans of the provincial project, ii) approve project regulations, iii) handle/solve cross sectoral issues, and iv) facilitate the coordination between/among the departments and sub-departments under PPC for smooth implementation of the Project.

3.2.3 Department of Agriculture and Rural Development (DARD)

DARD is responsible for the implementation of the provincial project on behalf of PPC. DARD has following tasks, responsibilities and authorities for the provincial project:

1) To guide PPMU the management and implementation of the provincial project;

2) To conduct appraisal and approval of technical design and cost estimates of works under the provincial projects;

3) To recommend PPC mechanisms and policies to ensure the implementation of the provincial project;

4) To endorse the overall plan and annual plan of the provincial projects to PPC for approval;

5) To establish Provincial Project Management Unit (PPMU) and appoint or recruit the staff; and

6) To oversee the implementation and management of the provincial project by PPMU.

3.2.4 Provincial Project Management Unit (PPMU)

DARD shall establish PPMU with following tasks, responsibilities and authorities:

1) To develop and revise overall plan and annual plan of the provincial project including financial portion and submit them to PPC through DARD for approval;

2) To implement the provincial project according to the approved plan;

3) To draft provincial project implementation mechanism and policies in coordination with relevant divisions of DARD and submit them to PPC for approval;

4) To implement decisions and policies related to the Project;

5) To conduct procurement of contracts according to prevailing regulations and guidance by CPMU and DARD;

6) To negotiate and sign the contracts of various works of provincial project;

7) To monitor and supervise the implementation of contracts and record the progress and performance accordingly;

8) To inspect the progress and accomplishment of contracts and certify the payment requests by the contractors;

9) To prepare and submit periodical reports of the provincial project to PPC and CPMU;

10) To organize periodical meetings among stakeholders of the provincial project to resolve issues and create favourable conditions for the project implementation;

11) To carry out liquidation as required by prevailing state regulations;

12) To cooperate with CPMU to organize annual audit of provincial project performance and financial transaction; and

13) To perform other works related to the Project instructed by DARD, PPC and CPMU.

In principle, PPMU shall be headed by a director and composed of at least one (1) vice director, one (1) planning officer, five (5) technical staff, three (3) accounting staff and two (2) administrative staff including drivers.

3.3 Decentralization of Authority Related to Provincial Projects

The Project shall decentralize the preparation and approval of plans, technical design and cost estimation of the provincial projects to the provinces. PPC should have the authority to approve the overall and annual plan of the provincial projects but delegate the approval of design and cost estimation of the provincial project activities as well as the procurement of contracts to DARD to facilitate project implementation. PPMU shall observe relevant technical regulations and cost norm of the government when preparing the design and cost estimation of the project activities.

4. Project Implementation Procedure

4.1 Principles

The Project envisages the sustainable management of important protection forests in watershed and coastal areas by investing in forest development, capacity development of the staff of local governments, PFMB and local community and livelihood development of local communities and eventually concluding long-term contracts of protection, management, utilization of protection forests between PFMB and local community (forest management groups or FMGs). The Project shall implemente several activities following the principles below in order to materialize the long-term objectives:

1) Detailed plans of field activities should be prepared in a transparent manner involving local stakeholders of the Project.

2) Physical targets of each component are not definite ones and could be modified to some extent, subject to approval of PPC, MARD, and/or JICA, based on natural and socio-economic conditions of the project areas as well as capacity assessment of those who will implement the Project.

3) Achieving targets is not a must. Quality is more important than quantity for all project components.

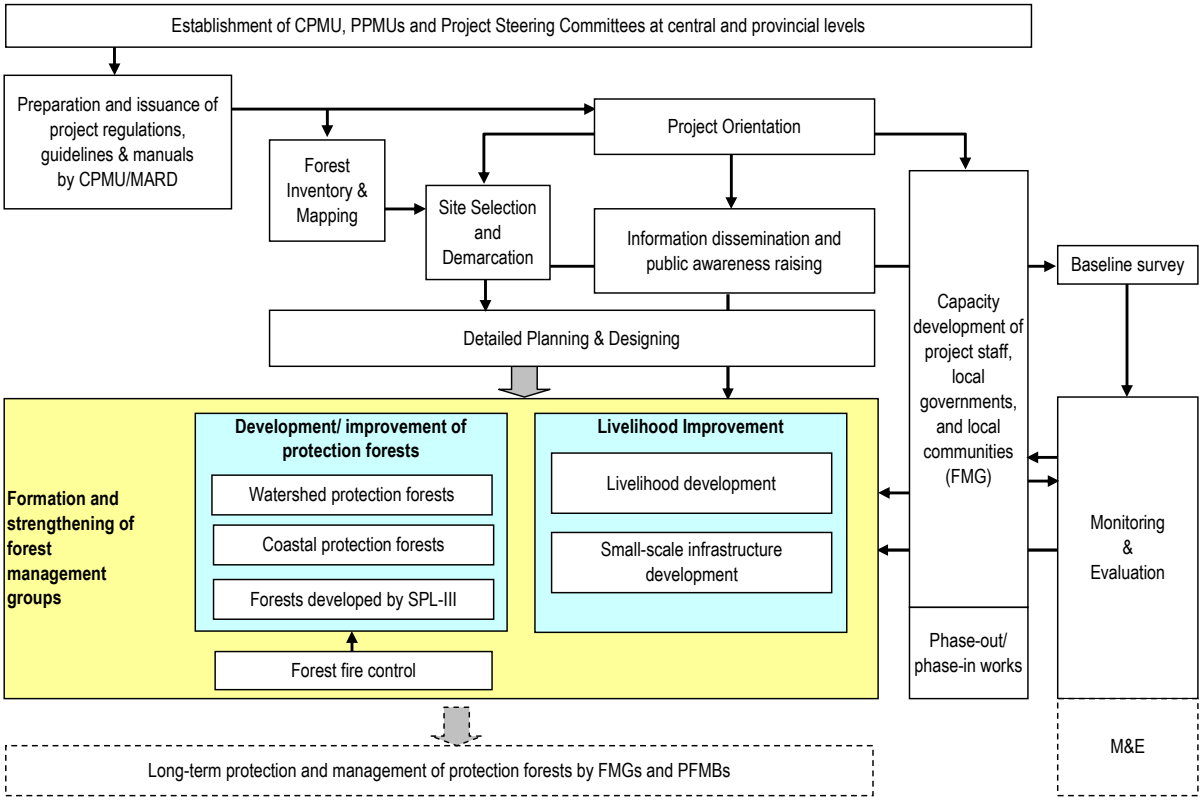
4) Rights and obligations of each stakeholder in terms of protection and management of target protection forests should be clearly defined, explained and accepted by them before implementing the field activities.

5) Improving livelihood of those who will manage the target protection forests for long-term is at most important.

6) Timely internal monitoring and reporting of the project implementation is a key for smooth project implementation.

4.2 Steps of the Project Implementation

The implementation of the Project starts with institutional arrangement such as establishment of CPMU, PPMUs, and project steering committees at central and provincial levels. The sequence of project activities is illustrated below:



Sequence of project activities

4.3 Implementation Method

Implementation methods of each component and sub-component are shown below:

Implementation and Procurement Methods for the Project Components

Components	Proponent/ Owner	Potential Executers / Contractors	Procurement method
Preparatory work			
♦ Organizational set-up	MARD, PPC	MARD, MBFP, PPCs, and DARDs	Force account
♦ Development of guidelines	CPMU	CPMU, PPMUs, & Project Consultant	- ditto -
♦ Screening of target village	PPMU	DARDs, PPMUs, & Project Consultant	- ditto -
♦ Preparation of benefit sharing regulations	CPMU / PPMU	CPMU, PPMUs, & Project Consultant	- ditto -
Survey and Detailed Planning			
♦ Forest inventory and mapping (including procurement of satellite images)	CPMU	FIPI or Private Mapping Company	Local bidding / Direct appointment
♦ Site selection and demarcation	PPMU	PPMUs & PFMBs with facilitators	- ditto -
♦ Detailed planning and designing	PPMU	Design & consulting center under DARD	- ditto -
♦ Baseline survey	PPMU	NAFEC or University	- ditto -

