

Figure 2-9 Section (1)

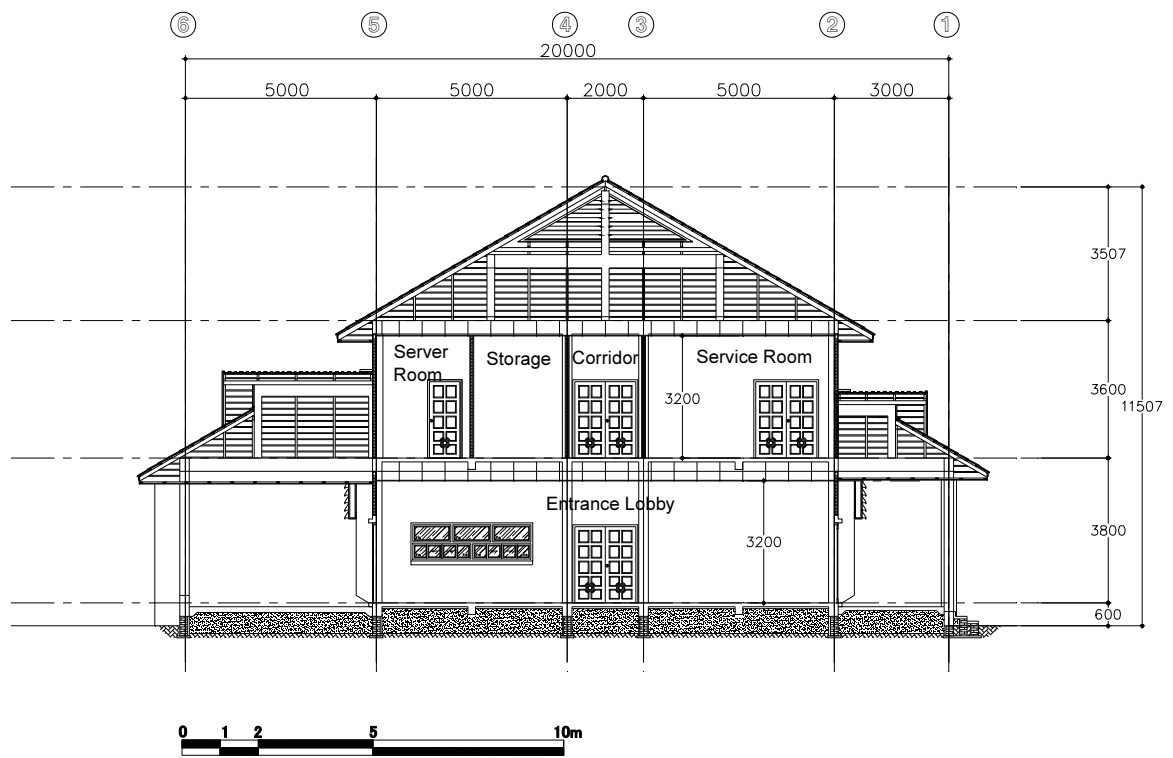


Figure 2-10 Section (2)

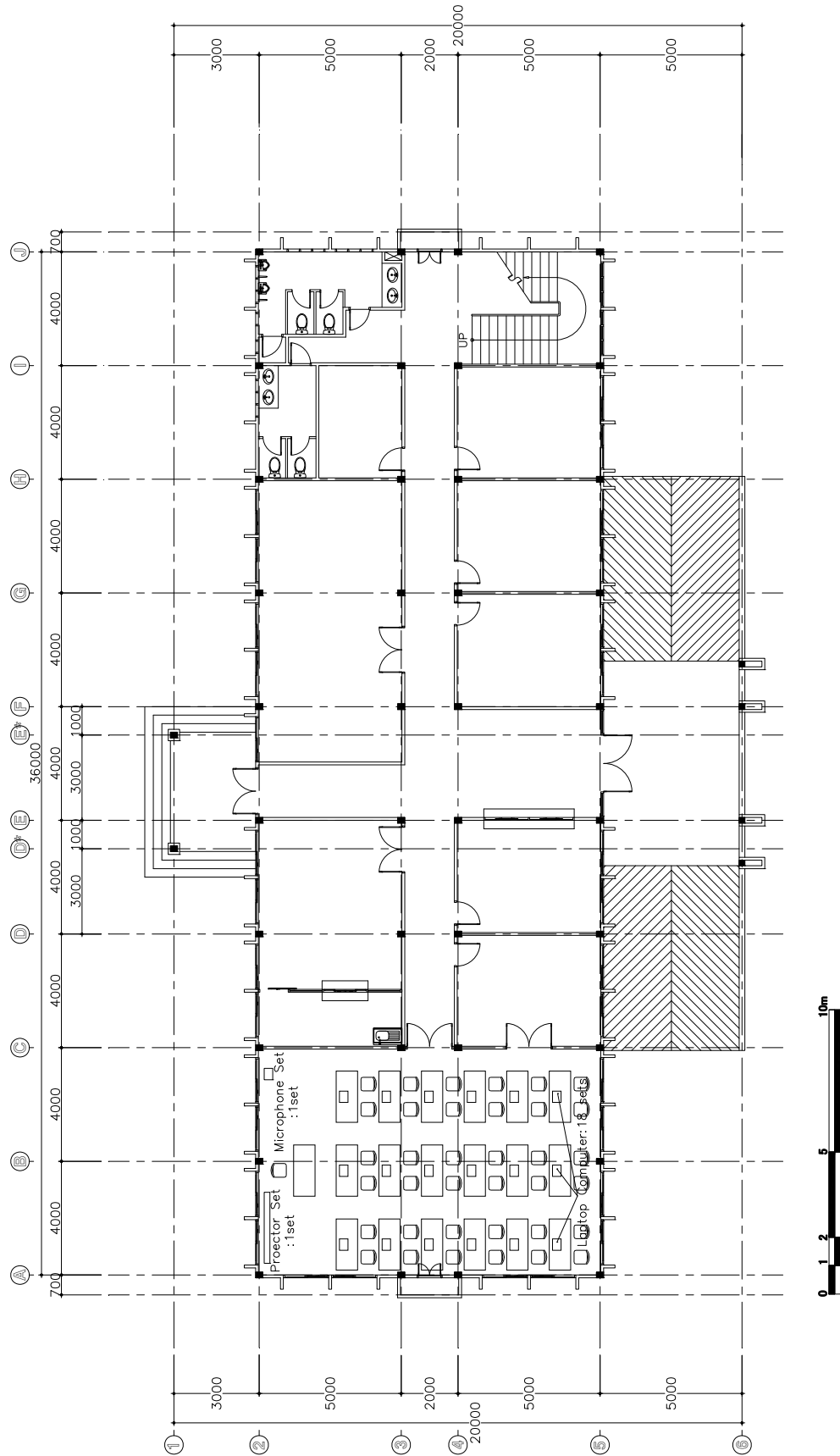


Figure 2-11 1st Floor equipment layout plan

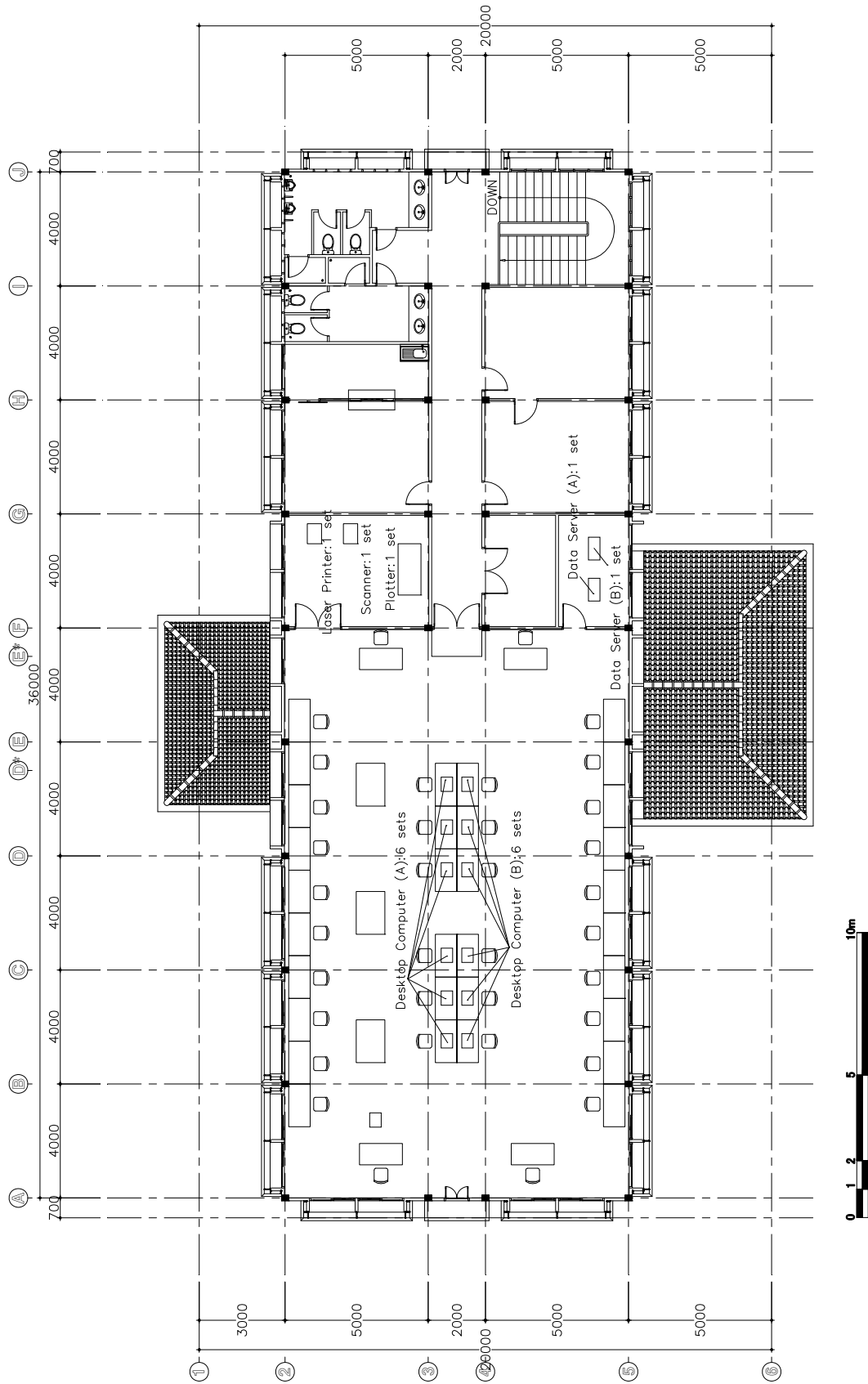


Figure 2-12 2nd Floor equipment layout plan

2-2-4 Implementation Plan

2-2-4-1 Implementation Policy

(1) Basic Policy

The Programme shall be implemented in accordance with the scheme of the GAEC. For the Programme, the GAEC shall be offered based on the Exchange of Notes (hereinafter referred to as the “E/N”) which shall approve the Programme purposes, implementing organizations and the conditions of the Grant Aid of Japan confirmed between the Government of Japan and the Government of Laos. Following the E/N, to define the payment conditions, items to be borne by the Lao side and procurement conditions of the Programme, the Grant Agreement (hereinafter referred to as the “G/A”) of the Programme shall be concluded between the Government of Laos and JICA. In terms of detailed procedures concerned with procurements under the GAEC, they shall be agreed between the Government of Laos and JICA at the times of signing onto the E/N and the G/A.

- JICA shall be on the side to promote the adequate implementation of the Programme.
- Products and services shall be procured and supplied for the Programme in accordance with the Procurement Guideline of Japan’s Programme Grant Aid for Environment and Climate Change (hereinafter referred to as “the Guideline”) of JICA.
- The Government of Laos shall conclude contracts to implement services including services to procure products, controls of funds by the GAEC, tender preparations and contracts with a procurement agent (hereinafter referred to as “the Agent”) of behalf of the Government of Laos for the Programme.
- The Agent shall work for all the funding remittances under the name of Laos for the Programme.

(2) Procurement Method

Under the GAEC, the nationalities of contractors to conclude contracts are regardless if their tender contents meet the stipulator conditions of their tender documents for the contracts.

The tender documents shall be prepared upon consultation between the Government of Laos and the Agent.

(3) Batch Division for Equipment Procurement

The equipment procurement is divided by 5 batches below.

Table 2-49 Batch Division for Equipment Procurement

Batch	Item No.	Name of Equipment	Q'ty
1st	A-9	SPOT4 (2005)	114 sets
	A-10-1	SPOT5 (2008)	2 scenes
	A-11-1	RapidEye (2008)	1 set
2nd	A-1	Desktop PC (A)	6 units
	A-2	Desktop PC (B)	6 units

Batch	Item No.	Name of Equipment	Q'ty
	A-3	Data Server (A)	1 set
	A-5	Laptop	18 units
	A-12	GIS Software	1 set
	A-13-1	Imagery Analysis Software1	1 set
	A-13-2	Imagery Analysis Software2	2 sets
	A-14	Plotter	1 set
	A-15	Scanner	1 set
	A-16	Printer	1 set
	A-17	Projector set	1 set
	A-18	Microphone set	1 set
	B-1	Survey Compass	12 sets
	B-2	Planimeter	6 sets
	B-3	Diameter Tape	12 units
	B-4	GPS device	18 units
	B-5	Binocular	12 units
	B-6	Transceiver	12 sets
	B-7	Clinometer	12 units
	B-8	Digital Camera	12 units
B-9	Vehicle	6 units	
3rd	A-6-1	ALOS AVNIR (2010)	106 scenes
	A-7	ALOS PRISM (2010)	193 scenes
	A-8-1	ALOS PALSAR (2010)	111 scenes
	A-10-2	SPOT5 (2010)	14 scenes
	A-11-2	Rapid Eye(2010)	1 set
4th	A-4	Data Server (B)	2 sets
5th	A-6-2	ALOS AVNIR (2011)	106 scenes
	A-8-2	ALOS PALSAR (2011)	111 scenes

(4) Construction Contractor

The Programme shall not adopt special methods. It shall construct FRIC based on specifications generally adopted in Laos. Thus, the Programme shall be able to implement FRIC using local construction contractors in Laos.

(5) Procurement Agent

The Agent is designated to conduct the procurement services of products and services (including fund management, preparing tenders, contracts and so on) for the Programme on behalf of the recipient country. The Agent is an impartial and specialized organization and shall render services according to the Agent Agreement with the recipient country. The Agent is recommended to the recipient by Government of Japan and agreed between the two Governments in the Agreed Minutes (hereinafter referred to as "A/M")

(6) Consultant

The Consultant of the Programme shall conclude a contract regarding services for tendering and construction/procurement supervising works with the Agent. The service contents of each step shall be as follows;

1) Services before the tender

The Consultant shall review the field survey results produced by the Outline Design Survey of the Programme as the contractor of the Agent, and the consultant shall indemnify against the consistency in the services.

2) Services in the tender stage

The Consultant shall execute the following services in the tender stage of the Programme;

- Compiling service of the tender documents(mainly specifications)
- Supporting service of the tender
- Supporting for preparing service of questions/answers and amendment drafts regarding the tender
- Supporting for producing service of the implementation of technical evaluation and evaluation tables / evaluation reports
- Service of the evaluation of tender prices, production of evaluation tables / evaluation reports and determination of the first negotiable contractor of the tender
- Supporting service of the contact negotiations of the Programme

3) Services in the stages of construction / procurement supervising works

In Laos, the supervising standards of construction and procurement are not yet established. Under such situations, the Programme shall need to dispatch Japanese technicians to Laos to ensure the construction qualities of the Programme. Besides, the Programme shall be an integrated assistance including equipment procurement and technical training to be held at FRIC with equipment to be installed by the Programme. For these reasons, it shall be necessary strictly to follow the construction schedule of FRIC for the smooth implementation of the whole Programme. Therefore, the Programme shall place a full-time stationed consultant in Laos for coordinating works among concerned persons of the Lao side and the contractor's side, and also for supervising works of the implementation stage of the Programme.