Components	Proponent/ Owner	Potential Executers / Contractors	Procurement method
Capacity Development, Information Dissemination and Phase-in/our works ♦ Capacity development of the staff	PPMU	NAFEC (for DARD/PPMU) PAFEC (for District, PFMBs, etc.)	Direct appointment
♦ Information dissemination	PPMU	PAFEC with local facilitators	- ditto -
♦ Formation and strengthening of FMGs	PPMU	- ditto -	- ditto -
♦ Phase-in / Phase-out works	PPMU	- ditto -	- ditto -
Forest Development and Improvement ♦ Forest Development of watershed protection forest	PPMU	PFMBs	Direct appointment
♦ Improvement of SPL-III sites	PPMU	PFMBs	- ditto -
♦ Forest Development of coastal protection forest	PPMU	PFMBs	- ditto -
♦ Construction of silvicultural infrastructure	PPMU	PFMBs/Local construction company	- ditto -
Livelihood Development Assistance ♦ Needs Assessment	PPMU	PAFEC, University, Vocation college	Local bidding / Direct appointment
♦ Potential livelihood development	- ditto -	- ditto -	- ditto -
Small scale infrastructure development ♦ Needs Assessment & plan preparation	PPMU	PPMUs with hired facilitator	Force account with assistance of the facilitators
♦ Detailed Design and Cost Estimation	PPMU	Design & consulting center under DARD or Technical section of other departments	Direct appointment
♦ Construction	PPMU	Local contractors	Local bidding/ Direct appointment
Forest Fire Prevention / Control ♦ Procurement of fire extinction equipment	PPMU	PPMUs	Direct undertaking
♦ Training	PPMU	Forest Protection Agency	Direct appointment
Monitoring and Evaluation ♦ Initial Evaluation	CPMU	CPMU, PPMUs and Project Consultant	Force account
♦ Mid-term Evaluation	CPMU	NAFEC or University	Local bidding / Direct appointment
♦ Terminal Evaluation ♦ Physical evaluation	CPMU	FIPI	Local bidding / Direct appointment
♦ Socio-economic evaluation	CPMU	NAFEC	Local bidding / Direct appointment

4.4 Preparatory Works

4.4.1 Forest Inventory and Mapping

CPMU shall contract out the preparation of updated land use maps in the project areas of 12 provinces based on the interpretation of high resolution satellite images and ground truth verification to Forest Inventory and Planning Institute (FIPI) or other capable agency or companies.

(1) Purchase of satellite images

Satellite images equivalent to following specifications shall be purchased:

Specifications of Satellite Images

Satellite product	Resolution	Area coverage per scene	Supplier
CARTOSAT-1 (Panchromatic) merged with SPOT 5	2.5 m	900 km^2	Indian Data Supplies (NRSA) and SPOT Image

(2) Satellite image analysis and ground truth verification

Satellite images shall be analyzed to evaluate the present land use and vegetation/forest covers in the target areas. A ground truth survey in the selected areas is also to be carried out to complement the satellite image analysis.

(3) Preparation of land use map on a scale of 1/10,000

The land use maps covering the project areas shall be prepared on a scale of 1/10,000. The land use and forest classification system currently used by MARD shall be employed in land use mapping. The land use maps prepared shall also be used as the baseline data for future monitoring and evaluation. CPMU shall provide soft copies of the maps to PPMUs.

(4) Preparation of photo-like base maps on a scale of 1/10,000

Photo-like base maps with a scale of 1/10,000 will be prepared by overlaying the high resolution satellite images with the existing GIS data, such as contour lines, roads, demographic and land use boundaries, rivers, etc. Such maps will be used for detailed planning and designing of forest development with the participation of local communities. CPMU shall provide soft copies of the maps to PPMUs.

4.4.2 Site Selection and Demarcation

(1) Screening of communes/villages for the project

PPMUs shall re-examine the communes identified for the project implementation by JICA survey in the light of following criteria to select possible sites for forest development. This shall be done in close coordination with DPCs, CPCs and PFMBs concerned.

a) The sites are currently categorized as protection forest under existing PFMB and will never be converted into industrial/agricultural development area/zone in the future.

b) The sites shall have a sizable area of protection forest in a contiguous form.

c) The sites shall be strategically located to produce significant functions as watershed and coastal protection forests.

d) The sites shall be suitable for afforestation/reforestation and ANR in terms of natural conditions or there are natural forests important for watershed protection. (refer to Section 4.6.3)

e) There are villages/communities adjacent or accessible to the sites.

f) There is no overlapping with on-going forestry projects.

g) There are no social and/or political conflicts taking place over land use of the proposed site.

h) No resettlement/land acquisition is required along with the introduction of the project.

(2) Site selection

PPMUs, in close coordination with DPCs, CPCs and PFMBs concerned, shall determine sites for forest development through site reconnaissance survey and meetings with local communities. Project information shall be disseminated during the meetings and willingness to participate in the project and future management of the target protection forests shall be confirmed.

Indicative physical target of forest development and improvement component in watershed protection forest, coastal protection forest and SPL-III forest is given below:

Indicative physical target of the improvement of watershed protection forest (unit: ha)

Province	Reforestation	Improvement of existing plantation	Forest Protection	ANR with enrichment planting	ANR w/out enrichment planting
1. Thanh Hoa	1,270	1,400	6,600	-	900
2. Nghe An	2,300	900	4,100	-	-
3. Ha Tinh	1,960	1,000	8,510	-	-
4. Quang Binh	1,600	-	3,000	-	800
5. Quang Tri	2,900	-	4,000	300	2,450
6. Thua Thien Hue	3,000	-	8,000	500	2,000
7. Quang Nam	970	-	7,000	2,100	1,100
8. Quang Ngai	3,500	-	3,200	600	2,700
9. Binh Dinh	2,480	-	3,710	-	4,700
10. Phu Yen	1,500	-	4,350	-	900
11. Ninh Thuan	1,610	-	7,900	1,200	1,500
12. Binh Thuan	-	-	3,600	-	4,200
Total of 12 provinces	23,090	3,300	63,970	4,700	21,250

Source: JICA Survey Team (2010)

Indicative physical target of the improvement of coastal protection forest (unit: ha)

Province	Afforestation	Improvement of existing plantation	Forest Protection	Enrichment planting
1. Thanh Hoa	-	-	-	-
2. Nghe An	-	-	-	-
3. Ha Tinh	-	-	-	-
4. Quang Binh	400	800	-	-
5. Quang Tri	-	-	-	-
6. Thua Thien Hue	-	-	-	-
7. Quang Nam	-	-	-	-
8. Quang Ngai	-	-	-	-

Province	Afforestation	Improvement of existing plantation	Forest Protection	Enrichment planting
9. Binh Dinh	-	-	-	-
10. Phu Yen	-	-	-	-
11. Ninh Thuan	50	-	-	-
12. Binh Thuan	1,100	-	-	1,600
Total of 12 provinces	1,550	800	-	1,600

Source: JICA Survey Team (2009)

Indicative physical target of the improvement of SPL3 forests (unit: ha)

Province	Forest Protection	Enrichment planting	Vegetation clearing & thinning
1. Thanh Hoa	-	-	-
2. Nghe An	-	-	-
3. Ha Tinh	-	-	-
4. Quang Binh	-	-	-
5. Quang Tri	1,610	400	1,600
6. Thua Thien Hue	700	-	3,400
7. Quang Nam	120	-	1,430
8. Quang Ngai	-	-	3,790
9. Binh Dinh	-	-	-
10. Phu Yen	2,020	600	-
11. Ninh Thuan	-	-	-
12. Binh Thuan	-	-	-
Total of 12 provinces	4,450	1,000	10,220

Source: JICA Survey Team (2010)

(3) Site demarcation

PPMUs shall contract out demarcation of the sites for forest development/ improvement to the PFMBs. The PFMBs shall hire the local facilitators to conduct boundary survey using GPS and setting up stone pillars. Participation of local communities who will engage in forest development and future forest management shall be encouraged to familiarize them with the conditions of the sites.

The activities could be implemented even before completion of land use maps. The PFMBs shall input the geo-code of the boundaries and pillars in the files of GIS maps to be provided by CPMU through PPMU.

(4) Selection and demarcation of SPL-III sites

PPMUs shall select the SPL-III afforestation sites which need improvement under the Project. The location of the sites shall be indicated on the newly prepared land use maps using the geo-codes obtained in the forest inventory survey conducted in 2008. Site boundary survey shall also be done if necessary.

4.4.3 Detailed Planning and Designing of Forest Development/ Improvement

Organizations which have experiences in making the design and cost estimates, such as the Design and Consulting Centre under DARD, will be hired as contractor to prepare the detailed designs of the sub-components following existing regulations on species selection and technical norms of MARDs (see Sections 4.6.3 - 4.6.5). The detailed design shall be prepared per PFMB and per technical option in principle. The following are the suggested contents of the detailed design:

1) Location map with scale of 1/10,000
2) General information (location, area, slope, elevation, soil type, and other natural conditions) of the target areas.
3) Lists of parcels with accompanying information (e.g., parcel ID such as stand, compartment and sub-area, location, present land/forest classification and existing vegetation type, types of watershed, proposed designs) per sub-contract package to forest management group.

   (The lists should be developed per forest development / improvement sub-components, such as i) afforestation/reforestation, ii) ANR, iii) ANR with enrichment, and iv) natural forest protection, in the contract package.).
4) Standard designs to be adopted for afforestation/reforestation and ANR with enrichment.
5) Unit costs (per ha) for each forest development/improvement sub-component with detailed breakdown
6) Costs for the respective contract packages to forest management groups and total cost for all the activities proposed per PFMB.

The contractor shall closely coordinate with PFMB and the local communities in preparation of the detailed plan and design. PPMUs shall review the completed detailed plan and design and endorse it to DARD for approval.

4.4.4 Socio-economic Baseline Survey

Socio-economic baseline survey shall be implemented to record the baseline conditions of the households that would participate in the project implementation as well as to grasp their dependency on forest resources and their development needs. The baseline survey in 12 provinces shall be contracted out to a capable institution such as NAFEC or Universities in order to secure the field implementation and analysis of the results in a uniform manner. CPMU shall be responsible for selection of the contractor and supervision of the baseline survey with the assistance of the consultant. A set of questionnaire forms covering the following topics will be used for interviews to commune leaders as well as local households.

Topics interviewed in the Baseline Survey

Interviewee	Topics interviewed
Village leader	• General information: Population, ethnicity, rural labour force • Production: Agriculture (land area, main crops, livestock population, farming systems and practices, etc), forestry, fisheries, and handicrafts if there is. • Infrastructure: Road system and transportation, irrigation, electricity, market, etc. • Social services: education, healthcare, dirking water and sanitation, etc. • Development and poverty alleviation projects or programmes implemented or being implemented in the commune. • Mass-organizations operated in the commune (farmer union, women union…). • Difficulties faced by the commune and possible support activities recommended.

Interviewee	Topics interviewed
Households	• General background of the household: family size, number of main and supported labourers, ethnicity, etc. • Annual income level and main sources of income • Agricultural production • Forestry resources • Average annual/monthly expenditures • Healthcare status and education • Understanding of JBIC project by the household. • Support/ assistance needed to be expressed by the household • Development needs (Recommendations/proposals for possible intervention to support local people)

The baseline survey shall be implemented in about 100 villages out of the target villages in 12 provinces where forest development/ improvement sub-component will be implemented. The contractor shall interview at least 24 households in each selected village. The 24 households per village shall be selected in an arbitrary manner as follows:

a. 12 households (HHs) from those who are willing to participate in the project, where 4 HHs are considered "poor", another 4 HHs are considered "middle class", and the rest (4 HHs) are considered "rich."

b. 12 households (HHs) from those who do not show willingness, where the households composition is the same as above.

The contractor shall interview local leaders to collect general information of the target villages and request them to select the interviewees in accordance with the above-mentioned principles in the beginning of the survey at the target villages.

4.4.5 Development of Project Regulations

The Project shall elaborate project specific regulations for sustainable management of protection forests pursuant to the state laws and regulations as follows:

1) Benefit sharing regulation
   - ■ CPMU shall develop the benefit sharing regulation of the Project and endorse it to MARD for approval
   - ■ PPMU shall develop provincial regulation in line with the project's regulation and submit it to PPC for approval.

2) Forest Development and Protection Fund
   - ■ PPMU shall develop provincial regulation in line with the existing state regulation and submit it to PPC for approval.

4.4.6 Procurement of Equipment

CPMU and PPMUs shall procure equipment, vehicles, motorcycles, and furniture required for their operation. Provisional list of the equipment required during the project period (10 years) is shown below:

Provisional No. of Equipment, vehicle/motorcycle, and Furniture required for CPMU and PPMU

Items	CPMU	PPMU	Fund used
1. 4x4 vehicle	2	2	JICA loan
2. Motorcycle	-	5~6	- ditto -
3. Boat with engine	-	2~3 (Quant Tri, Hue, Phu Yen)	- ditto -
4. Desktop PC + software #1	6 (x 2)	5 (x 2)	- ditto -
5. Laptop PC + software #1	2 (x 2)	1 (x 2)	- ditto -
6. Laser printer (A4/A3) #1	1 (x 2)	1 (x 2)	- ditto -
7. Inkjet printer (A4/A3) #1	1 (x 2)	1 (x 2)	- ditto -
8. GIS software (MapInfo) #1	-	1 (x 2)	- ditto -
9. Photocopy machine	1	1	- ditto -
10. UPS (1000VA)	6	4	- ditto -
11. A0 plotter	-	1	- ditto -
12. Digital handycam	1	1	- ditto -
13. GPS	-	5	- ditto -
14. Projector	1	1	- ditto -
15. Other equipment	as required	as required	VN fund
16. Furniture	as required	as required	VN fund

#1: These equipment will be replaced or upgraded at year 6.

4.5 Capacity Development and Information Dissemination

This component comprises of three activities, namely:

i) Capacity development of the government staff,
ii) Information dissemination, and
iii) Formation and strengthening of forest management group (FMG).

4.5.1 Capacity Development of the Government Staff

(1) Project orientation

The project orientation shall be conducted for the project staffs and relevant organizations, such as CPMU, PPMUs, DARDs, PFMB, and local authorities concerned at the beginning of the project to establish common understanding of the project objectives and specificity of the project implementation, as follows:

Outlines of Project Orientation

Topics to be discussed	Level (Venue)	Organizer	Participants	Duration
♦ Project concepts ♦ Project components and activities ♦ Implementation procedures ♦ Implementation schedule	Central level (Hanoi)	MBFPs & CPMU	CPMU & relevant departments	2 days
	Provincial level (Provincial capital)	PPMUs	PPMU, DARD, PFMB	3 days
	District level (District capital)	PPMUs	DPC, CPCs, Extension staff	3 days

(2) Trainings

The Project shall implement various training programs for CPMU, PPMUs, DARDs, and PFMBs to upgrade their knowledge for the project implementation as well as long-term sustainable management of forests. CPMU shall finalize the contents of the trainings considering the needs of the participants:

Indicative Contents of Trainings for CPMU, PPMUs, DARDs and PFMBs

Project stage	Indicative contents	Participants	Duration	Organizers
Phase-in stage (1st year)	• Project Cycle Management (Planning/ M&E) • Financial management for the project • Designing an integrated forestry development project	CPMU, DARDs, PPMUs	5 days	CPMU
Detailed design stage (2nd year)	• Survey, mapping, and forest inventory • Community organization • Participatory planning for forest management • Training on identification of livelihood development needs • Extension methods and communication skills • NTFP development • Understanding the household economy and forestry	PPMUs, PFMBs	3 days x 2 times	CPMU
Implementation stage (3rd-8th year)	• Community based forest management/collaborative forest management • Organization of forest management group • Financial arrangement for sustainable management of protection forest by forest users	PPMUs, PFMBs	3 days	CPMU
	• Study Tour (Overseas)	CPMU, DARDs, PPMUs	-	CPMU
Phase-out stage (7th to 9th year)	• Monitoring and Evaluation methods of protection forest management	CPMU, DARDs, PPMUs	3 days	CPMU

4.5.2 Information Dissemination

(1) Information dissemination

PPMUs shall disseminate the information on the project as well as forestry policies of the government to local governments and potential project participants. PPMUs may contract out parts of the activities to local contractors.

Indicative Topics of Information Dissemination

Topics	Sub-topics	Timing	No. of participants	Duration
Forest management and protection	• Awareness creation on value of protection forest and the roles of stakeholders in its management (Defining forest users and forest owners)	Phase-in Stage (1st year)	50 persons / commune	1 day/ commune
	• Forestry related skills (new plantation/ANR/other locally specific skills required for forest management)	Implementation stage (3rd -8th year)	50 persons / commune / session	1 day/ commune / session
Orientation of the project	• Overview of the project, project concepts and outlines • Concepts of collaborative forest management • Formation of the protection forest management group	Phase-in Stage (1st year)	50 persons / commune	1 day/ commune

(2) Publication

CPMU and PPMU shall develop and distribute various publication materials for awareness raise among general public and project participants. CPMU and PPMUs may contract out the development of publication materials to contractors.

Publication Materials to be developed by the Project

Nature of the material	Type of material	Developers	Category of target audience
Project brief	Print (leaflet)	CPMU	General public
Quarterly News letter	Print (leaflet)	CPMU	General public
Environmental education booklet	Booklet (10pages)	PPMUs	Youth/ FMGs
Technical Paper	Print(booklet)	PPMUs	FMGs
Awareness creation	Poster DVD/ VCD	CPMU/PPMUs	FMGs

4.5.3 Formation and Strengthening of Forest Management Groups (FMG)

The Project shall initiate the formation of forest management group (FMG) and strengthen their organizational capacity in order to implement the project activities in an effective and efficient manner and to ensure sustainable management of protection forests by them. The groups shall also become care units which receive support from the Project on livelihood development and extension activities.