As for the FRIC construction of the Programme, the Programme shall adopt the standard specifications of Laos. In terms of the construction materials and equipment of FRIC, the Japanese consultant shall be able to carry out the supervising works of the Programme by actively using local consultants in Laos.

(7) Implementing organizations of the Lao side

The responsible organization of the Lao side for the Programme is MAF, the implementing organization is DoF, and the operating organization is FIPD. For the smooth progress of the Programme, it shall be necessary to contact and consult closely among the consultant, the contractors and the concerned organizations of the Lao side. Accordingly, the Lao side shall need to assign responsible persons in charge of the Programme.

2-2-4-2 Implementation Conditions

(1) Implementation Conditions for Construction

a) General Situations Concerning the Implementation of the Programme

Vientiane is the Lao capital and a number of construction companies exist there. In Vientiane city, there are also concrete plants, and construction machines are also procurable there. All construction materials and equipment are locally procurable in Vientiane city. However, the Programme shall need to carry out advance preparations carefully for their procurements because there are limitations of suppliable quantities of Thai made reinforcing bars, steel beams, fitting materials and so on.

To avoid delays to these material procurements, it is desired to prepare systems for their orders in the early stage of the commencement of the FRIC construction. Thus, on the consideration of the production terms of materials to be used for the Programme, it shall be important to urge the construction contractor of the Programme to start their advance preparations for the procurements of the materials and equipment.

b) Selections of the Contractor(s) of the Programme

The construction company is selected by the tender. For the detailed procedures of the Programme tender for selecting construction companies in Laos, major information which needs to be declared includes business license/permit, financial status by banks, company organizational information (management and technical personnel: number and qualification) and major recent performances (projects and funding agencies).

Contents included in tender documents in Laos generally consist of design drawings, scope of works (including specifications), bills of quantities (hereinafter referred to as “BQ”) and implementation schedules, though they are different depending on projects. In terms of tender announcements, they generally appear in newspapers. Terms to be spent from the announcements until tenders are approximately 3 weeks to 1 month.

c) Safety Measures

At construction sites, it is necessary to consider safety measures for construction workers. The construction of FRIC will involve work in high places such as roofing, so there is a possibility of falling accidents. Consequently, the Programme will need to prepare concrete measures to ensure workers safety, such as the wearing of helmets and safety shoes, and prohibiting work going up-and-down.

(2) Implementation Conditions for Equipment Procurement

a) Securement of space for new equipment

It is required to clean and organize the storage and the place of equipment installation by the Lao side

before delivery of equipment to encourage the smooth commencement of operation.

b) Batch Division for Equipment Procurement

The equipment procurement is divided by 5 batches due to the reasons of characteristics of satellite imagery and schedule of technical assistance since the equipment to be procured is closely related to technical assistance. Therefore, the operations are sure to be finished on time. In addition, since satellite imageries can only be procured in a limited period, it is required to manage the schedule carefully.

2-2-4-3 Scope of Works

(1) Scope of Works for Construction

a) Preparation of the candidate site of the FRIC construction

At the Programme site, there are a series of the existing FIPD facilities. There are no obstacles to own and use the site for the FRIC construction. However, because there are shading nets and fences used by the tree nursery at the FRIC construction site, the Lao side shall be responsible for their removal. Besides, the Lao side shall also be responsible to remove some of the trees from the site.

b) Infrastructure

- Electric power

As for electric power supply to FRIC, the FRIC owner shall submit its application forms to an electric company. There are no charges for the application. It generally takes 1 to 2 weeks from the time of application to the commencement of service. The Lao side shall be responsible wiring works from main electric lines to a newly installed transformer at FRIC.

- Water supply

The FRIC owner shall submit a series of application forms for water supply to a water supply company. There are no charges for the application. It generally takes 10 to 20 days from the time of application to the commencement of service. At the Programme site, water supply lines are already laid down, and the Programme shall include their extending works. The water supply company shall be responsible for the connection to the main water lines and installation of water meters. The Lao side shall not be responsible any other works for water supply to FRIC.

- Drainage

The FRIC owner shall submit a series of application forms for drainage to Vientiane city's Urban Development and Administration Authority. There are no charges for the application. It generally takes 1 to 2 weeks from the time of application to the commencement of service.

- Telephone

The FRIC owner shall submit a series of application forms for telephone to a telephone company. There are no charges for the application. It generally takes 7 to 10 days from the time of application to the commencement of service. The Lao side shall be responsible for the wiring work from the main telephone lines outside to the telephone terminals of FRIC.

c) Furniture and equipment

The Programme shall include the arrangements of chairs and tables for computers, and it shall also include these for the Multipurpose Room to be designed in FRIC by the Programme. On the other hand, the Lao side shall be responsible for ordinary furniture and equipment such as chairs, tables and bookshelves for FRIC. Moreover, the Lao side shall also be responsible for the installation of blinds and curtains necessary for shutting out direct sun rays to ensure adequate working conditions in the Computer Room and Administration Rooms to be arranged in FRIC by the Programme.

Table 2-50 Scope of Works by Japanese and Lao Sides (Construction)

Work	Japanese side	Lao side
1. Securing of the Programme site		○
2. Removal of the existing facilities and trees at the Programme site, and leveling of the site		○
3. Installations of gates and fences at the Programme site, and planting at the site		○
4. Arrangement of parking areas	○	
5. Arrangement of access roads inside the Programme site	○	
6. Construction of FRIC	○	
7. Infrastructure		
(1) Electric power		
Receiving from main lines outside the Programme site to a transformer to be installed in the Programme site		○
Installation of a transformer at the Programme site, arrangements of truck lines, lightings / outlets, emergency power supply	○	
(2) Water supply		
Piping works inside the Programme site and FRIC, water supply system	○	
(3) Drainage		
Sanitary system, piping works inside the Programme site and FRIC, installation of a septic tank, connection works to main pipes	○	
(4) Telephone line		
Wiring work from main telephone lines to panels to be installed inside FRIC		○

Work	Japanese side	Lao side
Wiring work inside FRIC	○	
8. Furniture and equipment		
(1) Ordinary furniture and equipment		○
(2) Tables and chairs for Multipurpose Room and Computer Room to be arranged in FRIC by the Programme	○	
9. Application		
(1) Application for construction permits		○
(2) Application for use of infrastructure such as electric power		○

(2) Scope of Works for Equipment Procurement and Installation

a) Equipment Delivery to the Destination

Equipment to be procured in the Programme shall be delivered to FRIC. This delivery is implemented by Japanese side.

b) Equipment Installation

Installation of the equipment is not scheduled in the Programme.

c) Scope of Works

Scope of works is shown below.

Table 2-51 Scope of Works by Japanese and Lao Sides (Equipment)

Work	Japanese side	Lao side
1. Equipment		
Equipment procurement	○	
Securement of power supply for equipment operation		○
2. Securement of the space for the equipment		○
3. Delivery of the equipment		
Delivery to the destination	○	
Prompt processing of customs clearance and other procedures		○
Tax exemption		○
Acquisition of permission to import the equipment		○
4. Banking and issue of A/P		○
Implementation of banking		○
Issue of A/P		○
Expense for the procedure above		○
5. Expense and procedure for the related people of the Programme to enter, exit and stay in the country		○
6. Other necessary procedures for the Programme		○

Work	Japanese side	Lao side
7. Other necessary expenses for the Programme and its related works		○
8. Tendering		
Producing the tender documents	○	
Consulting works for tendering and procurement supervision	○	
9. Implementation of receiving inspection of the equipment		
Implementation of equipment inspection	○	
Presence for the equipment inspection	○	○

2-2-4-4 Consultant Supervision

(1) Construction Supervision

a) Basic concept

The consultant shall supervise the contractors in order to execute contracts concerning the Programme adequately and smoothly. The consultant supervision for the Programme shall aim to supervise whether or not the construction and the procurement are being implemented correctly, while ensuring a level of quality prescribed in documents such as specifications and design drawings in the contracts of the Programme. It shall also confirm whether or not qualities, standards and actual concrete shapes are different from those prescribed in the contracts of the Programme. In addition to this, it shall also supervise whether or not the contractors are to control and store documents concerning their working records such as quality control data, photos and equipment procurement adequately.

Since the Programme shall be an integrated assistance including facility constructing, equipment procuring and technical assisting works, it shall be important to complete each work within the prescribed schedules in accordance with each of their operation plans in order for the observance of the whole schedule of the Programme. Moreover, it shall also be important to always grasp the working progress of items to be borne by the Lao side that are vital to the smooth progress of the whole schedule.

b) Consultant Supervision Plan

- Schedule supervision

The consultant shall compare the implementation progress of the contractors to be planned at the time of their contracts with those to be carried out actually in order for the observance of deadlines prescribed in the contracts signed by the contractors of the Programme. The consultant shall encourage the contractor to keep the schedule strictly and request the contractor to submit proposed measures and their implementation against the issue, when the delay of the schedule is predicted, in order that the construction and equipment delivery can be completed on time.

- Quality and actual shape controls

The consultant shall supervise whether or not FRIC to be constructed by the Programme and its construction materials are to meet their quality and actual shapes required by the contract documents. If the consultant finds any issues with the quality or faults in the contractor's workmanship in the process of their confirming and inspecting work, the consultant shall require the contractors to correct, change and modify them immediately.

- Safety control

By discussing and cooperating with the responsible persons of the contractors for safety control, the consultant shall supervise the contractors to prevent from industrial accidents, injuries and accidents to third persons at the Programme site during the implementation term. Important points for the safety control at the site shall be as follows:

- ① Formulation of safety control regulations and selection of responsible persons for safety controls
- ② Avoidance of accidents by the regular inspections of construction machines
- ③ Formulation of the operational routes of vehicles for construction and transporting machines and thoroughness in their safely driving
- ④ Setting of facilities and equipment for safety controls and their regular checks
- ⑤ Welfare measures for construction workers and encouragement to take days off

- Installations of equipment and operational training

Considering the concerns of FRIC and equipment to be procured by the Programme, the consultant shall confirm whether or not FRIC is to be constructed affordably by the time of the equipment installation. Furthermore, the consultant shall also confirm matters such as temporary and safe storage of the equipment because some of it is likely to be supplied before the completion of the FRIC construction.

- Dispatching of the consultant

As regards the consultant supervision of the Programme, the consultant shall assign an architectural engineer who has experienced construction supervising works abroad. The consultant shall also dispatch the engineer properly in accordance with the capacities and contents of the FRIC construction work of the Programme as described in the following table.

Table 2-52 Dispatching of the consultant

Dispatched engineer	Working Contents	Dispatching term
Programme manager	Supervision of the whole Programme, etc.	Commencement and Completion of the Programme implementation

Dispatched engineer	Working Contents	Dispatching term
Stationed supervisor	Supervision of the whole construction work, negotiation and consultation with organizations concerned with the Programme, confirmations of design drawings and specifications concerned with the Programme	During the Programme implementation
Structure	Supervision of foundation, structure and steel works, etc.	When necessary
Mechanical and electric systems	Supervision of sanitary systems / piping, electric systems / wiring, air conditioning works	When necessary
Equipment	Confirmation of equipment installations, operational manuals, etc.	When necessary

(2) Equipment Procurement Supervision

The equipment procurement is implemented by the procurement agent, the consultant and the contractor which made a contract with the procurement agent. The satellite imageries, however, shall be procured by the procurement agent and the consultant. The dispatching of personnel is shown below.

Table 2-53 Dispatching of the personnel

Organization	Engineer	Working contents	Term
Procurement agent	Procurement supervisor	Procurement supervision, inspection	When necessary
Consultant	Inspector	Equipment inspection	When necessary
	Procurement supervisor	Procurement supervision, inspection	When necessary
Contractor	Procurement supervisor	Procurement supervision, inspection	When necessary

2-2-4-5 Quality Control Plan

Vientiane city has high temperatures all year round, but its buildings are not generally treated with hot-whether concrete. However, when concrete temperatures are high, there is a possibility of increased risk of slump declines, cold joint and cracks by rapid vaporizations of surface moistures on the concrete. Accordingly, the Programme shall need to reduce the temperatures of the concrete by considering the methods of their in-site transporting, placing and curing works. To examine concrete quality, the Programme shall carry out the compressive test of concrete and the grading test for fine aggregate by means of the method of American Society for Testing and Materials (hereinafter referred to as “ASTM”) at public institutions in Vientiane city.

In terms of reinforcing bars, the Programme shall carry out their quality controls by confirming their inspection certificates. As for the tensile strength test of reinforcing bars, the Programme shall carry out the

test at public institutions by means of the method of ASTM.

To ensure the implementation quality of the FRIC construction, the Programme shall need the following quality controls in terms of the major works of the FRIC construction.

Table 2-54 Items of Quality Controls and Methods of Major Works

Work	Item of Quality Control	Method of Quality Control
Temporary work	Locations of FRIC, temporary facilities, etc.	Staking out inspection, confirmation of benchmark
Earth work	Excavation	Confirmation of bearing stratum
Foundation work	Precast concrete pile	Confirmations of piling location and bearing stratum
Reinforcing-rebar work	Rebar material	Tensile strength test, confirmation of inspection certificate
	Rebar arrangement	Confirmations of diameter, number of rebar, binding, etc.
Concrete work	Fresh concrete	Confirmations of slump, air content, temperature, etc.
	Concrete placement	Confirmation of placing situation
	Form	Visual inspection of forming
	Concrete strength	Confirmation of compressive strength test
Steel work	Steel material	Confirmation of inspection certificate
	Frame erecting	Inspections of assembling order and erecting accuracy
Roofing work	Distribution / joint method, water leak	Visual inspection, sprinkling inspection
Tile work	Distribution, dimension, location, etc.	Visual inspection
Carpenter's work	Backing, joint method	Visual inspection of finishing
Plaster work	Flatness, unevenness	Visual inspection of finishing
Door and window work	Installation	Visual inspection
Painting work	Surface finishing, color	Visual inspection
Transforming system work	Performance, operation	Confirmation of factory inspection result, operation test
Piping work	Twist, support pitch	Visual inspection
Wiring work	Damage	Measurement of Resistance value, visual inspection
Lightning rod work	Resistance value	Measurement of Resistance value, visual inspection
Lighting work	Performance, operation	Visual inspection
Water supply piping work	Support pitch, water leak	Water pressure test, visual inspection
Drainage piping work	Support pitch, water leak, piping grade	Water passing test, visual inspection
Air conditioning work	Performance, operation	Operation test
Sanitary system work	Operation, water leak	Water passing test, visual inspection

2-2-4-6 Procurement Plan

(1) Procurement Method

The equipment and materials used for the FRIC construction in the Programme except for wooden materials and concrete will be procured from Thailand. These import goods, however, are prevalent, and thus easily procured in Laos. In addition, the equipment in the Programme can be procured from agents in Laos, except for satellite imagery. The equipment will be procured from local agents or companies contracted to local agents to guarantee after service.

(2) Spare parts and Consumable Goods for the Equipment

Consumable goods for the plotter and the printer will be procured in the Programme. Both consumable goods and spare parts for other equipment, however, will not be procured.

2-2-4-7 Operational Guidance Plan

It is not planned to conduct operational guidance in the Programme.

2-2-4-8 Technical Assistance Plan

It is still undetermined whether or not REDD is to be institutionalized and by what methodologies it is to be. If it is credited, it is necessary to develop reliable and objective data at its basic years. However, the fact is that FIPD has not been able to implement forest inventory surveys at the national level since its surveys carried out with the assistance of SIDA in 2002. Besides, it cannot also ensure the quality of the developed data to meet the present tendencies of the REDD arguments. It cannot also control the whereabouts and the detailed information of the developed data.

The Programme shall be a grant aid cooperation with necessary facility constructions and equipment procurements for the REDD implementation. From the situations above, however, because FIPD does not have sufficient experiences of field surveys and data developments at the national level, it is anticipated that it shall be difficult for FIPD to work for nation-wide data developments to tolerate the REDD implementing and monitoring works. Thus, the Lao side shall not be able to develop reliable data at the national level, and shall not receive credit. And eventually, it may lose out on foreign investment opportunities.

Even if REDD is not institutionalized, the development of forest basic data at the national level is useful to grasp forest reduction areas and to formulate afforestation plans, and it greatly contributes to the forest conservation and controls of Laos. Without regard to whether or not REDD is implemented, FIPD should continuously implement the developments by itself after the completion of the Programme implementation.

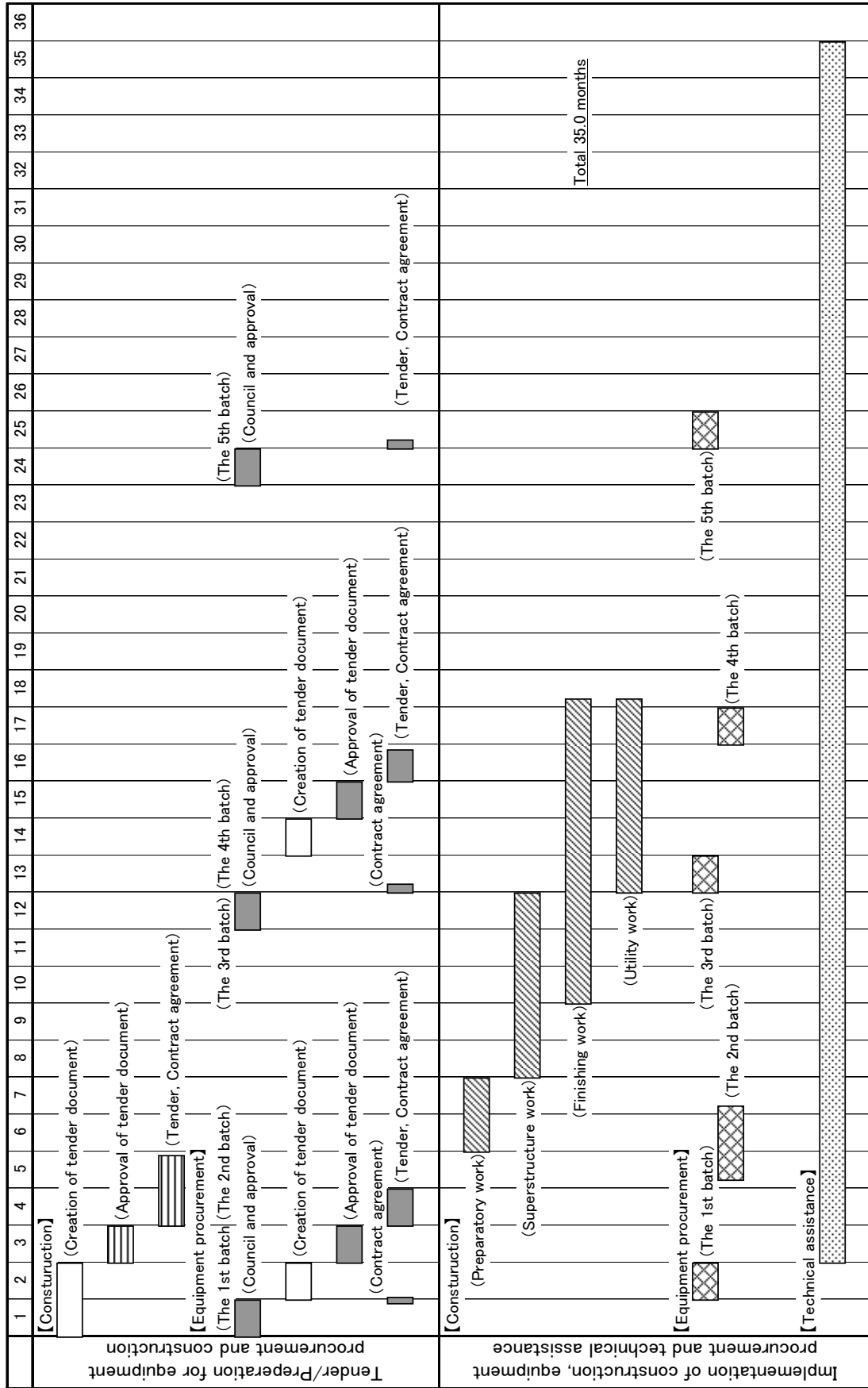
From the circumstances above, the technical assistance of the Programme is necessary for the REDD

implementation and forest conservation/controls of Laos with facilities and equipment materials to be provided by the grant aid.

2-2-4-9 Implementation Schedule

The implementation schedule of the Programme is shown in the next page.

Table 2-55 Implementation schedule



2-3 Obligations of Recipient Country

2-3-1 Specific Items for this Programme

The following special items are required to be undertaken by the Lao side when carrying out the Programme.

- 1) To secure salary for personnel who will be assigned to the Programme
- 2) Preparation of the land, removal of fences and other preparatory construction related to the Programme
- 3) To acquire the information on unexploded ordnance (hereinafter referred to as “UXO”) in the site and secure the safety of construction work
- 4) To bring in telephone lines, power lines and LAN to FRIC
- 5) To attend the beginning, mid term and completion of the construction and equipment inspection
- 6) To attend equipment and materials inspection
- 7) To secure the space for the newly procured equipment
- 8) To strengthen the monitoring system for operation and maintenance for the new office and equipment
- 9) To secure and dispatch the personnel for the technical assistance
- 10) To proceed and pay the necessary banking fees of the Programme

2-3-2 General Items

In the implementation of Japan’s Programme Grant Aid Scheme, the recipient country is required to undertake certain measures as follows:

- 1) To ensure prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid.
- 2) To exempt from customs duties, internal taxes and other fiscal levies, this will be imposed in the recipient country with respect to the supply of the products and services under the verified contracts.
- 3) To accord the agent whose services may be required in connection with the supply of the products and services under the verified contracts, such facilities that may be necessary for their entry into the recipient country and stay therein for the performance of the work
- 4) The recipient country is required to operate and maintain the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance as well as to bear all the expenses other than those converted by the Grant Aid.
- 5) The products purchased under the Grant Aid should not be re-exported from the recipient country.

2-3-3 Committee

Consultative Committee (hereinafter referred to as “Committee”) is required to be held to deal with problems, modification of the Programme and any other issues related to the Programme as a decision-making body. The following is an outline of the committee:

- 1) The committee shall handle with the issues of the Programme.
- 2) The committee is chaired by the representative of the recipient country, and consists of representatives of the government of recipient country and JICA.
- 3) The representative of the procurement agent participates in the committee as an advisor.
- 4) The committee is held when the government of recipient country or JICA requires it.

2-4 Programme Operation Plan

2-4-1 Basic Policy

The operation and maintenance cost of the facilities and equipment provided as part of this Programme will be covered by the budget of the Forestry Department, Ministry of Agriculture.

2-4-2 Operation and Maintenance Structure

An estimate of new operation and maintenance costs for the facilities and equipment provided as part of this Programme is detailed in Table 2-56 in the next chapter. However, because the facilities constructed are equivalent to the existing facilities, it is thought that no further operation and maintenance costs will be incurred. The operation and maintenance costs of the facility and equipment of this Programme are both small; and as the main equipment is procured from local suppliers and are of common specifications, they are technically straightforward.

Further, the period of these costs is for 20 years from the procurement for this cooperation Programme.

2-5 Programme Cost Estimation

2-5-1 Initial Cost Estimation

This cost estimate is provisional and would be further examined by the Government of Japan for the approval of the Grant. A breakdown of cost based the aforementioned obligations of each country is estimated as follows:

2-5-1-1 Obligation of Lao Side

Obligation of the Lao Side		176,520,000 KIP (Approx. 1.98 million Yen)
Obligation	Cost (KIP)	
Site ground leveling, fence removal, etc.	20,160,000	
Making fence (including gate)	67,200,000	
Connecting electricity	12,600,000	
Connecting telephone lines	1,260,000	
Connecting LAN	2,100,000	
Bank fees	4,200,000	
Furniture (chairs, desks, booklets etc.) procurement	69,000,000	
Total	176,520,000	

2-5-1-2 Condition of Cost Estimation

(1) Time of Cost Estimation

The Programme cost was estimated in October 2009 when the field survey of the preparatory survey was completed.

(2) Exchange Rate

The Programme cost was calculated using average rate in six months from April 1, 2009 to September 30, 2009.

Currency	Yen/Currency
USD	96.54
EURO	134.71
KIP	0.0112
THB	2.86

(3) Schedule

Schedule is shown in the implementation schedule in chapter 2-2-4-9.

(4) Others

Programme cost was estimated according to the Guideline of Japanese Grant Aid.

2-5-2 Operation and Maintenance Cost

The operation and maintenance cost for the new equipment is estimated 22,940,290 KIP as electrical bill for such office machines as PC and printer and 6,282,846 KIP as maintenance and fuel cost for vehicles, for the year 29,223,136 KIP in total. The following shows the cost of operation and Maintenance for the Programme.

Table 2-56 List of operation and maintenance cost

Item No.	Name	Q'ty unit	Power kw/unit	Operation days days/year	Operatio n hours hours/day	unit price kip/kwh	Sub total kip/unit year	Total kip/year	Total Yen/year
A-1	Desktop PC (A)	6	0.450	240	8	773	667,872	4,007,232	44,881
	Monitor	6	0.025	240	8	773	37,104	222,624	2,493
A-2	Desktop PC (B)	6	0.450	240	8	773	667,872	4,007,232	44,881
	Monitor	6	0.025	240	8	773	37,104	222,624	2,493
A-3	Data Server (A)	1	0.570	240	8	773	845,971	845,971	9,475
	Monitor	1	0.025	240	8	773	37,104	37,104	416
A-4	Data Server (B)	2	0.570	365	24	773	3,859,744	7,719,487	86,458
A-5	Laptop	18	0.090	240	8	773	133,574	2,404,339	26,929
A-14	Plotter(operating)	1	0.080	240	2	773	29,683	29,683	332
	Plotter(waiting)	1	0.016	240	6	773	17,810	17,810	199
A-15	Scanner(operating)	1	0.075	240	2	773	27,828	27,828	312
	Scanner(waiting)	1	0.025	240	6	773	27,828	27,828	312
A-16	Printer(operating)	1	0.576	240	4	773	427,438	427,438	4,787
	Printer(waiting)	1	0.146	240	4	773	108,344	108,344	1,213
A-17	Projector set	1	0.256	120	8	773	189,972	189,972	2,128
A-18	Microphone set	1	0.150	120	8	773	111,312	111,312	1,247
B-2	Planimeter	6	0.003	48	10	773	1,113	6,679	75
B-4	GPS device	18	0.100	120	8	773	74,208	1,335,744	14,960
B-6	Transceiver	12	0.007	120	10	773	6,493	77,918	873
B-8	Digital Camera	6	0.250	120	8	773	185,520	1,113,120	12,467
B-9	Vehicle	6		240			1,047,141	6,282,846	70,368
Total								29,223,136	327,299

The operation and maintenance costs account for 2.17% of the Forestry Department's budget, so it is judged that it will be able to secure additional budget and that sufficient operation and maintenance can be implemented. Moreover, Laos completed an application for a REDD initial preparatory fund to the World Bank in May 2009. The application amount is 200,000 USD. And, as part of this budget is planned to be allocated for these operation and maintenance costs, it is considered that the operation and maintenance for

this cooperation programme will certainly be implemented.

2-6 Considerations for implementing the Programme

(1) Customs clearance, tax exemption and approval of entrance into a country and stay

Although the equipment procured under the Programme Grants Aid scheme is exempted from taxation, a procurement schedule may be substantially delayed due to the custom clearance or tax exemption procedure. It is necessary to take care so that these procedures may be carried out promptly and implementation schedule may not be affected.

(2) Acquisition of information on UXO in the construction site and securing the safety of construction work

Although the possibility is extremely low, there may be UXOs in the construction site. The construction work includes piling, therefore the information on UXOs in the site must be acquired beforehand to secure the safety of construction work. In addition, if UXOs are found in the site, they must be removed promptly by the Lao side so that the construction work doesn't have to be stopped.

(3) To secure the space for equipment and equipment inspection

All equipment to be procured in this Programme is delivered to FIPD / FRIC in Vientiane and inspected. Therefore, it is necessary to make enough space for them in the facilities beforehand.

(4) Tax exemption (especially Value Added Tax "VAT")

This Programme is carried out based on Japan's Grant Aid scheme. Therefore, any tax in Laos must be exempted by Lao Side. Especially Value Added Tax (hereinafter referred to as "VAT"), which was newly introduced in Laos on January 2010, has no established system to be exempted to date. It is required to be careful about the moves of VAT continuously so that the Programme schedule is not affected.

(5) Preparation for technical assistance

It is integral to adjust the schedule of staff of MAF and related personnel who participate in technical assistance so that technical assistance can be carried out smoothly.

*Chapter 3 Programme Evaluation and
Recommendations*

Chapter 3 Programme Evaluation and Recommendations

3-1 Programme Effect

The implementation of the Programme is expected to have the following effects:

Table 3-1 Programme Effect

Current condition and problems	Programme actions / countermeasures	Direct effects and degree of improvement	Indirect effects and degree of improvement
To promote forest conservation, it is initially essential to arrange highly accurate forest resource information by satellite imagery analyses, etc. In Laos, FIPD takes charge of forest resource information controls. However, its equipment, such as computers, concerned with satellite imagery analyses was introduced in the late 1990s, and so, its processing capacity and storage volumes cannot work for appropriate analyses and controls of REDD related data.	Procurement of equipment for satellite imagery analysis and database construction (satellite images, GIS / imagery analysis software, PC etc.), and equipment for sampling site survey (compass, planimeter, vehicle for field survey etc.)	-Analysis of forest resource information and field survey can be implemented with satellite images and computers. -The data acquired in the above activity can be managed properly.	The forest resources information for REDD can be organized using several satellite imageries and the result of field survey, then it contributes to the promotion of forest protection in Laos.
The building facilities of FIPD were constructed in the 1970s, and they have now become decrepit.	Construction of new facilities of FRIC	-Precision and expensive equipment can be kept safe. -Staff can work properly and effectively with network system.	
FIPD has not been able to implement forest inventory surveys at the national level since its surveys carried out with the assistance of SIDA in 2002. Besides, it cannot also ensure the quality of the developed data to meet the present tendencies of the REDD arguments. It cannot also control the whereabouts and the detailed information of the developed data.	Implementation of technical assistance for data organization, data analysis and field survey	-Nation wide forest base map is created -Forest inventory data can be well organized. -Techniques such as satellite imagery analysis can be learnt.	

3-2 Recommendations

3-2-1 Issues to be Solved by the Recipient Country and Recommendations

(1) To Secure the Budget and Personnel Steadily

It is important to secure enough budget and personnel for sustainable operation and maintenance of the facilities and the equipment. Therefore, it is recommended the government of Laos should take budget and assign staff properly for the future continuously.

(2) To Acquire the Information on Climate Change and Forest Resources in Laos

Facilities to be constructed and equipment to be procured in this Programme are to contribute to improvement of forest resources information in Laos. Although the priority is to acquire the current and precise information on forest resources with the facilities and the equipment, it is quite important to predict direct and indirect impact to forest resources from the situation of climate change into the future for promotion of forest protection in Laos. Therefore, it is recommended to pay attention to the information related to the forest resources.

3-2-2 Technical Cooperation and Partnership with Other Donors

(1) Forest Resource Survey Design

SUFORD has formulated the design of nation wide forest resource survey and technical assistance plan. Their implementation on a nation wide, however, has not been backed up on a budget, and it is planned only in a part of province. In addition, its design and plan contain a lot of surveys to create a model of biomass amount estimation. The data to be used is from the past results of forest inventory survey on nation wide. FIPD has not implemented the survey nation wide at this moment, and they just support field survey required to the pilot project by other donors.