The organizational formation and strengthening shall be done through series of meetings and trainings as follows. It shall be implemented by contractors such as university and extension centres. PFMBs shall actively involve in the activities to gain expertise in organizational capacity development because they shall provide similar support to the group and other new group in the post project period.

Indicative Topics of Meetings and Trainings for Formation and Strengthening of FMG

Topics in the meetings/ trainings	Participants	Duration	No. of participant	Timing
• Formation of protection forest management group	FMG, commune leaders, PFMB	1 day	50/meeting	Phase-in stage (1st year)
• Community Forest management planning	FMG, commune leaders, PFMB	1 day	50/meeting	Phase-in stage (1st year)
• Community regulations on the use of protection forest	FMG, commune leaders, PFMB	1 day	50/meeting	Implementation stage (3rd-4th year)
• By-laws of the group and roles/responsibilities of the members	FMG, commune leaders, PFMB	2 days	50/meeting	Implementation stage (3rd-4th year)
• Financial / fund management of the groups including financial arrangement for forest protection and management (e.g., benefit sharing and forest users'/entrance fee)	FMG, commune leaders, PFMB	2 days	50/meeting	Implementation stage (4th-5th year)

4.6 Forest Development and Improvement

The Project shall develop or improve the protection forests of target areas through following technical options:

1) Watershed protection forest

- Reforestation (new planting)
- Assisted natural regeneration with enrichment planting
- Assisted natural regeneration with enrichment planting
- Forest Protection
- Improvement of existing plantations

2) Coastal protection forest

- Afforestation (new planting)
- Enrichment planting
- Improvement of existing protection forest

3) Improvement of SPL-III forest

- Forest protection
- Enrichment planting
- Vegetation clearing and thinning

4.6.1 Preparation of the Detailed Design

Refer to Section 4.4.3.

4.6.2 Contractors of Forest Development and Improvement

In principle, forest development/ improvement sub-component shall be contracted out to the owners of the target forest and forest land (PFMBs). The ownership shall be transferred to PPMUs before implementation of the sub-component. PPMUs may contract out the implementation of the part of the sub-component to other PFMBs or forest companies if capacity of the concerned PBMBs is considered insufficient or there are other justifiable reasons.

4.6.3 Improvement of Watershed Protection Forest

In principle, technical options for improvement of watershed protection forest shall be determined based on the current vegetation types, pursuant to MARD Decision No.131 (04/04/99).

Types of vegetation and technical options corresponding to them

Vegetation types	Reforestation	Forest Protection	ANR with enrichment planting	ANR w/out enrichment planting
Type Group 1: Vegetation which does not form the forest				
Ia : Grass land	○			
Ib : Bush or scattered small trees	△		○	
Ic : Wood lot			△	○
Type Group II: Recovering forest				
II a : Recovering forest after hill cultivation				○
II b : Recovering forest after over harvesting				○
Type Group III: Impacted forest				
III a: Forest impacted and completely changed by over harvesting				○
III b: Forest impacted by the selective cutting				○
Type Group IV: Original forest or mature secondary forest				
IVa : Original forest		○		
IVb : Secondary recovering forest		○		

Source: Decision No. 131 (04/04/99), ○ : apply. △ : partly apply

Other than the four technical options, the Project shall also improve the existing mono-cultured Pine and Acacia plantations established in the 1970s, which are vulnerable to the wild fire and insect attacks at present.

Standard designs of the technical options are indicated hereinafter. It is noted that the standard designs follow the existing government regulations at the time of developing this guidelines such as MARD Decision No. 516/2002 and No. 4361/2002. It is subject to change due to issuance of new technical regulations or when deviation from the technical norm is necessary and justified due to site specific conditions. PPMUs shall obtain an approval of MARD for such deviation through CPMU.

(1) Standard design for reforestation

Pursuant to MARD Decision No. 516/2002 and No. 4361/2002, the standard design of reforestation in watershed protection forests is as follows:

Standard Design of establishing the plantation in the protection forest

Item	Design
1. Site vegetation	Ia (grassland) or partly Ib (bush or scatted small trees)
2. Density of planting	1,550~1,600 trees/ha
3. Tree species	Main tree species are planted with subordinate species. Major main species: *Dipterocarpus alatus, Hopea odorata,* Major subordinate species: *Acacia mangium, A. auriculiformis, A.hybrid.*
4. Tending	To conduct spot weeding, clearing for three (3) years after planting
5. Harvest and management	Thinning of subordinate tree species between 7 to 15 year Harvesting subordinate tree species between 15 to 20 years. Harvest of main tree species by selective cutting with intensity of 50% during 20 ~ 40 years.
6. Target tree density at maturity	300~500 trees/ha of main species shall formulates the forest canopy in 40 years
7. Remarks	Subordinate species are planted together with or before planting of main species to form canopy cover early to give favorable conditions for the growth of main species.

(2) Standard design for forest protection

Standard Design of Forest Protection in the protection forest

Item	Design
1. Site vegetation	IVa or IVb (original or matured secondary natural forest)
2. Activities	Patrolling, Setting up and maintenance of the sign board for forest protection
3. Remarks	The contracted households are allowed to harvest the forest products following the MARD regulations.

(3) Standard design for ANR with enrichment planting

Standard Design of ANR with enrichment planting

Item	Design
1. Site vegetation	Ib (Bush or scattered small trees) or Ic (woodlot)
2. Density of planting	400 trees/ha
3. Tree species	Indigenous tree species: *Dipterocapus alatas*, *Hopea odorata*, etc.
4. Tending	Conduct for two (2) years after planting in the first year
5. Harvest and management	Selective cutting of indigenous tree species between 20 to 40 years.
6. Target tree density at maturity	Mixed forest of indigenous trees. 600 trees/ha of multi-layered forest composed with indigenous trees in 40 years (400 trees/ha planted additionally, 200 trees/ha naturally regenerating).
7. Remarks	Trees naturally regenerating consist of various local trees and shrubs. Their density and layer structure are also varies depending on the localities.

(4) Standard design for ANR without enrichment planting

Standard Design of ANR without enrichment planting

Item	Design
1. Site vegetation	Ic to IIa and IIb
2. Operation	Conduct maintenance operations such as spots weeding, climber cutting, clearing the fire break line, etc. for three (3) years followed by two (2) years of protection
3. Harvest and management	Selective cutting of indigenous tree species between 20 to 40 years.
4. Target tree density at maturity	Mixed forest of indigenous trees. 600 trees/ha of multi-layered forest composed with indigenous trees in 40 years (400 trees/ha planted additionally, 200 trees/ha naturally regenerating).
5. Remarks	Trees naturally regenerating consist of various local trees and shrubs. Their density and layer structure are also varies depending on the localities.

(5) Standard design for Improvement of existing Pine plantation

Standard Design of Improvement of Existing Plantation

Items	Design
1. Existing tree species	Plantation of *Acacia spp*. or *Pinus merkusii*
2. Density of planting	400 ~ 600 trees/ha
3. Tree species for planting	Indigenous tree species are planted between the Pine and Acacia trees. Tree species: *Aquilarina crassna* (Do tram), *Erythrophloeum fordii* (Lim xanh), *Lithocarpu*

Items	Design
	s fissus (Cong trang), *Kadelea candel* (Trang),
4. Tending	Conduct tending for three (3) years after planting
5. Harvest and management	Selective cutting of Acacia/Pinus trees between 1 to 20 year Selective cutting of indigenous tree species between 20 to 40 years.
6. Target tree density at maturity	Mixed forest of *Acacia spp./Pinus merkusii* and indigenous trees. 400~600 trees/ha of multi-layered forest composed with Pinus and indigenous trees in 40 years.
7. Remarks	This operation aims to transform the mono-cultured plantation to the mixed plantation with local tree species.

4.6.4 Improvement of Coastal Protection Forest

(1) Afforestation in sandy area

The standard design of afforestation in the coastal protection forest is shown below. *Casuarina sp*. Shall be solely planted to form the windbreak along the coastal line. The planting density is much higher than that of watershed protection forest

Standard design of afforestation in the coastal protection forest

Item	Design
1. Vegetation type	Ia (grassland or bare land)
2. Density of planting	2,500 ~ 5,000 trees/ha (Mostly 2,500 ~ 3,000 tree/ha)
3. Tree species planted	Tree species: *Casuarina equisetifolia*
4. Tending & protection	Tending is continued for three (3) years after planting
5. Target tree density at maturity	1,500 ~ 2,000 trees/ha of *Casuarina* stands with close canopy layer
6. Remarks	No thinning should be done. Number of trees decreases naturally.