This Programme includes technical assistance and field survey to make nation wide forest base map in consideration of time (beginning, ending, required time), resources (personnel, materials, money), scope and quality referred to the design of SUFORD. The items of the survey are tree species, height, diameter and density, and do not contain biomass. The data to be used is satellite image taken in 2005.

(2) Database Construction

SUFORD is currently designing a database including data collection and data management, and now they are under discussion to be concretized. The design of database is completed until July 2010. The construction of database, however, has not been backed up on a budget, and it is not discussed adequately to deal with a lot of satellite images. Relevant technical assistance is also planned and it contains advanced techniques such as the use of open source databases, database language and aircraft lasers.

This Programme implements the construction of basic database and technical assistance in FIPD, which are consistent with the overall design of SUFORD. Especially, it is required to work on effective management of a lot of satellite images, exchange of data to and from overall database, and its related technical assistance by the continuous adjustment with SUFORD.

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A1 Member List of the Study Team

A1. Member List of the Study Team

1) Outline Design Study

September 6, 2009 – September 16, 2009

	Name	Job title	Organization
1	Mr. Hiroto MITSUGI	Team leader	Japan International Cooperation Agency
2	Ms. Kaori MIYAZAKI	Planning management	Japan International Cooperation Agency
3	Mr. Hideto YAMAZAKI	Chief consultant /Operation and maintenance plan	Kokusai Kogyo Co., Ltd.

September 28, 2009 – October 27, 2009

	Name	Job title	Organization
1	Mr. Hideto YAMAZAKI	Chief consultant /Operation and maintenance planning	Kokusai Kogyo Co., Ltd.
2	Mr. Shiro MITSUNO	Construction and supply management / Cost Estimation	Kokusai Kogyo Co., Ltd.
3	Mr. Yukio KATAYANAGI	Equipment and facility planning	Kokusai Kogyo Co., Ltd.
4	Mr. Masamichi HARAGUCHI	Forestry resources survey / Human resources development	Kokusai Kogyo Co., Ltd.
5	Mr. Minoru FUJII	Operation system / Fund application	Kokusai Kogyo Co., Ltd.

2) Explanation of Draft Outline Design Report

January 22, 2010 – January 31, 2010

	Name	Job title	Organization
1	Mr. Hiroto MITSUGI	Team leader	Japan International Cooperation Agency
2	Mr. Hideto YAMAZAKI	Chief consultant /Operation and maintenance planning	Kokusai Kogyo Co., Ltd.
3	Mr. Shiro MITSUNO	Construction and supply management / Cost Estimation	Kokusai Kogyo Co., Ltd.
4	Mr. Yukio KATAYANAGI	Equipment and facility planning	Kokusai Kogyo Co., Ltd.
5	Mr. Masamichi HARAGUCHI	Forestry resources survey / Human resources development	Kokusai Kogyo Co., Ltd.

A2 Study Schedule

A2. Study Schedule

1) Outline Design Study

The study schedule is shown below.

September 6, 2009 – September 16, 2009

No.	Date	Day	JICA		Consultant
			Team leader (Mr. MITSUGI)	Planning management (Ms. MIYAZAKI)	Chief consultant /Operation and maintenance plan (Mr. YAMAZAKI)
1	6-Sep	Sun		NRT→BKK→VTN	
2	7-Sep	Mon		-Meeting with the experts of related projects -Hearing from Remote Sencing Center -Hearing from National university	
3	8-Sep	Tue			
4	9-Sep	Wed	NRT→BKK		
5	10-Sep	Thu	BKK→VTN, EOJ, JICA	EOJ, JICA	
6	11-Sep	Fri	Courtesy call to MAF		
7	12-Sep	Sat	Visit to AFTC		
8	13-Sep	Sun	Data Compilation		→VTN
9	14-Sep	Mon	Discussion of Minutes, conference with other donors		
10	15-Sep	Tue	Signing Minutes, EOJ, JICA, VTN→BKK		
11	16-Sep	Wed	BKK→NRT		

September 28, 2009 – Octobre 27, 2009

No.	Date	Day	Consultant			
			Chief consultant /Operation and maintenance plan (Mr. YAMAZAKI)	Construction and supply management / Cost Estimation (Mr. MITSUNO)	Equipment and facility planning (Mr. KATAYANAGI)	Forestry resources survey / Human resources development (Mr. HARAGUCHI)
1	28-Sep	Mon	NRT→BKK→VTN			
2	29-Sep	Tue	Courtesy call to and meeting with JICA, MAF and DOF			
3	30-Sep	Wed	Meeting with MAF and DOF			
4	1-Oct	Thu	Confirmation of the construction site		Confirmation of the existing equipment	Confirmation of existing activities
5	2-Oct	Fri	Confirmation of the framework for the Programme implementation of Lao side			
6	3-Oct	Sat	Meeting with the team		Confirmation of the existing facilities	Meeting with the team
7	4-Oct	Sun	Data compilation	Market research	Natural condition research, making spec	Data compilation
8	5-Oct	Mon	Research of operation and maintenance structure	Research of procurement condition	Natural condition research, preparation of the contract	Confirmation of aid from other donors

A2 Study Schedule

No.	Date	Day	Consultant				
			Chief consultant /Operation and maintenance plan (Mr. YAMAZAKI)	Construction and supply management / Cost Estimation (Mr. MITSUNO)	Equipment and facility planning (Mr. KATAYANAGI)	Forestry resources survey / Human resources development (Mr. HARAGUCHI)	Operation system / Fund application (Mr. FUJII)
9	6-Oct	Tue	Research of operation and maintenance structure	Research of procurement condition	Natural condition research, preparation of the contract	Confirmation of aid from other donors	
10	7-Oct	Wed	Research of operation and maintenance structure	Research of procurement condition	Facility planning design	Research for technical assistance planning	Research of operation and maintenance structure
11	8-Oct	Thu	Research of operation and maintenance structure	Research of procurement condition	Facility planning design	Research for technical assistance planning	Research of operation and maintenance structure
12	9-Oct	Fri	Research of operation and maintenance structure	Research of procurement condition	Facility planning design	Research for technical assistance planning	Research of operation and maintenance structure
13	10-Oct	Sat	Data compilation	Market research	Data compilation		
14	11-Oct	Sun	Meeting with the team				
15	12-Oct	Mon	Research of operation and maintenance structure	Collection of quotation	Facility planning design	Research for technical assistance planning	Research for foundation
16	13-Oct	Tue	Research of operation and maintenance structure	Collection of quotation	Research for construction planning	Research for technical assistance planning	Research for foundation
17	14-Oct	Wed	Research of operation and maintenance structure	Collection of quotation	Research for construction planning	Research for technical assistance planning	Research for foundation
18	15-Oct	Thu	Research for equipment planning	Collection of quotation	Research for equipment planning		Research for foundation
19	16-Oct	Fri	Research for equipment planning	Collection of quotation	Research for equipment planning		Research for foundation
20	17-Oct	Sat	Data compilation	Market research	Data compilation		
21	18-Oct	Sun	Meeting with the team				
22	19-Oct	Mon	Reserch of Lao side obligations	Research of procurement condition	Research for construction planning		Reserch of Lao side obligations
23	20-Oct	Tue	Reserch of Lao side obligations		Research for construction planning		Reserch of Lao side obligations
24	21-Oct	Wed	Operation and maintenance structure planning		Confirmation of research results of natural conditions	Operation and maintenance structure planning	
25	22-Oct	Thu	Preparation of the document for explanation				
26	23-Oct	Fri	Explanation and discussion the study results with Lao side				
27	24-Oct	Sat	Meeting with the team				
28	25-Oct	Sun	Data compilation				
29	26-Oct	Mon	Report the study results to relevant organizations, VTN→BKK				
30	27-Oct	Tue	BKK→NRT				

2) Explanation of Draft Outline Design Report

September 28, 2009 – October 27, 2009

No.	Date	Day	JICA	Consultant				JICS
			Team Leader (Mr. MITSUGI)	Chief consultant /Operation and maintenance plan (Mr. YAMAZAKI)	Construction and supply management / Cost Estimation (Mr. MITSUNO)	Equipment and facility planning (Mr. KATAYANAGI)	Forestry resources survey / Human resources development (Mr. HARAGUCHI)	Procurement Agent (Mr. Oomoto)
1	22-Jan	Fri		NRT→BKK→VTN				
2	23-Jan	Sat		Collection of information, meeting with other donors, confirmation of spec				
3	24-Jan	Sun		Collection of information, market research, confirmation of spec				
4	25-Jan	Mon		Courtesy call to EOJ, JICA, MAF, DOF				
5	26-Jan	Tue	→VTN	Discussion of Minutes, meeting with other donors, market research				
6	27-Jan	Wed		Discussion of Minutes				
7	28-Jan	Thu		Discussion of Minutes				
8	29-Jan	Fri	Signing of Minutes, VTN→BKK	Signing of Minutes				
9	30-Jan	Sat	BKK→NRT	VTN→BKK				
10	31-Jan	Sun		BKK→NRT				

*A3 List of Parties Concerned in the
Recipient Country*

A3. List of Parties Concerned in the Recipient Country

(1) Lao side

1) Ministry of Agriculture and Forestry (MAF)

Silavanh SAWATHVONG	Director General, Department of Forestry
Khamphay MANIVONG	Deputy Director General, Department of Forestry
Oupakone ALSOUSAVATH	Director, Planning Division, Department of Forestry
Somchay SANONTY	Director, Forest Inventory and Planning Division, Department of Forestry
Vivanh KOMMAMUANG	Head of Financial Unit, Department of Forestry
Thoupkun ONBOUTA	Head of Administration Section, Forest Inventory and Planning Division, Department of Forestry
Khamsene OUNEKHAM	REDD Task Force member (secretariat), Department of Forestry
Somvang PHIMMASONE	Head of Administration Division, Department of Forestry
Soukanh BOUNTHABANDID	Head of Mapping & Land Use Planning Sector, Forest Inventory and Planning Division, Department of Forestry
Bunmisay KOANGMANIVANH	Head of Administration Division, National Agriculture and Forestry Extension Service
Thatheva SAPHANGTHONG	Director: Center for Statistics and Information Coordinator for IWM Unit
Vivanh SOUVANNAMETHY	Deputy Director: Center for Statistics and Information
Paulo N. PASICOLAN	Watershed Management Planning Specialist
Alounxay ONTA	Geographic Information System Specialist
Boukong PHOTISSANE	FAO Consultant, National Consultant Management Information System (MIS)

2) Environment Protection Fund (EPF)

Douangchanh LOPAYING	Executive Assistant
Bounphama PHOTHISANE	EPF PICE Window / LEnS Manager

3) Forestry and Forest Resource Development Fund (FRDF)

Lomkham SENGCHANOUDOM	Acting Director
--------------------------	-----------------

4) National Agriculture and Forestry Research Institute (NAFRI)

Horst WEYEHAEUSER	Research Management Adviser
Martin SCHEIBER	Expert GIS, Remote Sensing & Landuse Planning
Manuel BERTOMEU	Expert Natural Resource Management

A3 List of Parties Concerned in the Recipient Country

5) National Land Management Authority (NLMA)

Chanthaviphone Acting Director, Center for Research and Information for Land
INTHAVONG and Natural Resources
Ittiphonh Head of Land Information Division

6) National University of Laos, Faculty of Forestry

Sithong GIS, Remote Sensing
THONGMANIVONG
Kham la PHANVILAY GIS, Remote Sensing
Thoumthone GIS, Remote Sensing
VONGYISOUK

7) Sustainable Forestry and Rural Development Project (SUFORD)

Esa Chief Technical Adviser
PUUSTJARVI
Chris Forest Restoration and Management Adviser
DICKINSON
Bounpone Deputy National Project Coordinator
SENGTHONG
Phoukhong PHONGSA GIS-RS-Database National Consultant
Nguyen Hanh QUYEN Remote Sensing, GIS & Database from Vietnam
Dinh Ngoc DAT Remote Sensing, GIS & Database (Assistant)
Lauri VESA Database Engineer for National Forest Inventory

8) Water Resources and Environment Administration (WREA)

Virany Director of Remote Sensing Center, Water Resources and
SENGTIANTHR Environment Institute

(2) Japan side

1) Embassy of Japan in Laos

Masaaki MIYASHITA Ambassador
Takeshi NAKAMURA First secretary

2) JICA Laos Office

Hiroaki TAKASHIMA Chief Representative
Koichi TAKEI Senior Representative
Tadashi KOTANI Representative
Moriaki WATANABE Project Formulation Advisor
Mikio KURATA Procurement Group

3) Participatory Land and Forest Management Project for Reducing Deforestation

Kenichi TAKANO Chief Advisor
Takayuki NAMURA Forest Management
Miyuki ISHIKAWA Extension Promotion / Project Management

4) Forestry Strategy 2020 Implementation Promotion Project (FSIP)

Noriyoshi KITAMURA Chief Advisor
Noriko ISHITOBI Advisor

Jeffrey HIMEL Remote Sensing Advisor (International Consultant)
Shinichiro SUGIMOTO Consultant

(3) Others

1) Asian Institute of Technology (AIT)

Lal SAMARAKOON Director, Geoinformatics Center, School of Engineering and
Technology

2) KfW / GTZ

Lars SCHMIDT Consultant

3) Ministry for Foreign Affairs of Finland

Jussi VIITANEN Adviser (Forest Sector), Department for Development Policy

A4 Minutes of Discussions (M/D)

A4. Minutes of Discussions (M/D)


1) Signed M/D, September 15th, 2009

THE MINUTES OF DISCUSSIONS
THE PREPARATORY SURVEY ON
THE PROGRAM FOR FOREST INFORMATION MANAGEMENT
IN LAO P. D. R.

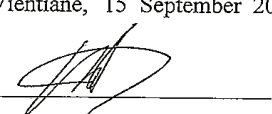
The government of Lao P.D.R. (hereinafter referred to as "GOL") and the Japan International Cooperation Agency (hereinafter referred to as "JICA") have made several preliminary discussions in order to identify priority Programmes in the field of forestry sector to make preparation for the Programme for Forest Information Management (hereinafter referred to as "the Programme").

JICA dispatched a Preparatory Survey Team for Outline Design on the Programme (hereinafter referred to as "the Team") to Lao P.D.R. from 6 September to 27 October. The Team held discussion with official concerned of GOL and conducted a field survey for the Programme. In the course of the first discussions both parties confirmed the main items described on the attached sheets. The Team will proceed with further works and prepare the Preparatory Survey Report for Outline Design.

Vientiane, 15 September 2009



Dr. Silavanh Sawathvong
Director General
Department of Forestry
Ministry of Agriculture and Forestry
(Lao P.D.R.)



Mr. Hiroto Mitsugi
Team Leader
Japan International Cooperation Agency
(Japan)

ATTACHMENT

1. Background

In response to an Answering Sheet of the Request Survey of Grant Aid Programme for Environment and Climate Change, type of Machinery and Material supplies, from the GOL which was submitted on 22 January 2009, the GOJ decided to conduct a Preparatory Survey for Outline Design on the Programme for Forest Information Management and entrusted the survey to the JICA.

2. Scheme of Programme

The Programme will be implemented with Japan's Program Grant Aid for Environment and Climate Change (hereinafter referred to as "GAEC").

3. Objective of the Programme

For the purpose of this scheme of addressing climate change issues effectively in a global scale, it is essential to assist developing countries that do not have enough capacity and financial resource, however are aiming to achieve both emissions reductions of greenhouse gases (GHGs) and economic growth in a compatible way. Through GAEC, as one of the measures of "Cool Earth Partnership severe adverse impact as a result of climate change (assistance for adaptation) and actively cooperates with their efforts to mitigate effects of global warming by reducing GHGs emission (assistance for mitigation).

Based on the above purpose, the objective of the Programme is to improve a system for forest information management through providing facility and equipments of forest inventory and capacity building for target staffs in order to contribute to mitigation of climate change.

3. Programme Site

The forest resources information center is located in Vientiane and is set up relevant equipments.

(The proposed construction site for the center is shown in Annex 1)

Technical assistance including capacity building is targeted at the personals of Department of Forestry.

4. Responsible Agency and Implementing Agency

a) The responsible agency is the Ministry of Agriculture and Forestry (hereinafter referred to as "MAF").

b) The implementing agency is the Department of Forestry (hereinafter referred to as "DOF")

The organization chart is shown in Annex 2.

5. Provisional content of the Programme

After discussion between the Lao side and the Team, the items described in Annex 3 were Provisional content of the Programme.

The both sides confirmed that the appropriateness of the requested items would be examined in accordance with the continued survey and analysis in Japan and the final components of the Programme would be decided by the Japanese side.

6. Scheme of Japan's Programme Grant Aid for Environment and Climate Change

The Government of Lao P.D.R. side understands the Japan's Programme Grant Aid for Environment and Climate Change and the necessary measures to be taken by the

Government of Lao P.D.R. as explained by the Team and described in Annex 4, 5 and 6.

a) Both parties confirmed that the Programme Consultative Committee (hereinafter referred to as "the Committee") will be established to help proper and smooth execution of the Program. The Program implementation arrangement is shown in Annex 7 and 8.

The members of the Committee are as follows:

- (1) DOF (Chair)
- (2) MAF
- (3) Representative of Embassy of Japan in Lao P.D.R.
- (4) Representative of JICA Laos

b) The first meeting of the Committee will be held immediately after the approval of the Agent Agreement by JICA, which shall be concluded between GOL and the Procurement Agent (hereinafter referred to as "the Agent"). The selection of the Agent will be agreed between two governments in the Agreed Minutes attached the Exchange of Notes. Further meeting will be held by the request of either the Lao P.D.R. side or the Japanese side.

7. Schedule of the Preparatory Survey for Outline Design (hereinafter referred to as "the Survey")

- a) The consultants will proceed to further studies in Lao P.D.R. until 27 October 2009.
- b) LOG will submit Application to GOJ.
- c) JICA will prepare the draft final report and dispatch a mission in order to explain its contents to Lao side in the middle of January 2010.
- d) Based on the results of discussions of the draft report, JICA will complete the final

report and send it to the GOL by the end of March 2010.

8. Other relevant issues

The following issues were discussed and agreed by the both sides.

- a) The Procurement Guidelines for the Program Grant Aid for Environment and Climate Change will be applied for procurement procedure of the Programme.
- b) The GOL will exempt the customs duties, internal taxes and other fiscal levies and conduct the necessary procedures.
- c) DOF will take every possible measure to ensure that the land where structures are planned to be constructed will be available and the structure will be used for the intended purposes during and after the Programme lifecycle.
- d) DOF will secure lands and conduct sustainable operation and maintenance of structures constructed in the Programme.
- e) DOF agreed to take any necessary measures and allocate necessary budget in order to operate and maintain the equipment to be procured under the Programme.
- f) As the equipment must be monitored periodically, DOF accepted to submit Annual Reports concerning condition and usage of the equipment to MAF and JICA.
- g) DOF will designate a Programme management team (with one permanent personnel) for implementation of the Programme.

BND

- Annex 1 Programme Site
- Annex 2 Organization Chart
- Annex 3 Provisional content of the Programme
- Annex 4 Overview of Programme Grant Aid for Environment and Climate Change
- Annex 5 Flow of funds for implementation under the Grant Aid for Environment and Climate Change
- Annex 6 Major Undertaking to be taken by Each Government
- Annex 7 Chart of Program implementation organization under the Programme Grant Aid for Environment and Climate Change
- Annex 8 Consultative Committee

Annex 1 Programme Site

Figure: Map of Lao P.D.R.

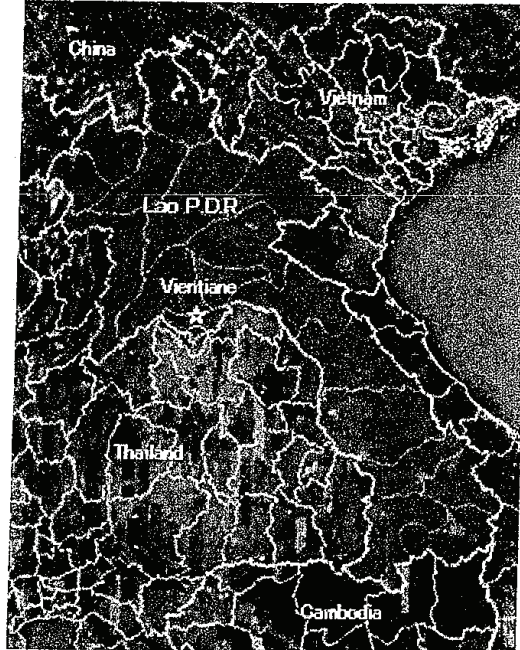
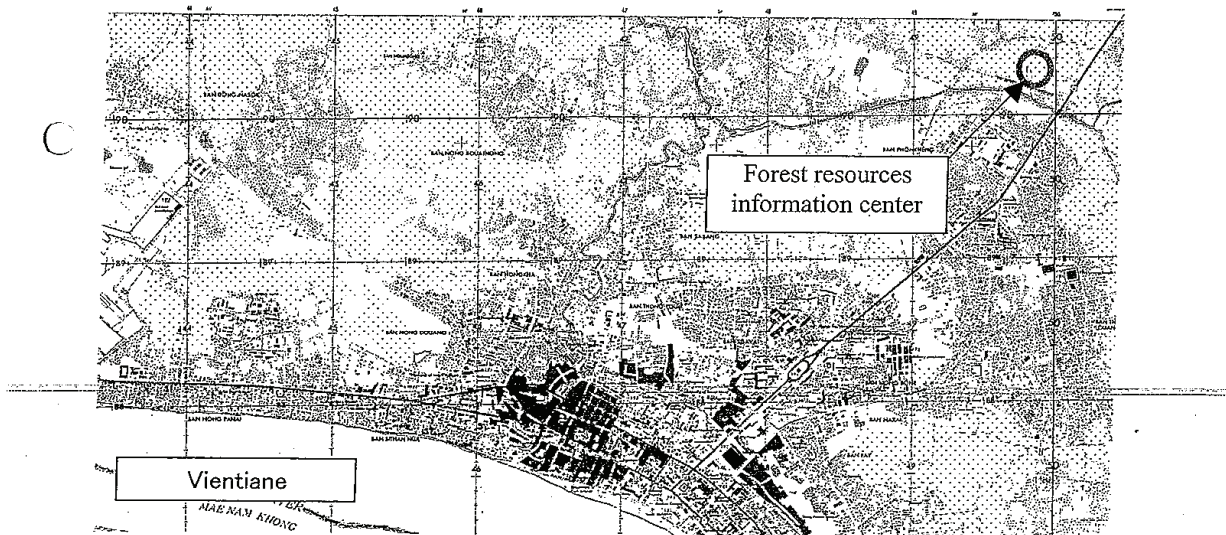


Figure: Location of the Forest resources information center



Annex 2 Organization Chart

Figure: Organization Chart of the Ministry of Agriculture and Forestry

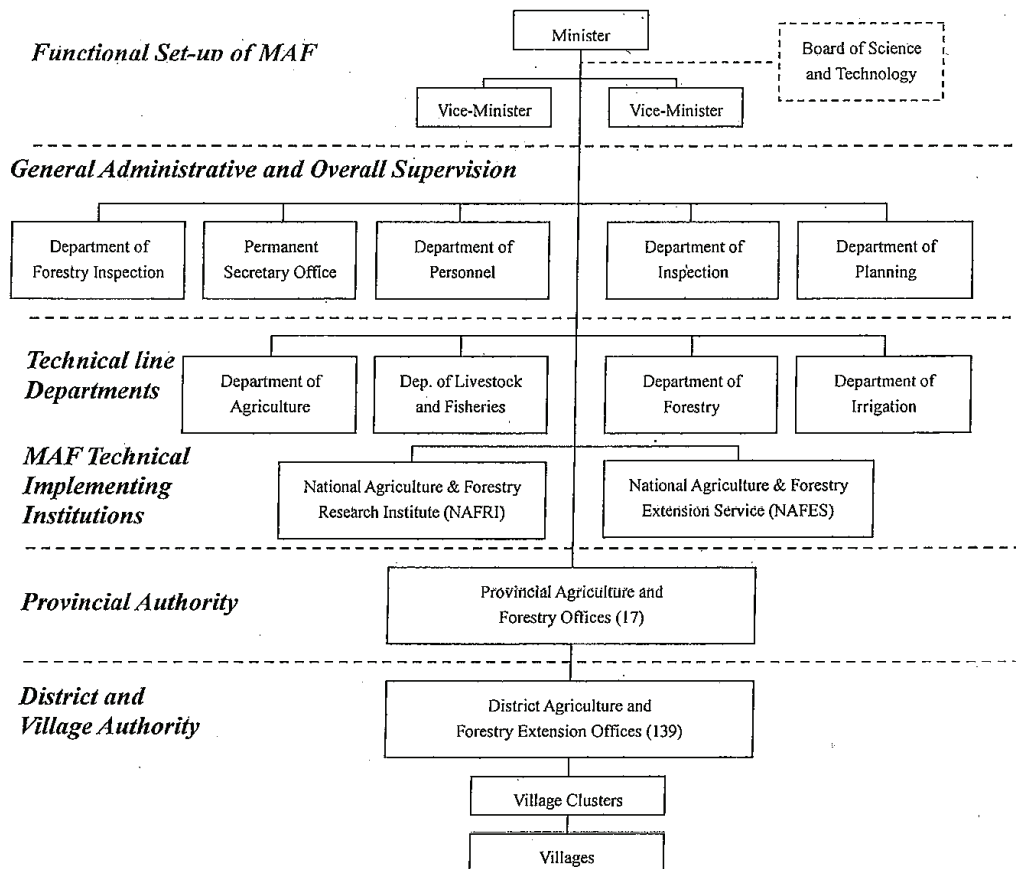
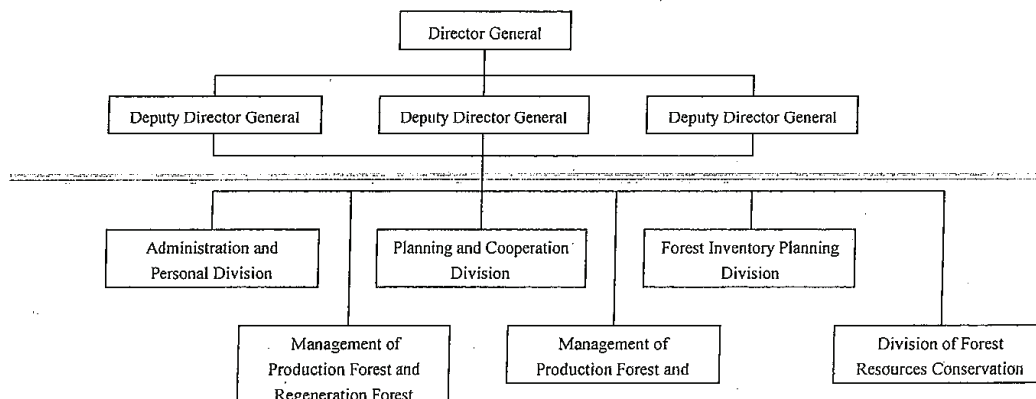


Figure: Organization Chart of the Department of Forestry



Annex 3

Table: Provisional content of the Programme

	Description
1	Establishment of Forest resources information center
2	Supply equipment for forest inventory analyses
3	Establishment of the systems of forest inventory including capacity building for target organization staffs

* The draft list of items requested by the Government of Lao P.D.R. will be suggested by the survey team based on the result of the survey and discussed with DOF on the end of October.

*The items shall be determined through the further survey from technical and economical prospective by the GOL.

Annex 4

**Programme Grant Aid for Environment and Climate Change
of the Government of Japan
(Provisional)**

The Government of Japan (hereinafter referred to as “the GOJ”) is implementing the organizational reforms to improve the quality of ODA operations, and as a part of this realignment, the new JICA law was entered into effect on October 1, 2008. Based on the law and the decision of GOJ, Japan International Cooperation Agency (hereinafter referred to as “JICA”) has become the executing agency of Grant Aid of Japan.

The Grant Aid provides a Recipient Country (hereinafter referred to as “the Recipient”) with non-reimbursable funds to procure the facilities, equipment, and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

Based on “Cool Earth Partnership” initiative of the GOJ, the Programme Grant Aid for Environment and Climate Change (hereinafter referred to as “GAEC”) aims to mitigate effects of global warming by reducing Green House Gas emission (mitigation measure such as improvement of energy efficiency) and to adapt the supposed effects (adaptation measures such as stabilization of water supply in a region suffering less precipitation due to the climate change).

GAEC aims toward emission reduction such as achievement of energy saving (environmental-easing measures) and environmental damage control by climate change. Multiple components can be combined to effectively meet the needs. Contractors, suppliers or consultants are not confined to Japanese firms only, and contraction can be done based on the local method.

1. Procedures for GAEC

GAEC is executed through the following procedures.

- Application
(Request made by the Recipients)
- Preparatory Survey



k

(Preparatory Survey for Outline Design conducted by JICA)

- Appraisal & Approval
(Appraisal by GOJ and Approval by the Cabinet)
- Commitment of Implementation
(The Notes exchanged between GOJ and the Recipient)
- Grant Agreement (hereinafter referred to as "G/A")
(Agreement concluded between JICA and the Recipient)

Firstly, the application or request for a GAEC Programme submitted by the Recipient is examined by GOJ (the Ministry of Foreign Affairs) to determine whether or not it is eligible of GAEC.

Secondly, if the request is deemed appropriate, JICA conducts the Preparatory Survey for Outline Design with Japanese consulting firms.

Thirdly, GOJ appraises the Programme to see whether or not it is suitable for Japan's GAEC, based on the Preparatory Survey report for Outline Design prepared by JICA, and the results are then submitted the Cabinet for approval.

Fourthly, the Programme, once approved by the Cabinet, becomes official with the Exchange of Notes (hereinafter referred to as "E/N") signed by the GOJ and the Recipient. Simultaneously, the Grant will be made available by concluding G/A between the Government of the Recipient or its designated authority and JICA.

JICA is designated by GOJ as an organization responsible for the execution of the Grant.

Procurement Agent (hereinafter referred to as "the Agent") is designated to conduct the procurement services of products and services (including fund management, preparing tenderers, contracts) for GAEC on behalf of the Recipient. The Agent is an impartial and specialized organization that shall render services according to the Agent Agreement with the Recipient. ~~The Agent is recommended to the Recipient by GOJ and~~ agreed between the two Government in the Agreed Minutes (hereinafter referred to as "A/M")

2. Preparatory Survey for Outline Design

1) Contents of the Survey



The aim of the Preparatory Survey for Outline Design (hereinafter referred to as "the Survey"), conducted by JICA on a requested Programme (hereinafter referred to as "the Programme"), is to provide a basic document necessary for the appraisal of the Programme by the GOJ. The contents of the Survey are as follows:

- (1) Confirmation of background, objectives, and benefits of the Programme and also institutional capacity of agencies and communities concerned of the Recipient necessary for the Programme's implementation.
- (2) Evaluation of the appropriateness of the Programme to be implemented under the Grant Aid Scheme for Environment and Climate Change from a technical, social, and economic point of view.
- (3) Confirmation of items agreed upon by both parties concerning the basic concept of the Programme.
- (4) Preparation of the outline design of the Programme.
- (5) Estimation of cost for the Project.

The contents of the request will be modified, as found necessary, in the outline design of the Programme according to the guidelines of Japan's Grant Aid scheme.

GOJ requests the Government of the Recipient to take whatever measures are necessary to ensure its self-reliance in implementing of the Programme. Such measures must be guaranteed even through they may fall outside of the jurisdiction of the implementing organization of the Recipient. Therefore, the implementation of the Programme is confirmed by all relevant organizations of the Recipient through the Minutes of Discussions.