(2) Improvement of existing coastal plantations

This option is applied to the location where the sand was almost stabilized by existing Casuarina plantations. It aims to enrich the vegetation by introducing other tree species. Because of the harsh open environment of the plantation site, species tolerant to drought and poor fertility such as Acacia auriculiformis should be planted between the Casuarina stands.

Standard Design of improvement of existing plantation

Item	Design
1. Vegetation type	Casuarina plantation
2. Density of planting	485 trees/ha, Assumption: 1,000 trees/ha of Casuarina.
3. Tree species planted	Tree species: *Acicia spp.* (mainly *Acaacia auriculiformis*)
4. Tending & protection	Continue spot weeding, clearing for three (3) years after planting of Acacia
5. Target tree density at maturity	1,500 trees/ha of *Casuarina* and *Acacia* plantation Some of Acacia is assumed to re-generate naturally.
6. Remarks	No thinning should be done. Density is controlled naturally.

(3) Enrichment planting in the natural forest

This operation should be applied to degraded natural forest in coastal area. Species planted should be carefully examined and selected considering severe environment and conditions in the target area.

Standard design of enrichment planting in the coastal sandy area

Item	Design
1. Vegetation type	Ib (bush, small trees)
2 Density of planting	500 trees/ha
3. Tree species planted	Indigenous tree species:
4. Tending & protection	Assistance for natural regeneration is continued for two (2) years after enrichment planting, followed by the two (2) years protection
5. Target tree density at maturity	600 trees/ha of multi-layered mixed forest composed with various indigenous trees
6. Remarks	No thinning should be done.

4.6.5 Improvement of SPL-III Forest

(1) Forest protection

This operation shall be applied to plantations established by SPL-III Afforestation Project. Such plantations shall be still young and need protection from constant threats such as wild fires, uncontrolled grazing, etc.

Standard design of forest protection of SPL-III forests

Item	Design
1. Vegetation type	Plantation composed of Main (protection) species and subordinate (economic) species such as *Acacia spp*.
2. Activities	Patrolling and reporting. Maintenance of the sign board for forest protection
3. Target tree density at maturity	Multi-layered mixed plantation composed of main and subordinate species. 400 ~ 600 trees/ha in 20-25 years
4. Remarks	The contracted households are allowed to harvest the forest products following the MARD regulations.

(2) Enrichment planting

This operation shall be applied to degraded natural forest. Although major tree species such as Dipterocarpus and Hopea are recommended, species planted should be carefully examined and selected in accordance with the natural conditions in each site.

Standard design of enrichment planting in the natural forest under SPL-III

Items	Design
1. Vegetation type	Ib (bush, small trees), Ic (woodlot) Assumption: 1,000 trees/ha of small local trees
2. Density of planting	380 trees/ha
3. Tree species planted	Indigenous tree species: *Dipterocapus alatas, Hopea odorata*. Etc.
4. Tending & protection	Protection is continued for three year after enrichment planting in th e first year
4. Target tree density at maturity	600 trees/ha of multi-layered forest composed with several indigenous tree species.
5. Remarks	Thinning to control the density should be done properly.

(3) Vegetation clearing and thinning

This operation shall be applied to site where Acacia spp. has grown so fast and already form densely closed canopy over the main trees, which suppresses their initial growth. Vegetation clearing and thinning should be done to secure the growth of main tree species and facilitate the formation of high and medium tree canopy by the main trees afterwards.

Standard design of vegetation clearing and thinning of SPL-III plantations

Items	Design
1. Vegetation type	Plantation which has a closed canopy Main (protection) species and subordinate (economic) species such as *Acacia spp*.
2. Species of thinning	*Acacia spp.* (sub-ordinate species in the plantation)
3. Tending & Protection	Protection is continued until fourth (4^{th}) year. Assistance for natural generation should not be done.
4. Target tree density at maturity	400~600 trees/ha of multi-layered forest composed with several indigenous tree species in 20~25 years.
5. Remarks	Thinning should be done properly from seventh (7^{th}) year

4.7 Construction of Silviculture Infrastructure

4.7.1 Preparation of the Detailed Design

PPMUs shall prepare preliminary plans of the construction of silviculture infrastructure such as access roads, fire watch tower, nursery, forest protection station and green fire break line based on the plan of forest development and improvement. PPMUs shall contract out the detailed design of the silviculture infrastructure to the design center or consulting center of DARD or capable companies according to the prevailing regulations of the government.

DARD is responsible for appraisal and approval of the detailed design and cost estimation.

4.7.2 Procurement of Contractors

PPMUs shall conduct procurement of contractors for construction of silviculture infrastructure according to the prevailing regulations.

4.7.3 Construction Supervision

PPMUs, with the assistance from concerned sub-department of DARD, are responsible for supervision and inspection of the silviculture infrastructure construction pursuant to prevailing regulations.

4.8 Construction of Rural Infrastructure

Rural infrastructure to be constructed by the Project includes rural road, small-scale irrigation system and domestic water supply system.

4.8.1 Preparation of the Detailed Design

Based on the needs and proposal of local stakeholders identified by the assessment of livelihood needs of the local people (refer to Section 4.9.2), PPMUs shall prepare preliminary plans of rural infrastructure construction. Then PPMUs shall contract out the detailed design of the rural

infrastructure to the design center or consulting center of DARD or capable companies according to the prevailing regulations of the government.

4.8.2 Procurement of Contractors

PPMU shall make procurement of contractors for the construction of rural infrastructure according to the prevailing regulation.

4.8.3 Construction Supervision

PPMUs is responsible for supervision and inspection of the rural infrastructure construction with the assistance from concerned sub-department of DARD.

4.9 Livelihood Improvement

4.9.1 Preparation of the Detailed TOR and Cost Estimation

Livelihood improvement component of the Project shall include following activities:

1) Assessment of the livelihood needs of the local communities
   - Need Assessment to identify the needs of local communities for livelihood development including rural infrastructure
   - Detailed Survey to identify feasible income generation activities
2) Implementation of livelihood development activities
3) Construction of small-scale rural infrastructure (including preparation of detailed design)

These activities shall be implemented by contractors. Thus PPMUs are required to prepare TOR and cost estimation with the assistant of the consultant and procure the contracts.

4.9.2 Assessment of the Livelihood Needs of the Local Communities

PPMUs shall contract out assessment of the livelihood needs of the local communities who will participate in forest development activities under the Project and protection and management of the forest in the post project period. The assessment aims at obtaining information from and reach consensus among the communities and local governments for developing detailed plan of livelihood improvement activities and small-scale rural infrastructure necessary in localities.

The assessment shall be conducted through general assessment and detailed survey shown below:

Outline of general assessment of needs

Survey	Duration	Objectives	Participants	No of participants	Venue
General needs assessment	1day	To identify the priorities of the livelihood development needs To establish consensus among the villages	• Commune leaders • representatives from each commune concerned • Extension officers • Extension workers • PFMB • PPMU	70	Province
Scoping of communes	1 day	To identify target villages for different livelihood development activities			

Detailed survey for income generation activities

Survey	Duration	Objectives	Participants	No of participants	Venue
Detailed survey for income generation activities	5 days	To identify the potential products To identify the feasibility of each enterprise To identify proposed rural infrastructure	• Commune leaders • Representatives from each commune • extension officers • extension workers • PFMB • PPMU	50	Commune

The outputs of the assessment shall be detailed proposals of livelihood improvement activities and list of proposed rural infrastructure in each site/commune. The potential livelihood options/enterprises shall be designed considering the needs and economic capability of FMG members concerned. The contractor(s) are required to complete the assessment within six (6) months.

4.9.3 Implementation of Livelihood Improvement Activities

PPMUs shall contract out the implementation of livelihood improvement activities which will provide direct and quick benefits to the local communities (FMG) concerned to the Project. The livelihood development options in the contracts shall be taken from the proposals prepared through the assessment. The contracted activities shall cover technical and material assistance to FMGs in implementing livelihood development options including technical trainings as well as trainings on financial management of FMG including establishment of fund for FMGs.

4.9.4 Construction of Small-scale Rural Infrastructure

(1) Preparation of detailed plan and design

PPMUs shall select the small-scale rural infrastructure to be constructed and rehabilitated under the Project based on the proposed infrastructure listed through the assessment (Section 4.9.2) and the budget of the provincial project. After selecting the infrastructure and obtain an approval from DARD, PPMUs shall contract out the detailed design and cost estimation of the rural infrastructure construction to the design centre/consulting centre of DARD or other capable company following the prevailing regulations.

(2) Procurement of contractors for infrastructure construction

After approval of the detailed design and cost estimation of infrastructure, PPMUs shall conduct procurement of contract following the prevailing regulations.

(3) Supervision and inspection of construction works

PPMUs shall be responsible to secure the quality of infrastructure construction through supervision and inspection with assistance of engineers within DARD.