2) Selection of consulting

For the smooth implementation of the Survey, JICA uses registered consulting firms. JICA selects the firms based on proposals submitted by interested firms. The firms selected carry out a survey for outline design and write a report, based on the terms of reference set by JICA.

~~The consulting firms to work on the Programme's implementation after the Exchange of Notes could be, in principle, of any nationality as long as the Firm satisfies the conditions specified in the tender documents.~~

3. Implementation of GAEC after the E/N

1) Exchange of Notes (E/N) and Grant Agreement (G/A)

GAEC is extended in accordance with the Notes exchanged by the two Governments



concerned, in which the objectives of the Programme, period of execution, conditions and amount of the Grant Aid, etc., are confirmed. The conclusion of G/A between JICA and the Recipient government will be followed to define the necessary engagement to implement the Programme such as payment conditions, responsibility of the Recipient government and procurement conditions.

2) Procedural details

Procedural details on the procurement of products and services under GAEC will be agreed on between the Recipient and JICA at the time of the signing of the E/N and G/A.

Essential points to be agreed on are outlined as follows:

- a) JICA is in a position to expedite the proper execution of the Programme.
- b) The products and services shall be procured and provided in accordance with JICA's "Procurement Guidelines for the Programme Grant Aid for Environment and Climate Change."
- c) The Recipient shall conclude an employment contract with the Agent.
- d) The Agent is the representative acting in the name of the Recipient concerning all transfers of funds to the Agent.

3) Focal points of "Procurement Guideline for the Programme Grand Aid for Environment and Climate Change (Type1-E)"

a) The Agent

The Agent is the organization which provides procurement of products and services on behalf of the Recipient according to the Agent Agreement with Recipient. The Agent is recommended to the Recipient by GOJ and agreed between the two Governments in the A/M.

b) Agent Agreement

The Recipient shall conclude the Agent Agreement, in principle, within one month after the date of entry into force of the E/N and the G/A, in accordance with the A/M. The ~~scope of the Agent's services shall be clearly specified in the Agent Agreement.~~

c) Approval of the Agent Agreement

The Agent Agreement, which is prepared as two identical documents, shall be submitted to JICA by the Recipient through the Agent. JICA confirms whether or not the Agent Agreement is concluded in conformity with the G/A and the Procurement



Guidelines for Disaster Reconstruction Grant Aid, and approves the Agreement.

The Agent Agreement concluded between the Recipient and the Agent will become effective after the approval by JICA in a written form.

d) Payment Methods

The Agent Agreement will stipulate that "regarding all transfers of the fund to the Agent, the Recipient shall designate the Agent to act on behalf of the Recipient and issue a Blanket Disbursement Authorization (hereinafter referred to as "the BDA") to conduct the fund (Advances) to the Procurement Account from the Recipient Account.

The Agent Agreement shall clearly state that the payment to the Agent shall be made in Japanese yen from the Advances and that the final payment to the Agent shall be made when the total Remaining Amount become less than 3% of the Grant and its accrued interests.

e) Products and Services Eligible for Procurement

Products and services to be procured shall be selected from those defined in the G/A.

f) Firms

In principles, a firm of any nationality could be contracted as long as the Firm satisfy the conditions specified in the tender documents.

The Firm, with approval by JICA, may be Japanese nationals and the products to be procured may be the products made in Japan or produced or manufactured by Japanese manufacturer(s) and/ or its (their) affiliate(s) in any country.

g) Experts for Technical Assistance

Expert(s) could be deployed to carry out technical assistance. The expert(s) may be recommended by JICA when the conceptual consistency with the Studies is required. In principle, expert(s) is/are preferable to be Japanese nationals if appropriate.

h) Method of Procurement

~~In implementing procurement, sufficient attention shall be paid so that there is no unfairness among tenderers who are eligible for the procurement of products and services.~~

For this purpose, competitive tendering shall be employed in principle.

i) Tender Documents

The tender documents should contain all information necessary to enable tenderers to prepare valid offers for the products and services to be procured by GAEC.

The rights and obligations of the Recipient, the Agent and the Suppliers of the products and services should be stipulated in the tender documents to be prepared by the Agent. Besides this, the tender documents shall be prepared in consultation with the Recipient.

j) Pre-qualification Examination of Tenderers

The Agent may conduct a pre-qualification examination of tenderers in advance of the tender so that the invitation to the tender can be extended only to eligible firms. The pre-qualification examination should be performed only with respect to whether or not the prospective tenderers have the capability of accomplishing the contracts concerned without fail. In this case, the following points should be taken into consideration:

- (1) Experience and past performance in contracts of a similar kind
- (2) Property foundation or financial credibility
- (3) Existence of offices, etc. to be specified in the tender documents.

k) Tender Evaluation

The tender evaluation should be implemented on the basis of the conditions specified in the tender documents.

Those tenders which substantially conform to the technical specifications, and are responsive to other stipulations of the tender documents, shall be judged in principle on the basis of the submitted price, and the tenderer who offers the lowest price shall be designated as the successful tenderer.

The Agent shall prepare a detailed tender evaluation report clarifying the reasons for the successful tender and the disqualification and submit it to the Recipient to obtain confirmation before concluding the contract with the successful tenderer.

The Agent shall furnish JICA with a detailed evaluation report of tenders, giving the reasons for the acceptance or rejection of tenders.

l) Additional procurement

~~If there is an additional procurement fund after competitive and / or selective tendering~~
and / or direct negotiation for a contract, and the Recipient would like an additional procurement, the Agent is allowed to conduct an additional procurement, following the points mentioned below:

- (1) Procurement of the same products and services

When the products and services to be additionally procured are identical

with the initial tender and a competitive tendering is judged to be disadvantageous, the additional procurement can be implemented by a direct contract with the successful tenderer of the initial tender.

(2) Other procurements

When products and services other than those mentioned above in (1) are to be procured, the procurement should be implemented through a competitive tendering. In this case, the products and services for additional procurement shall be selected from among those in accordance with the G/A.

m) Conclusion of the Contracts

In order to procure products and services in accordance with the G/A, the Agent shall conclude contracts with firms selected by tendering or other methods.

n) Terms of Payment

The contract shall clearly state the terms of payment. The Agent shall make payment from the "Advances", against the submission of the necessary documents from the Firm on the basis of the conditions specified in the contract, after the obligations of the Firm have been fulfilled. When the services are the object of procurement, the Agent may pay certain portion of the contract amount in advance to the firms on the conditions that such firms submit the advance payment guarantee worth the amount of the advance payment to the Agent.

4) Undertaking required by the Government of the Recipient

In the implementation of the Grant Aid Programme, the Recipient is required to undertake necessary measures as the following:

- a) To secure land necessary for the sites of the Programme and to clear, level and reclaim the land prior to commencement of the Programme,
- b) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,
- c) To secure buildings prior to the procurement in case the installation of the equipment,
- d) To ensure prompt unloading and customs clearance at the port of disembarkation and to assist internal transportation therein,
- e) To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the purchase of the



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Components including the employment of the Agent,

- f) To accord all the concerned parties, whose services may be required in connection with supply of the products and services under the contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work,
- g) To ensure that the Facilities and/or the Components be maintained and used properly and effectively for the implementation of the Programme,
- h) To bear all the expenses, other than those covered by the Grant and its accrued interest, necessary for the implementation of the Programme, and
- i) To give due environmental and social consideration in the implementation of the Programme.

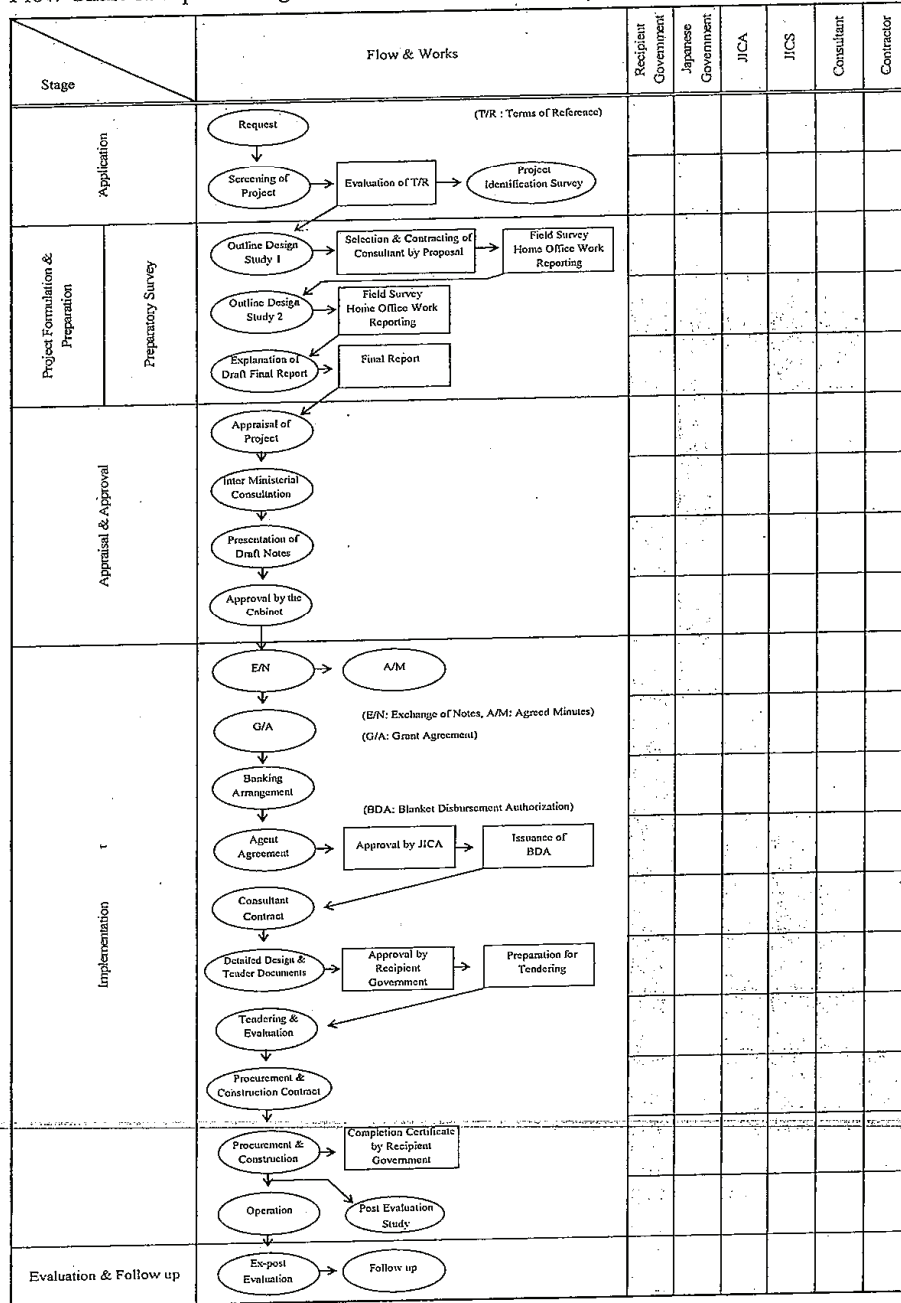
5) "Proper use of funds"

The recipient country is required to operate and maintain the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

6) "Export and Re-export" of products

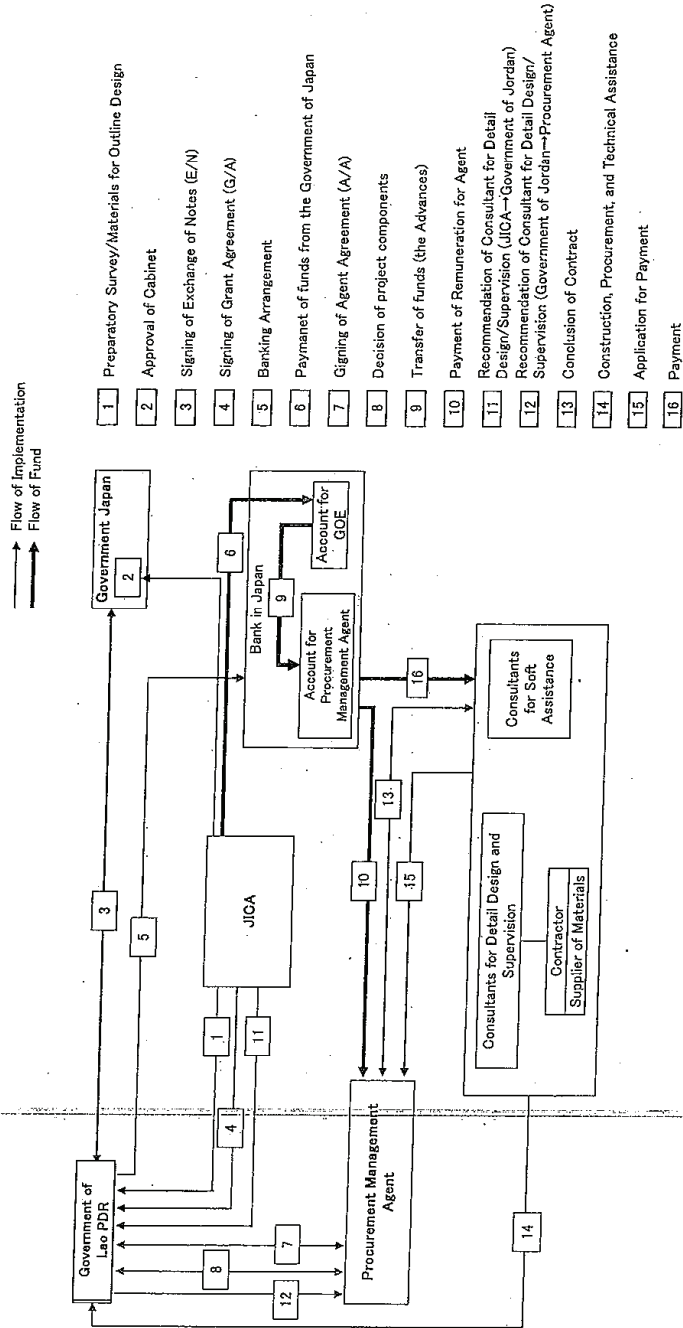
The products purchased under the Grant and its accrued interest will not be exported or re-exported from the Recipient.

Flow Chart of Japan's Programme Grant Aid for Environment and Climate Change



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Flow of funds for implementation under the Grant Aid for Environment and Climate Change



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Annex 6

Major Undertakings to be taken by Each Government

	Items	To be covered by the Grant	To be covered by Recipient side
1	To secure land		•
2	To clear, level and reclaim the site when needed		•
3	To construct gates and fences in and around the site		•
4	To construct the parking lot	•	
5	To construct roads		
	1) Within the site	•	
	2) Outside the site		•
6	To construct the building	•	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
	1)Electricity		
	a.The distributing line to the site		•
	b.The drop wiring and internal wiring within the site	•	
	c.The main circuit breaker and transformer	•	
	2)Water Supply		
	a.The city water distribution main to the site		•
	b.The supply system within the site (receiving and/or elevated tanks)	•	
	3)Drainage		
	a.The city drainage main (for storm, sewer and others) to the site		•
	b.The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	•	
	4)Gas Supply		
	a.The city gas main to the site		•
	b.The gas supply system within the site	•	
	5)Telephone System		
	a.The telephone trunk line to the main distribution frame / panel (MDF) of the building		•
	b.The MDF and the extension after the frame / panel	•	
	6)Furniture and Equipment		
	a.General furniture		•
	b.Project equipment	•	
8	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	Payment commission		•
9	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the products from Japan to the recipient country	•	
	2) Tax exemption and customs clearance of the products at the port of disembarkation		•
	3) Internal transportation from the port of disembarkation to the project site	(•)	(•)
10	To accord all concerned parties, whose services may be required in connection with the supply of the products and the services under the approved contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		•
11	To exempt or bear of all concerned parties from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the approved contract		•
12	To maintain and use properly and effectively the facilities constructed and equipment		•

	provided under the Grant		
13	To bear all the expenses, other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and installation of the equipment		•

(B/A: Banking Arrangement, N/A: Not Applicable)

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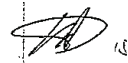
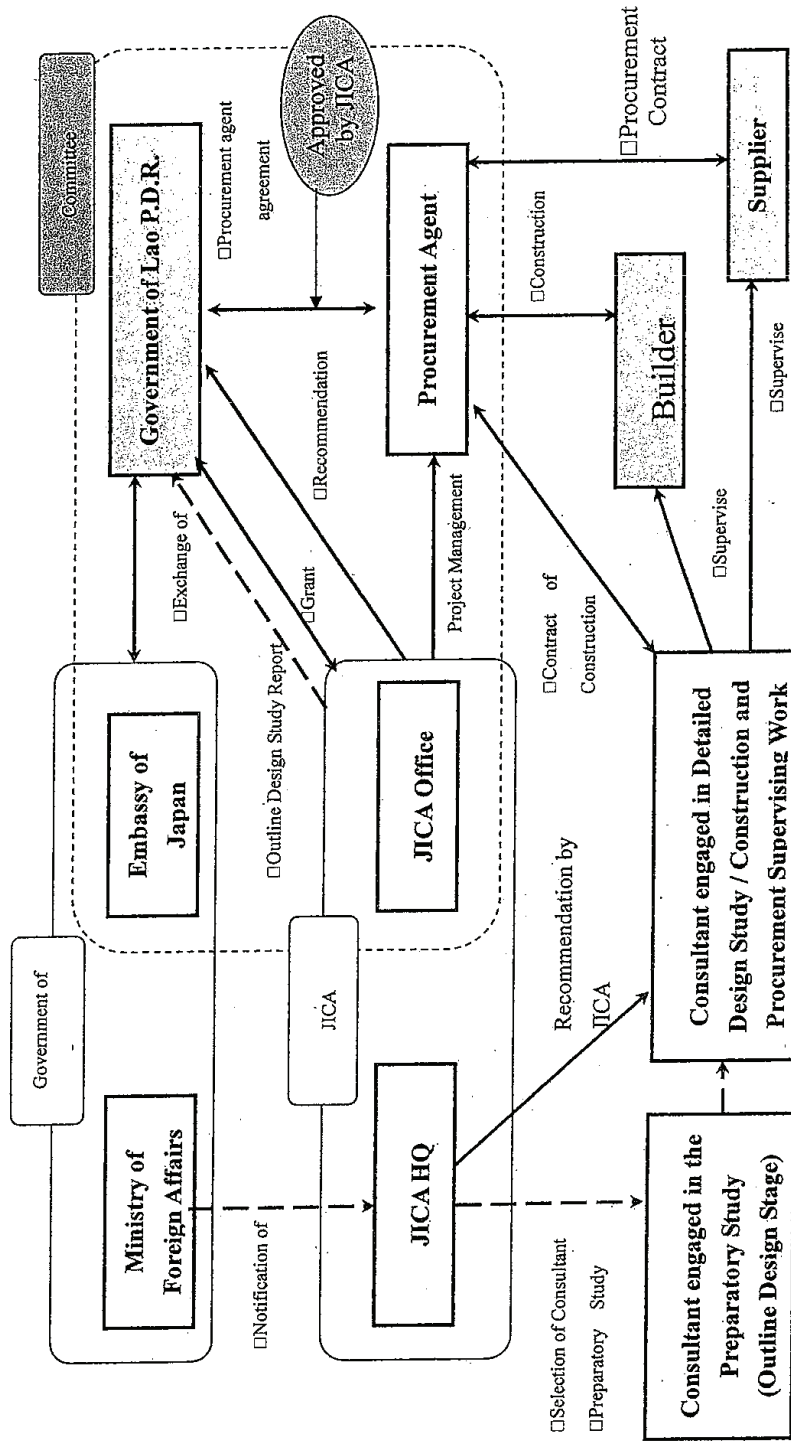


Chart of project implementation organization under the Program Grant Aid for Environment and



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Annex 8

Terms of Reference of the Consultative Committee

1. To confirm an implementation schedule of the Programme for the speedy and effective utilization of the Grant and its accrued interest;
2. To discuss determination and/or modification of the Components, taking into account of the products enumerated in the list attached to the Procurement Guidelines and/or the result of the preparatory survey for the Programme by JICA;
3. To discuss modifications of the Programme;
4. To exchange views on allocations of the Grant and its accrued interest as well as on potential end-users;
5. To identify problems which may delay the utilization of the Grant and its accrued interest, and to explore solutions to such problems;
6. To exchange views on publicity related to the utilization of the Grant and its accrued interest; and
7. To discuss any other matters that may arise from or in connection with the G/A.

2) Signed M/D, January 29th, 2010

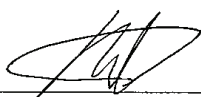
MINUTES OF DISCUSSIONS
ON
THE OUTLINE DESIGN
ON
THE PROGRAMME FOR FOREST INFORMATION MANAGEMENT
IN LAO PEOPLES DEMOCRATIC REPUBLIC

(Explanation on Draft Outline Design Report)

In September 2009, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Outline Design Survey team on the Programme for Forest Information Management (hereinafter referred to as "the Programme") in Lao People's Democratic Republic (hereinafter referred to as "Laos"). The Government of Laos (hereinafter referred to as "GOL") issued the request of the Programme on 24th December, 2009 to the Government of Japan (hereinafter referred to as "GOJ"). Through discussions, field survey and technical examination of the survey result, JICA prepared a Draft Final Report of the Outline Design.

In order to explain and to consult with the concerned officials of GOL, represented by Dr. Silavanh SAWATHVONG, Director General, Department of Forestry, Ministry of Agriculture and Forestry, on the component of the Draft Outline Design Report, JICA sent Laos the Draft Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Mr. Hiroto MITSUGI, from 22nd January to 31st January, 2010.

As a result of discussion, both sides confirmed the main items described on the attached sheets.



Mr. Hiroto MITSUGI
Team Leader,
The Outline Survey Team
Japan International Cooperation Agency
(JICA)
Japan



29th January, 2010

Dr. Silavanh SAWATHVONG
Director General
Department of Forestry
Ministry of Agriculture and Forestry
Lao People's Democratic Republic

ATTACHMENT

1. Japan's Program Grant Aid for Environment and Climate Change

The Ministry of Agriculture and Forestry (hereinafter referred to as "the MAF") understood the Programme and its scheme of Japan's Program Grant Aid for Environment and Climate Change (hereinafter referred to as "GAEC"), and would take the necessary measures for smooth implementation of the Programme, as agreed in Minutes of Discussions signed by both sides on 15th September, 2009 (hereinafter referred to as "the previous M/D").

2. Components of the Draft Outline Design Report

The MAF agreed and accepted in principle the components of the Draft Outline Design Report explained by the Team.

(1) Facility and Its Room Division to be Constructed

The Team explained the facility and its room division of Forest Resource Information Center (hereinafter referred to as "FRIC") to be constructed as shown in ANNEX 1 which is presented in the Draft Outline Design Report.

(2) Items of Equipment to be Procured

The Team explained the items of equipment to be procured as shown in ANNEX 2 which is presented in the Draft Outline Design Report.

(3) Activities of Technical Assistance

The Team explained the activities of the technical assistance as shown in ANNEX 3 which is presented in the Draft Outline Design Report.

3. Batch Division

The MAF understood the equipment to be procured in the programme would be procured by 5 batch divisions.

4. Procurement Process of the Programme

Both sides in principle reconfirmed that procurement process would be supervised by the Procurement Agent (hereinafter referred to as "the Agent"). The Agent is the organization which provides procurement of products and services on behalf of the Recipient according to the Agent Agreement with Recipient. The Agent is recommended to the Recipient by GOJ and agreed between the two Governments in the Agreed Minutes (hereinafter referred to as "A/M"). MAF will consult with the concerned Ministries on the procurement process agreed in this M/D.

5. Consultative Committee

Both sides confirmed that the Programme Consultative Committee (hereinafter referred to as “the Committee”) will be established to help proper and smooth execution of the Programme, as described in the previous M/D. The Committee will be established within 10 days after the Grant Agreement (hereinafter referred to as “G/A”) is concluded.

6. Confidentiality of the Programme and Programme Cost Estimation

Both sides confirmed that all information related to the Programme including design documents of facilities and equipment shall not be released to any outside parties before the signing of all the contract(s) for the Programme. The Team explained the cost estimation of the Programme as shown in ANNEX 4. Both sides agreed that the Programme cost estimation should never be duplicated or released to any outside parties before the signing of all the contract(s) for the Programme. MAF will consult with the concerned Ministries to secure the cost to be borne by the Lao side.

7. Operation and Maintenance Cost

The team explained GOL operation and maintenance cost of the equipment. GOL understood to secure the enough budget to implement the Programme as shown in ANNEX 5.

8. Implementation Schedule

Both sides confirmed the implementation schedule of the Programme as shown in ANNEX 6.

9. Other Relevant Issues

(1) Tax Exemption

According to the previous M/D, the Team explained the tax exemption on goods and services with in the framework of the Programme. MAF agreed to consult with the concerned Ministries to ensure that all the related taxes on the goods and services would be exempted by the Lao side.

(2) Undertakings of the MAF

Both sides reconfirmed the undertakings of the MAF, which were described in the previous M/D and in Draft Outline Design Report.

(3) Clearance of Unexploded Bombs

Lao side should confirm the information of UXO on the site for securing the safety of construction work.

- ANNEX 1: LIST OF ROOMS TO BE CONSTRUCTED
- ANNEX 2: LIST OF EQUIPMENT TO BE PROCURED
- ANNEX 3: LIST OF TECHNICAL ASSISTANCE ACTIVITIES
- ANNEX 4: PROGRAMME COST ESTIMATION
- ANNEX 5: OPERATION AND MAINTENANCE COST
- ANNEX 6: IMPLEMENTATION SCHEDULE



ANNEX 1: List of Rooms to be Constructed

Floor	Room name	Component	Floor size(m ²)
1st Floor	Entrance Lobby	Airlocks and air conditioning systems not to be installed	19.8
	Reception	To handle document controls for guests and document copies as well	21.0
	Library / Documents Storage	To store documents and references produced by FIPD, To enable guests to use references as well	21.0
	Multipurpose Meeting Room	To use for such as computer trainings and meetings	98.1
	Storage for Meeting Room	To store tables and chairs for Multipurpose Room	20.6
	Management & Administration Office (1)	To use as Deputy Director's office	20.6
	Management & Administration Office (2)	To use as Deputy Director's office	20.6
	Management & Administration Office (3)	To use as offices for ordinary staff of Administration Section	51.5
	Resting Room	To use for rest of staff, training participants and meeting attendances	41.2
	Storage	To store equipment for administrative works	12.3
	EPS		2.8
	Toilet (M), Toilet (F)		23.3
Corridor, Staircase		89.2	
2nd Floor	Computer Room	To implement works concerned with forest resource information	243.9
	Service Room	To install equipment such as plotters and scanners	20.6
	Server Room	Data sever room Air conditioning for 24 hours	10.3
	Director Room	To use as Director's office	20.6
	Guest Room	Adjacent to Director's room for guests	20.6
	Resting Room	To use for rest of staff	30.9
	Storage	To store equipment for administrative works	10.3
	EPS		2.8
	Toilet (M), Toilet (F)		27.3
	Corridor, Staircase		54.7
Total			884.0