4.10 Forest Fire Control

4.10.1 Procurement of Forest Fire Control Equipment and Tools

PPMUs should procure equipment and tools necessary for extinguishing forest fires. The equipment and tools shall be distributed to PFMB concerned for storage and use in the occasion of forest fire. Average quantity of FFC equipment and tools per PFMB is given below:

List of equipment and tools for forest fire control per PFMB

Equipment	Quantity
1. Vegetation knife	1
2. Wind blower	1
3. Chainsaw	1
4. Swatter	13
5. Clearing knife	7
6. Portable water container	1
7. Speaker	1
8. Fire protection clothes, shoes and helmet	10
9. Hand fire extinguisher	4
10. Tent	1

Forest fire control committees are already set up from province down to village levels according to the existing regulation. PPMU should confirm the committees and, if not yet set up, assist concerned local government in organizing FFC.

4.10.2 Trainings and Drills of Forest Fire Control

PPMUs shall organize FFC training for the project staff, DARD staff and FFC committee members in the project area. The training should includes field practices of forest fire extinguishing and be contracted out to Forest Protection Agency. One provincial training and 3-6 district level trainings shall be carried out.

Typical contents of 3-days training course are as shown below:

Training course of forest fire control

Training	Program of training
Province level 2 days' training Participants: 40 persons	**<u>Day 1</u>:** **Lectures by the FFC experts on the topics such as;** 1) General on forest fire 2) Measures of forest fire prevention 3) Strategy and tactics of forest fire control - Organizing of forest fire control team - Techniques of forest fire control - Safety measures of forest fire control - Use of the forest fire control equipments 4) Law and decrees of FFC 5) Formulation of forest fire control plan at communal and district levels **<u>Day 2</u>:** **Field practices of forest fire extinguishing and discussion by the participant**

Training	Program of training
District level 3 days' training Participants: 60 persons	**Day 1**: **Lectures by the FFC experts on the topics such as;** 1) General on forest fire 2) Measures of forest fire prevention 3) Contents of community based forest fire management 4) Law and decrees of FFC **Day 2**: **Group works and practice by the participants** 1) Formulation of village FFC plan 2) Instruction and practice to use machineries, equipments and tools for forest fire extinguishing **Day 3**: **Field practices of forest fire extinguishing and discussion by the participant**

4.11 Monitoring and Evaluation

CPMU and PPMU shall carry out monitoring and evaluation of the Project during the project implementation period pursuant to existing M&E regulations.

4.11.1 Progress Monitoring and Reporting

Regular monitoring of the project activities is the responsibility of both CPMU and PPMUs. The physical progress of the Project, both quantitative and qualitative accomplishments, and fund disbursement shall be closely monitored by CPMU and PPMUs for the following purposes:

a) To ensure the regular updating of information about the performance and management of the programs and projects with accuracy and adequacy.

b) To ensure the timely identification of difficulties, problems and accidents that influences the progress, quality and cost of the programs and projects.

c) To ensure timely recommendations are made to take necessary measures to overcome the difficulties and accidents as well as to solve the problems so that the programs and projects are implemented consist with the planned goals and objectives, the time frame and the resources available.

The reporting requirements of the Project shall be as prescribed by existing regulations (MPI Decision 803/2007/QD-BKH as follows. CPMU shall compile the contents of such reports from PPMUs. The reports shall be submitted to MARD, MPI and MOF by CPMU and to PPC by PPMU.

a. Monthly report

b. Quarterly report

c. Yearly report

d. Project completion report

In principle, the contents of the monthly and quarterly reports include the following:

1) Project profile

2) Brief monthly/ quarterly progress report

3) Progress of covenants and conditions
4) Disbursement report of ODA funds
5) Report on special/imprest account
6) Disbursement report on Counterpart funds
7) Procurement plan
8) Procurement plan – packages
9) Procurement plan – prequalification/ selection process
10) Procurement plan – bidding process
11) Summary of bidding results
12) Contract status
13) Land acquisition and resettlement plan
14) Monitoring of compensation and resettlement
15) Implementation of land acquisition and resettlement plan
16) Implementation expenditure of land acquisition and resettlement plan
17) Environment protection plan
18) Status of environment protection implementation
19) Logical framework
20) Progress of performance indicators of outputs

CPMU shall prepare simplified formats for monitoring and reporting by PPMUs. CPMU shall also organize trainings of PPMU staff on the monitoring and report preparation.

4.11.2 Evaluation

According to MPI Circular No.4/2007/TT-BKH, evaluation of the projects shall be implemented with following objectives:

a) To compare the outcomes achieved at the evaluation point of time against the program or project implementation plan.

b) To identify the difficulties and problems that have already happened or are possible to happen in process of program or project implementation.

c) To assess the status of implementing the managerial principles and procedures of the program or project.

d) To initiate measures for accelerating programs and projects to move toward the planned objectives, in line with the regulations on the progress, scope, quantity, quality, and cost in conformity with the managerial principles and procedures.

e) To make recommendations for adjustment of certain contents in the program or project document and/or in the program or project implementation plan, if necessary

f) To draw the experiences and lessons learnt for the next stages of the evaluated programs and projects and/or for other programs and projects.

Following the guidance prescribed in MPI Circular No.4/2007/TT-BKH, CPMU shall contract out following evaluation activities to capable third parties such as NAFEC, universities, FIPI and consulting firms:

1) Initial evaluation

The initial evaluation shall be carried out immediately after the commencement of the Project implementation to (i) review and evaluate the status of preparatory works, organization and mobilization of resources of the CPMU/PPMUs to ensure the implementation of the Project according to the plan; and (ii) analyze emerging issues and suggest solutions and proposed changes. The results of the initial evaluation should be used to update and improve the overall implementation plan of the Project. It could be implemented as a part of socio-economic baseline survey.

2) Mid-term evaluation

Mid-term evaluation shall be carried out by CPMU in coordination with PPMUs (i) to verify the coherence, consistency and degree of achievement of the actual results of the Project in comparison with the plan; and (ii) to discuss the lessons learned and propose the recommendations and adjustments to the project plan, if necessary. CPMU shall submit the results to MBFP, MARD and CPSC for feedback and recommendations.

3) Terminal evaluation

CPMU in coordination with PPMUs shall implement the terminal evaluation of the Project by third party within six months after the completion date with following objectives:

a) To evaluate the design of the Project, process of implementing, management performance, achievements of goals and objectives, and the efficiency in using the resources.

b) To evaluate the benefits of the Project, possible impacts, and sustainability.

c) To discuss the lessons learned and recommendations.

The terminal evaluation reports must be submitted to MARD and JICA together with the comments of MBFP. The reports should be the basis for the PPMUs and CPMU to prepare the completion reports of the Project.

4) Ad-hoc evaluation

The ad-hoc evaluation shall be conducted if there are unpredictable difficulties, problems and impacts in the process of the project implementation. It aims to analyze the situation, issues, and the impacts of the issues and provide recommendations to the project owner, MARD.

4.12 Phase-in / Phase-out Works

PPMUs shall organize phase-in/phase-out activities as a part of capacity development activities to ensure sustainability of forest management and protection in the post project period.

Activities planned for Phase-in / Phase-out Works

Activities	Purposes	Implementer
Facilitation of hand-over of forest ownerships from PPMUs to PFMBs	Assist PPMUs in handing over the ownerships of the project area to PFMBs concerned	CPMU and Project Consultant
Guidance to the Stakeholders	Refresh/Deepen the stakeholders' understanding of the procedures for concluding long-term agreement and outlines of benefit sharing mechanism	Contractors for Information Dissemination Sub-component with assistance of Project Consultant
Assistance in preparation of a forest management plan	Assist PFMBs and forest management groups in preparation of a forest management plan of the assigned area	Contractors for Information Dissemination Sub-component with assistance of Project Consultant

4.12.1 Hand-over of Forest Ownerships from PPMUs to PFMBs

PPMU should immediately hand over the ownership of the protection forest under the Project to PFMB concerned upon completion of the contracts of forest development improvement, so that PFMB could sign contracts with FMGs for long-term management of the forests. PPC shall issue letters of transfer specifying the locations (District, Commune, Compartment and Series Numbers) and the name of new owners (PFMBs).

4.12.2 Guidance to the Stakeholders

Prior to completion of the contracts for forest development and improvement, refresher guidance and orientation shall be undertaken to the local stakeholders (local government and FMGs) on forest protection and management under long-term management in the post project period. It shall be by the contractors hired for Capacity Development and Information Dissemination Component. The following guidance sessions shall be organized by the contractors.