ANNEX 1

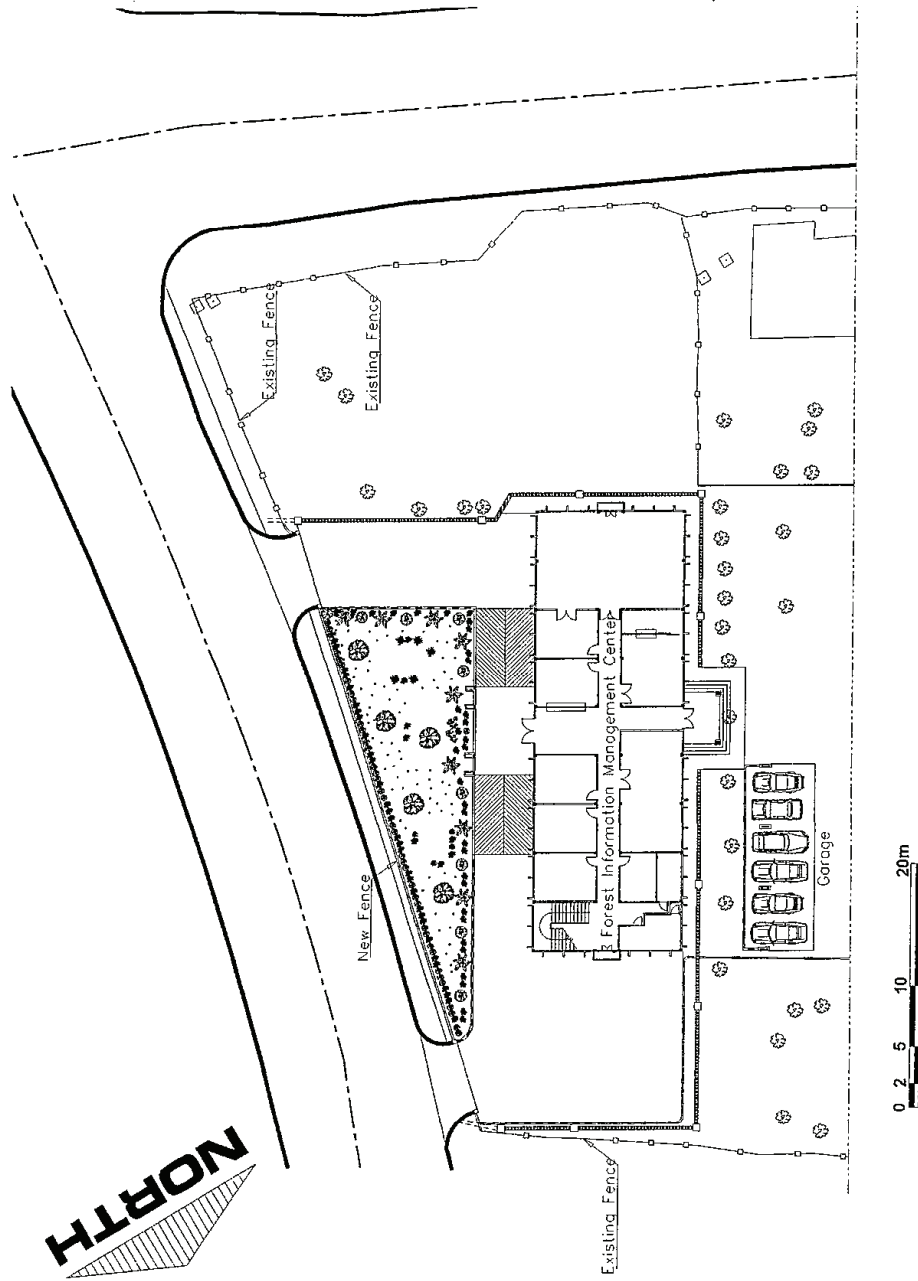


Figure 1 Site Plan

A1-2

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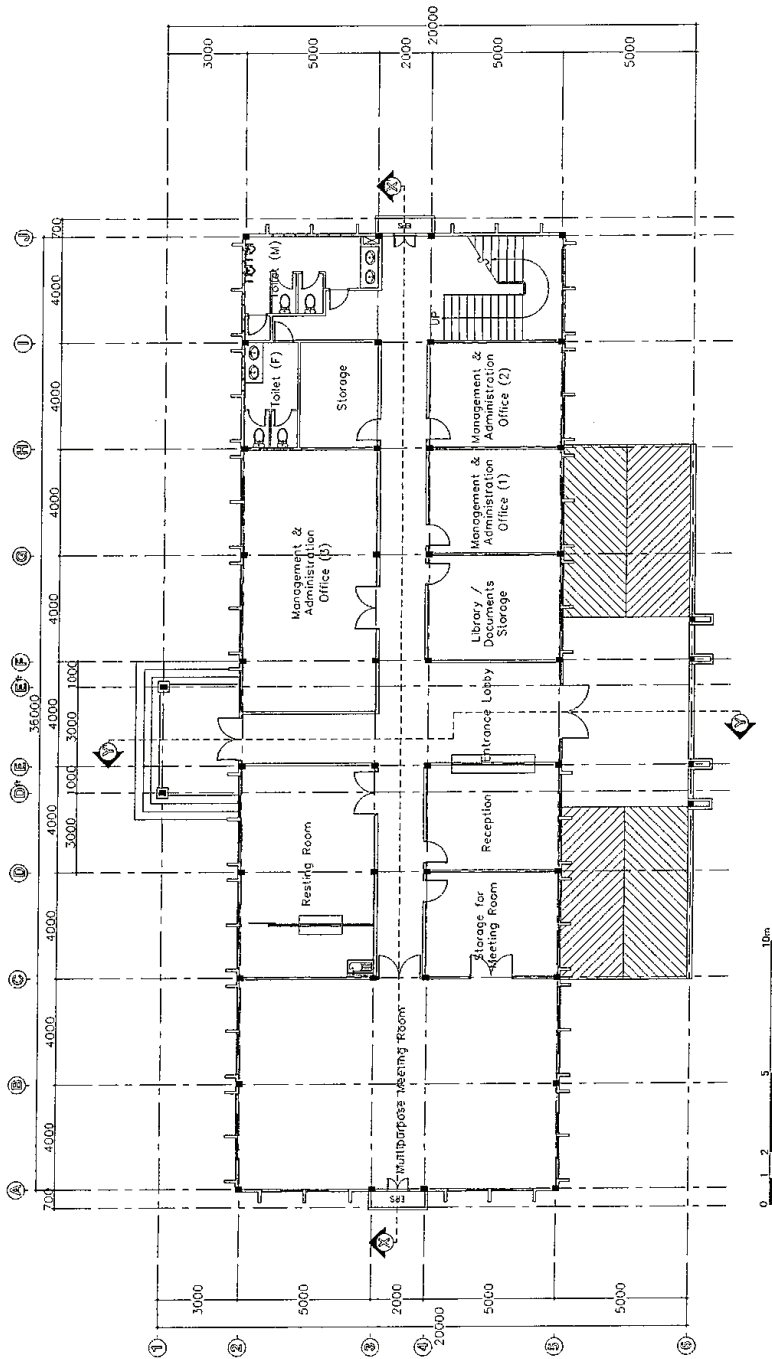


Figure 2 Floor Plan (1F)

A1-3

ANNEX 1

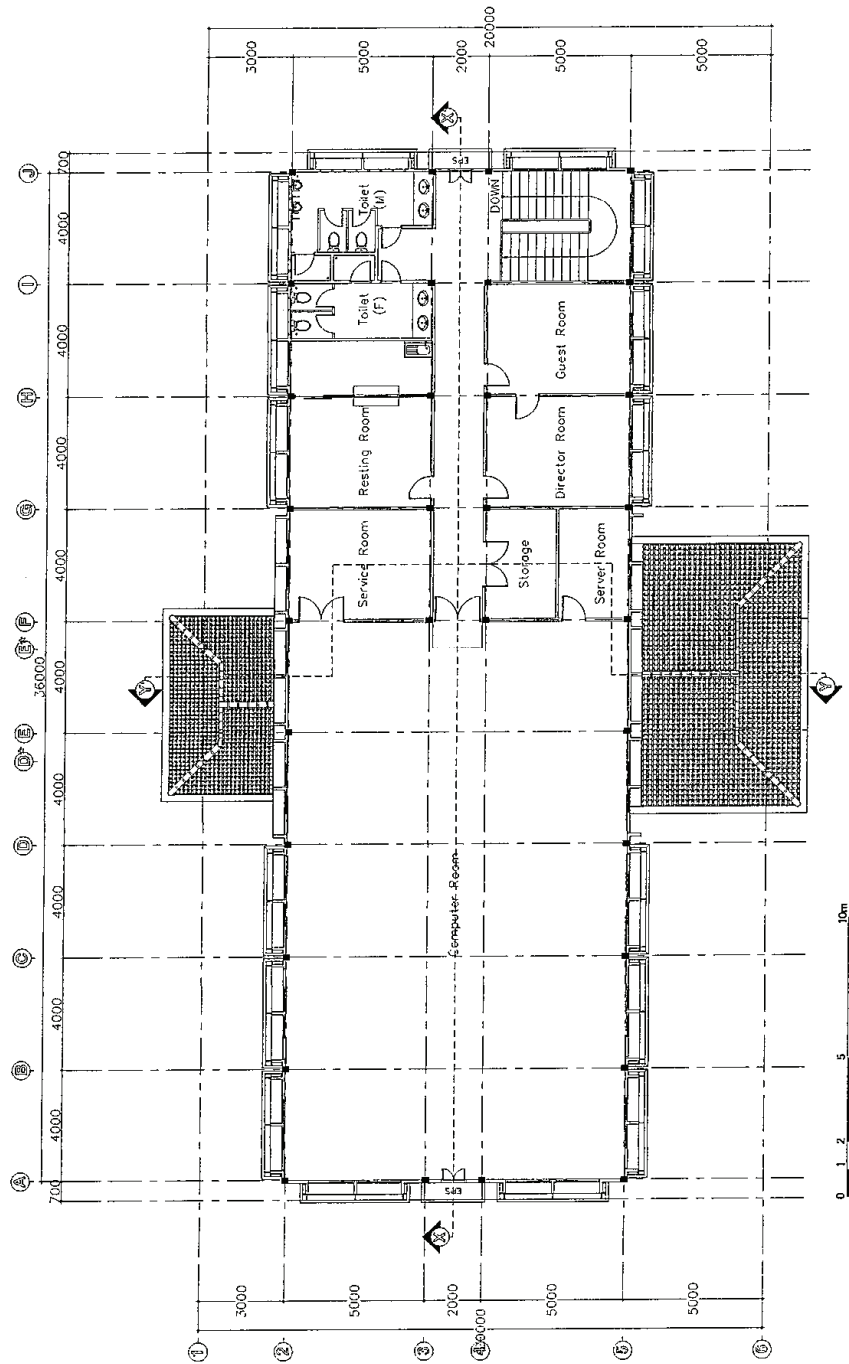


Figure 3 Floor Plan (2F)

A1-4

ANNEX 2: List of Equipment to be Procured

Category	No.	Name of equipment	Q'ty	Specifications
A. Equipment for satellite imagery analysis and database construction	A-1	Desktop PC (High-performance)	6 units	500GB hard disk, 4GB Memory, MS Office, UPS
	A-2	Desktop PC (Standard)	6 units	250GB hard disk, 2GB Memory, MS office, UPS
	A-3	Server (A)	1 set	Tower type, 1.5TB hard disk, 8GB Memory, UPS
	A-4	Server (B)	2 sets	Rack type, 5.0TB hard disk, 8GB Memory, UPS
	A-5	Laptop PC	18 units	120GB hard disk, 2GB Memory, MS office, UPS
	A-6-1	ALOS AVNIR-2(2010)	106 scenes	Satellite Imageries
	A-6-2	ALOS AVNIR-2(2011)	106 scenes	
	A-7	ALOS PRISM(2010)	193 scenes	
	A-8-1	ALOS PALSAR(2010)	111 scenes	
	A-8-2	ALOS PALSAR(2011)	111 scenes	
	A-9	SPOT4	114 sets	
	A-10-1	SPOT5(2008)	2 sets	
	A-10-2	SPOT5(2010)	14 sets	
	A-11-1	Rapid Eye(2008)	1 set	
	A-11-2	Rapid Eye(2010)	1 set	
	A-12	GIS Software	1 units	ArcINFO, ArcVIEW, Spatial Analyst, 3D Analyst, ArcGIS Server
	A-13-1	Imagery analysis software1	1 set	ERDAS IMAGINE, LPS Core, ATCOR for ERDAS IMAGINE, IMAGINE Auto Sync, ERDAS Mosaic, IMAGINE Radar Mapping Suites
	A-13-2	Imagery analysis software2	2 sets	eCognition
A-14	Plotter	1 unit	A0 Paper printable, color, roll paper and ink supplied, UPS	
A-15	Scanner	1 unit	A3 paper scannable, color scan, UPS	
A-16	Laser Printer	1 unit	Color laser, A3 paper printable, UPS	
A-17	Projector set	1 unit	LCD, stand alone type, UPS, screen, tripod	
A-18	Microphone set	1 set	2 wirelasses, speaker, UPS	
B. Equipment for sampling surveys	B-1	Survey compass	12 sets	Portable type, N-E-S-W, 360 degree
	B-2	Planimeter	6 sets	Portable type, area and line length measurable, in mm, cm, m, km
	B-3	Diameter tape	12 sets	Portable type, Tree circumference and diameter simultaneously measurable, 10m or more
	B-4	GPS device	18 sets	Portable (Water resistant), Approx. 15RMS Precision
	B-5	Binocular	12 sets	Portable (Water resistant), Approx. 8 times magnification
	B-6	Transceiver	12 sets	Handheld type (Water resistant), VHF
	B-7	Clinometer	12 units	Portable type
	B-8	Digital camera	12 units	Compact camera type (Water resistant), Approx. 10 megapixels, 2GB Memory Card
	B-9	Vehicle	6 units	Pickup truck double cabin, 4 x 4, water cooled diesel engine, at least 5 seaters

A2-1

ANNEX 3.

ANNEX 3: List of Technical Assistance Activities

- (1) Technical assistance of satellite imagery analyses by means of LANDSAT imagery taken in 1990 and 2000 / GIS (basic level: including conceptual lectures)
- (2) Technical assistance of satellite imagery analyses by means of SPOT 4 taken in 2005 / GIS (intermediate level)
- (3) Technical assistance of satellite imagery analyses by means of plural satellites such as ALOS, SPOT5 and RapidEye to be taken in 2010 / GIS
- (4) Technical assistance concerned with field surveys to be necessary for satellite imagery analyses to be taken in 2010 / GIS and database constructions
- (5) Technical assistance concerned with the development / controls of forest basic database through the whole works of the technical assistances of the Program
- (6) Technical assistance concerned with change extractions by means of forest base maps to be produced in 2010 and ALOS imagery to be taken in 2011

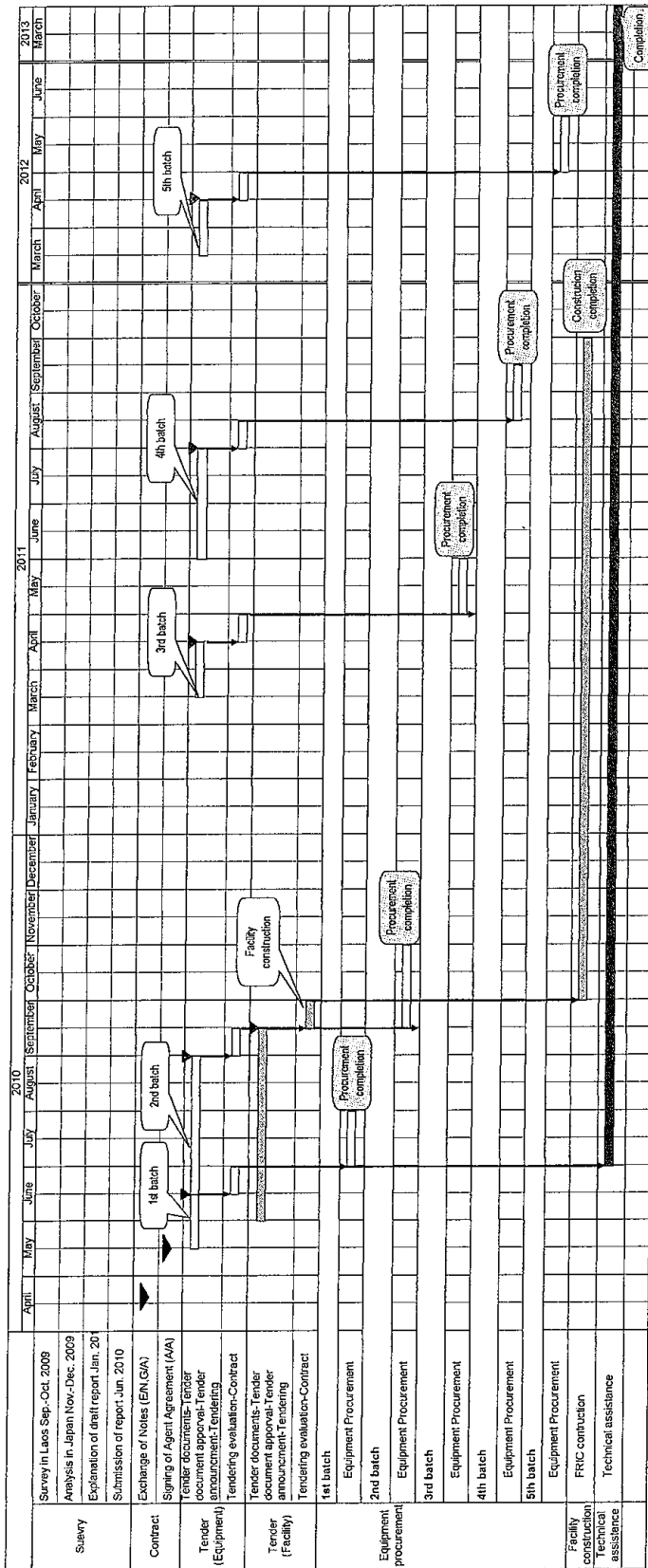


ANNEX 5: Operation and Maintenance Cost

The operation and maintenance cost for the new equipment is estimated 22,940,290 KIP as electrical bill for such office machines as PC and printer and 6,282,846 KIP as maintenance and fuel cost for vehicles, for the year 29,223,136 KIP in total. The following shows the cost of operation and Maintenance for the Programme.

Item No.	Name	Q'ty unit	Power kw/unit	Operation days days/year	Operatio n hours hours/day	unit price kip/kwh	Sub total kip/unit year	Total kip/year	Total Yen/year
A-1	Desktop PC (A)	6	0.450	240	8	773	667,872	4,007,232	44,881
	Monitor	6	0.025	240	8	773	37,104	222,624	2,493
A-2	Desktop PC (B)	6	0.450	240	8	773	667,872	4,007,232	44,881
	Monitor	6	0.025	240	8	773	37,104	222,624	2,493
A-3	Data Server (A)	1	0.570	240	8	773	845,971	845,971	9,475
	Monitor	1	0.025	240	8	773	37,104	37,104	416
A-4	Data Server (B)	2	0.570	365	24	773	3,859,744	7,719,487	86,458
A-5	Laptop	18	0.090	240	8	773	133,574	2,404,339	26,929
A-14	Plotter(operating)	1	0.080	240	2	773	29,683	29,683	332
	Plotter(waiting)	1	0.016	240	6	773	17,810	17,810	199
A-15	Scanner(operating)	1	0.075	240	2	773	27,828	27,828	312
	Scanner(waiting)	1	0.025	240	6	773	27,828	27,828	312
A-16	Printer(operating)	1	0.576	240	4	773	427,438	427,438	4,787
	Printer(waiting)	1	0.146	240	4	773	108,344	108,344	1,213
A-17	Projector set	1	0.256	120	8	773	189,972	189,972	2,128
A-18	Microphone set	1	0.150	120	8	773	111,312	111,312	1,247
B-2	Planimeter	6	0.003	48	10	773	1,113	6,679	75
B-4	GPS device	18	0.100	120	8	773	74,208	1,335,744	14,960
B-6	Transceiver	12	0.007	120	10	773	6,493	77,918	873
B-8	Digital Camera	6	0.250	120	8	773	185,520	1,113,120	12,467
B-9	Vehicle	6		240			1,047,141	6,282,846	70,368
Total								29,223,136	327,299

ANNEX 6 Implementation schedule of the Programme for Forest Information Management in Lao P.R.R.



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