Guidance to be made for the Stakeholders

Sessions	Topics to be discussed	Participants	Time frame
Guidance on collaborative management and necessary process	Procedures of long-term contract for protection and management of protection forests with benefit sharing	PPMUs and PFMBs	2 days / session
ditto	ditto	Representatives of the forest management groups	2 days / session
Guidance on preparation of forest management plan	Purpose of forest management plan How to make a forest management plan using a given format Roles and responsibilities of PFMBs	PPMUs and PFMBs	2 days / session
Guidance on benefit sharing mechanism	Purpose of benefit sharing mechanism Roles of PFMBs and PPMUs Mechanism of benefit sharing system (How to estimate and collect the share)	PPMUs and PFMBs	2 days / session
Ditto	Purpose of benefit sharing mechanism Mechanism of benefit sharing system (How to estimate and collect the share)	Representatives of the forest management groups	2 days / session

4.12.3 Assistance in Preparation of Forest Management Plan

The PFMBs and FMGs shall formulate a forest management plan of assigned protection forest before concluding contracts. The forest management plan shall be part of the contract documents as it will specify the location of the assigned areas, type of forest, forest management practices to be carried out by each FMG, recommended work schedule, rules on harvesting, harvesting practices to be conducted, and harvesting schedule for the contract period.

CPMU shall develop a format of the forest management plan as well as a training course on the formulation of the management plan with the assistance of the Project Consultant. The contractors for Capacity Development and Information Dissemination shall then organize guidance and orientation workshops for PFMBs and the representatives of FMGs and also assist them in preparing the forest management plan during the project implementation. The training course for PFMBs and representatives of the forest management groups are outlined below:

Topics to be discussed in guidance on forest management plan

Sessions	Topics to be discussed	Participants	Time frame
Guidance for preparation of forest management plan	Outlines of forest management plan How to fill up the format of the forest management plan	PFMBs, Representatives of forest management groups	2 days / session

5. FINANCIAL MANAGEMENT

5.1 Management Principle

The Project is an investment project under the state budget. The financial management of the Project shall be governed by the prevailing state financial management mechanism, the loan agreement with JICA, and the specific regulation issued by MOF for fund management of the Project (MOF Circular No. **/2010/**, It is assumed to be issued in 2010).

CPMU shall open a project account in the Central State Treasury (CST) for transaction of the counterpart fund. The Director of MBFP is the account holder and the Chief Accountant of MBFP is the accountant to work with CST according to the State regulations.

PPMU shall open an account for the provincial project in the Provincial State Treasury (PST) for transaction of counterpart fund. The Director or Vice Director of PPMU can be authorized to be the account holder.

5.1.1 Use of JICA ODA Loan Fund

JICA Loan fund can be used for the following contractual expenses to be paid to contractors, consultants and suppliers except taxes:

1) Employment of technical assistant consultants;

2) Forest inventory survey and mapping;

3) Detailed planning and designing of forest development, livelihood development and construction of silviculture and rural infrastructure;

4) Forest development and improvement;

5) Construction of silviculture infrastructure and rural infrastructure;

6) Forestry and agriculture extension activities;

7) Capacity development and information dissemination;

8) Socio-economic baseline survey, mid-term and terminal impact evaluation survey;

9) Forest fire control trainings and drills;

10) Purchase of equipment and tools for CPMU, PPMUs and forest fire control; and

11) Withdrawal fee and commitment charges of JICA loan.

5.1.2 Use of National Counterpart Fund

All other expenses not covered by JICA loan shall be paid using the counterpart fund. They include:

1) General administration expenses of CPMU and PPMUs including, but not limited to, salary, allowance, office running expenses, operational expenses of vehicles and motor cycles;

2) Cost for monitoring, supervision and inspection of contracted activities by CPMU and PPMUs;

3) Cost for preparation, appraisal and approval of the plans and total cost estimation;

4) Cost for procurement of contracts (biddings);

5) Cost for meetings, seminars and workshops organized by CPMU and PPMUs;

6) Taxes to be paid for contracts related to the Project;

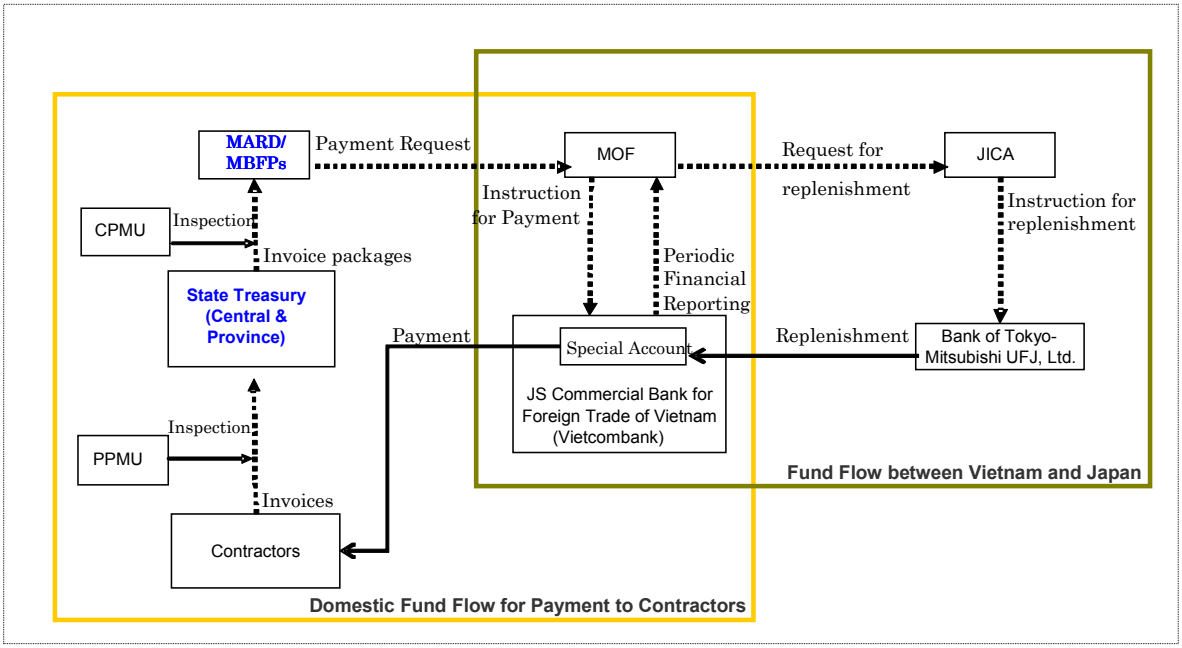
7) Cost for audit

5.2 Planning

CPMU and PPMUs shall elaborate annual and quarterly financial plan of the entire project and provincial projects, respectively, based on the updated plan of operation and cost norm. The annual financial plan should be subject to approval by MARD and PPCs concerned.

5.3 Disbursement Procedure

The disbursement procedures of the Project are governed by MOF Circular No. **/2010/** regarding the guideline on the management of JICA ODA loan for the Project. In principle, payment requests are first reviewed and inspected by CPMU or PPMUs. CPMU/PPMU then submits the payment requests approved by the director to the central or provincial state treasury for its review. From the provinces, the provincial state treasury forward packaged invoices to CPMU for processing of payment. CPMU reviews the payment requests and endorsed them to MoF for payment. Finally, MoF instructs Vietcom Bank for payment to contractors after their review.



Overall Fund Management of the Project

5.4 Reporting, Controlling and Auditing

CPMU and PPMU shall maintain and compile accounting materials, all vouchers and relevant documents. Prevailing regulations shall be followed for bookkeeping.

CPMU and PPMUs shall prepare periodical financial reports and annual liquidation reports in line with prevailing regulations. Beside that, CPMU shall prepare financial report required by JICA.

CPMU and PPMUs shall organize annual audit of their account, vouchers, bookkeeping, and liquidation report by independent auditing firm. Opinions and recommendations of the auditing firms must be strictly followed. Their report shall be furnished to JICA according to the loan agreement.

Tables

Appendix K-1 List of Taraget Districts and Communes concerned with the Project Areas (new sites)

Updated: April, 06 2010

Province	District	Management Board	Commune
Total			
12 Provinces	57 PFMB		
54 district			
1 township			
167 commune			
Thanh Hoa	Thuong Xuan	PFMB of Song Dan	Luan Khe, Luan Thanh, (2)
6 districts	Nhu Xuan	PFMB of Song Chang	Thanh Hoa (1)
6 PFMBs	Nhu Thanh	PFMB of Nhu Xuan	Xuan Thai (1)
12 communes	Thach Thanh	PFMB of Thach Thanh	Ngoc Trao, Thanh Long, Thach Lam (3)
	Thinh Gia	PFMB of Tinh Gia	Nguyen Binh, Dinh Hai, Truc Lam, Truong Lam, (4)
	Ha Trung	PFMB of Ha Trung	Ha Linh (1)
Nghe An	Tuong Duong	PFMB of Tuong Duong	Tam Thai, Tam Dinh, Tam Hop, Thach Giam, Yen Na, Yen Thang, Yen Thinh, (7)
6 districts	Nam Dan	PFMB of Nam Dan	Nam Giang, Nam Nghia, Nam Thai, Nam Hung, Nam Thanh, (5)
6 PFMBs	Nghi Loc	PFMB of Nghi Loc	Nghi Dong, Nghi Cong Bac, Nghi Quang, Nghi Thiet, Phuc Tho, Nghi Cong Nam, Nghi Yen, Nghi Lam, (8)
39 communes	Yen Thanh	PFMB of Yen Thanh	Dong Thanh, Hau Thanh, Minh Thanh, Thinh Thanh, (4)
	Tan Ky	PFMB of Tan Ky	Dong Van, Giai Xuan, Nghia Dung, (3)
	Quynh Luu	PFMB of Quynh Luu	Quynh Thang, Tan Son, Quynh Bang, Quynh Luong, Quynh Lap, Quynh Lien, Quynh Minh, Quynh Nghia, Quynh Phuong, Quynh Tho, Tien Thuy, Tan Thang, (12)
Ha Tinh	Nghi Xuan	PFMB of Hong Linh	Co Dam, Xuan Linh, Xuan Hong, Xuan Vien, (4)
5 districts	Can Loc		Thien Loc, Thuan Thien, (2)
4 PFMBs	Cam Xuyen	PFMB of Cam Xuyen	Cam Linh, Cam Minh, Cam Lac, Cam Quan, (4)
18 communes		PFMB of Thach Ha	Cam Thach, (1)
	Thach Ha		Thach Ban, Bac Son, Thach Xuan, Thach Dien, (4)
	Huong Son	PFMB of Ngan Pho	Son Lam, Son Le, Son Tien, (3)
Quang Binh	Quang Trach	PFMB of Quang Trach	Quang Hop, Quang Kim, Quang Luu, Quang Thach, (4)
3 districts	Quang Ninh	PFMB of Ba Ren	Truong Xuan, Truong Son (2)
4 PFMBs		PFMB of Long Dai	
15 communes		PFMB of Ven Bien Nam	Vo Ninh, Gia Ninh, Hai Ninh, (3)
	Le Thuy		Hung Thuy, Hong Thuy, Ngu Thuy Bac, Thanh Thuy, Cam Thuy, Sen Thuy, (6)
Quang Tri	Huong Hoa	PFMB of Huogn Hoa - Dakrong	Huong Phung, Huong Tan, Huong Linh, Tan Thanh, Huong Son, Tan Hop, (6)
6 districts	Dakrong		Dakrong, Huong Hiep, Mo O, Krong Klang, (4)
1 township	Vinh Linh	PFMB of Ben Hai	Vinh Ha, Vinh O, (2)
3 PFMBs	Gio Linh		Linh Thuong, (1)
17 communes	Hai Lang	PFMB of Thach Han River	Hai Lam, Hai Son, (2)
	Trieu Phong		Trieu Thuong, (1)
	Quang Tri (Town)		Hai Le, (1)
T.T.Hue	Huong Thuy	PFMB of Huong Thuy	Duong Hoa, (1)
3 disticts		PFMB of Huong River	Duong Hoa, (1)
3 PFMBs	Huong Tra		Huong Van, Hong Tien (SA 127), Binh Thanh, Binh Dien (SA 137,141,142,143,144,145, 146), Huong Tho, (5)
8 communes		PFMB of Bo River	Huong Van, Hong Tien (SA126), Binh Thanh, Binh Dien (SA 136,138,139), Huong Tho, (5)
	Phong Dien		Phong Xuan, Phong Son, (2)
Quang Nam	Dong Giang	PFMB of Kon River	Song Kon, Jo Ngay, A Ting, (3)
6 districts		PFMB of A Vuong	Ma Cooih, (1)
6 PFMBs	Phuoc Son	PFMB of Dak Mi	Phuoc Hiep, Phuoc Hoa, (2)
19 communes	Bac Tra My	PFMB of Tranh River	Tra Bui, (1)
	Phu Ninh	PFMB of Phu Ninh	Tam Dai, Tam Dan, Tam Lanh, (3)
	Nui Thanh		Tam Son, Tam Thanh, Tam Tra, (3)
	Duy Xuyen	PFMB will be established	Duy Trung, Duy Son, Duy Hoa, Duy Phu, Duy Thu, Duy Trinh, (6)

Appendix K-1 List of Taraget Districts and Communes concerned with the Project Areas (new sites)

Updated: April, 06 2010

Province	District	Management Board	Commune
Quang Ngai	Ba To	PFMB of Ba To East	Ba Trang, Ba Lien, (2)
4 districts		PFMB of Ba To West	Ba Xa, Ba Dinh, (2)
5 PFMBs	Son Ha	PFMB of Thach Nham	Son Ba, Son Ky, (2)
9 communes	Son Tay	PFMB of Son Tay	Son Bua, (1)
	Tay Tra	PFMB of Tay Tra	Tra Lanh, Tra Xinh, (2)
Binh Dinh	Hoai Nhon	PFMB of Hoai Nhon	Hoai Son, (1)
5 districts	Hoai An	PFMB of Hoai An	Bok Toi, An Nghia, An Son, (3)
5 PFMBs	Phu My	PFMB of Phu My	My Hiep, My Phong, My An, (3)
10 communes	Vinh Thanh	PFMB of Vinh Thanh	Vinh Kim, (1)
	Tay Son	PFMB of Tay Son	Tay Phu, Vinh An, (2)
Phu Yen	Dong Xuan	PFMB of Dong Xuan	Phu Mo, (1)
3 districts	Song Hinh	PFMB of Song Hinh	Ea Trol, Song Hinh, (2)
3 PFMBs	Son Hoa	PFMB of Son Hoa	Phuoc Tan, (1)
4 communes			
Ninh Thuan	Bac Ai	PFMB of Song Trau	Phuoc Thanh, (1)
4 districts	Thuan Bac		Phuoc Chien, Phuoc Khang, (2)
4 PFMBs	Ninh Son	PFMB of Krongpha	Lam Son, (1)
7 communes	Ninh Phuoc	PFMB of Tan Giang,	Phuoc Ha (1)
		PFMB of Ninh Phuoc	Phuoc Nam, Phuoc Dinh, (2)
Binh Thuan	Tuy Phong	PFMB of Tuy Phong,	Phan Dung, Chi Cong (2)
3 districts		PFMB of Long Son Da	Phong Phu (1)
8 PFMBs	Bac Binh	PFMB of Le Hong Phong	Hoa Thang (1)
9 communes		PFMB of Ca Giay	Phan Lam (1)
	Ham Thuan Bac	PFMB of Dong Giang	Thuan Minh (1)
		PFMB of Song Quao	Don Tien (1)
		PFMB of Ham Thuan	Da Mi (1)
		PFMB of Hong Phu	Hong Son (1)

Appendix K-2 List of Taraget Districts and Communes for SPL3 Follow-up

Updated: April, 08 2010

Province	District	Management Board	Commune
Total			
5 Provinces	9 PFMBs		
11 districts			
1 township			
35 commune			
Quang Tri	Huong Hoa	PFMB of Huogn Hoa - Dakrong	Huong Phung, Huong Tan, Huong Linh, Tan Thanh, (4)
4 districts	Dakrong		Dakrong, Huong Hiep, Mo O, Krong Klang, (4)
1 township	Hai Lang	PFMB of Thach Han River	Hai Lam, (1)
2 PFMBs	Trieu Phong		Trieu Thuong, (1)
11 communes	Quang Tri (Town)		Hai Le, (1)
T.T.Hue	Huong Tra	PFMB of Bo River PFMB of Huong River	Hong Tien, Binh Thanh, Binh Dien, Huong Tho, (4)
3 districts	Huong Thuy	PFMB of Huong Thuy PFMB of Huong River	Duong Hoa, (1)
3 PFMBs 11 communes	A Luoi		Hong Ha, A Luoi, Huong Nguyen, Nham, A Ngo, Hong Quang, (6)
Quang Nam 1 district 1 PFMB 6 communes	Duy Xuyen	PFMB will be established	Duy Trung, Duy Son, Duy Hoa, Duy Phu, Duy Thu, Duy Trinh, (6)
Quang Ngai 2 districts, 2 PFMBs, 6 communes	Son Ha	PFMB of Thach Nham	Son Bao, Son Thuong, (2)
	Son Tay	PFMB of Son Tay	Son Dung, Son Tan, Son Tinh, Son Lap, (4)
Phu Yen 1 district 1 PFMB 1 commune	Dong Xuan	PFMB of Dong Xuan	Phu Mo, (1)