【Appendices】

Appendix-1 Member List of the Survey Team

Member List of the Survey Team

Name	Position	Organization
Hiroto Kamiishi/ Akira Niwa	JICA Team Leader	Japan International Cooperation Agency (JICA)
Takeshi Tomitani/ Hidetaka Koseki	JICA Study Planning	JICA
Jun Tamakawa	Team Leader/ Power Development, O&M Plan/ Construction Plan	Tokyo Electric Power Services Company, Ltd.(TEPSCO)
Naoyuki Tsuda	Sub-Team Leader/ Power Development, O&M Plan/ Construction Plan	TEPSCO
Yukio Adachi	Electrical/ Mechanical Equipment	TEPSCO
Genshiro Kano	Hydropower Design	Tokyo Electric Power Company, Inc.(TEPCO)
Naoki Kosaka/ Osamu Takahashi	Protection/ Control/ System Analysis	TEPCO
Teru Miyazaki/ Takayuki Shibata	Transmission Plan	TEPCO
Ko Kawano	Procurement/ Cost Estimation	JEM
Shigeki Wada	Environmental & Social Considerations	Individual
Seiichi Suzuki	Economic & Financial Analysis	TEPSCO
Kiminori Nakamata	Geologist	Tosetsu Civil Engineering Consultant Inc. (TCEC)
Shin Watabnabe	Topographic Surveyor	TCEC

Appendix-2 Survey Schedule

The 1st Field Survey Schedule

		Hiroto Kamiishi	Takeshi Tomitani	Jun Tamakawa	Naoyuki Tsuda	Shigeki Wada	Genshiro Kano	Seiichi Suzuki	Shin Watanabe	Ko Kawano	Naoki Kosaka	Teru Miyazaki
		JICA Leader	JICA Study Planning	Team Leader	Sub-Leader	Environment	Hydropower	Economic/Financial	Topo Survey	Procurement/Cost	Protection/Control	Transmission
23-Aug	Thu			Travle to Vientiane								
24-Aug	Fri			Meeting with MEM Meeting with Local Consultant								
25-Aug	Sat			AM/PM Meeting with Local Consultant								
26-Aug	Sun		Travel to Vientiane	(Preparation for Sub-contract)		Traavel to Vientiane						
27-Aug	Mon		Meeting with JICA Office Meeting with MEM, EdL									
28-Aug	Tue		Travel from Vientiane to Udomxai Travel from Udomxai to Bounneua			Collection of Data and Information						
29-Aug	Wed		Travel from Bounneua to Ou Thai Site Survey of Mini-hydropower Project Site			Collection of Data and Information						
30-Aug	Thu		Site Survey of Transmission Route			Collection of Data and Information						
31-Aug	Fri		Travel from Ou Thai to Bounneua Travel from Bounneua to Udomxai			Collection of Data and Information						
1-Sep	Sat		Travel from Udomxai to Vientiane			Data Arrangement	Travel from Vientiane to Udomxai					
2-Sep	Sun	Travel to Vientiane	Preparation of Documents for M/D, Internal Meeting			Data Arrangement	Arrangement of Data and Information		Travel to Vientiane			
3-Sep	Mon	Meeting with MEM and EdL on Grant Aid Scheme and M/D Collection of M/D, Internal Meeting				Consultant Meeting	Preparation for Site Visit Collection of Local Information		Preparation for Site Survey		Collention of Data and Information	
4-Sep	Tue	Signing of M/D Reporting to Japan Embassy and JICA Office			Travel from Vientiane to Udomxai Travel from Udomxai to Bounneua		Preparation for Site Survey Travel from Udomxai to Bounneua		Travel from Vientiane to Udomxai Travel from Udomxai to Bounneua		Collention of Data and Information	
5-Sep	Wed	Travel to Japan		Coordination for 1st SHM	Travel from Bounneua to Ou Thai Site Survey						Collention of Data and Information	
6-Sep	Thu			Travel to Udomxai Travel to Phongsaly	Site Survey						Travel from Vientiane to Udomxai Travel from Udomxai to Bounneua	
7-Sep	Fri			Meeting with Provincal Gov.	Site Survey						Meeting with Provincal Gov.	
8-Sep	Sat			Travel to Ou Thai Site Survey	Site Survey						Travel to Ou Thai Site Survey	
9-Sep	Sun			Site Survey								
10-Sep	Mon			Site Survey								
11-Sep	Tue			**1st Stakeholders' Meeting (tenntative)**								
12-Sep	Wed			Travel to Udomxai Meeting (Local Con.)	Site Survey	Travel to Udomxai	Site Survey			Travel to Udomxai Meeting (Local Con.)	Travel to Udomxai	
13-Sep	Thu			Transportation Route Survey	Travel to Phongsaly Meeting with EdL	Data Arrangement	Travel to Phongsaly Meeting with Phongsaly EdL			Transportation Route Survey	Data rrangement	
14-Sep	Fri			Transportation Route Survey	Travle to Udomxai	Data Arrangement	Travel to Udomxai			Transportation Route Survey		Data Arrangement
15-Sep	Sat			Travel from Udomxai-Vientiane								
16-Sep	Sun			Data Arrangement, Meeting with Local Contractors		Travel to Japan	Data Arrangement, Preparation of the 1st Field Survey Report					
17-Sep	Mon			AM Meeting with MEM Preparation of the 1st Field Survey Report			AM Meeting with MEM PM Data Collection					
18-Sep	Tue			Data Arrangement, Preparation of the 1st Field Survey Report			Data Collection, Data Arrangement, Preparation of the 1st Field Survey Report					
19-Sep	Wed			Data Arrangement, Preparation of the 1st Field Survey Report			Data Collection, Data Arrangement, Preparation of the 2st Field Survey Report					
20-Sep	Thu			Report to MEM Report to JICA Office			AM Report to MEM PM Report to JICA Office					
21-Sep	Fri			Travel to Japan			Travel to Japan					
22-Sep	Sat											

Legend

- Activities in Vientiane
- Activities in Udomxai and Pongsali
- Travel between Natita and Vientiane

The Second Field Survey Schedule

Date			Team Members					
			Leader	Sub-leader	Economic Analysis	Transmission Line	Hydro-Planning	Geology
			Jun Tamakawa	Naoyuki Tsuda	Seiichi Suzuki	Takayuki Shibata	Genshiro Kano	Kiminori Nakamata
1	15-Oct	Mon	Tokyo - Vientiane					
2	16-Oct	Tue	Meeting with MEM Meeting with Japanese Contractor Meeting with Local Consultant					
3	17-Oct	Wed	Meeting with JICA Meeting with Local Consultant Visit to MEM/EdL					
4	18-Oct	Thu	Vientiane - Udomxai - Phongsaly				Tokyo - Vientiane	
5	19-Oct	Fri	Meeting with PDEM, EdL, PDPW Phongsaly - Ou Thai				Meeting with MEM	
6	20-Oct	Sat	Site Survey				Vientiane - Udomxai - Bounneua	
7	21-Oct	Sun	Site Survey				Bounneua - Ou Thai	
8	22-Oct	Mon	Site Survey					
9	23-Oct	Tue	Site Survey					
10	24-Oct	Wed	Ou Thai - Udomxai					
11	25-Oct	Thu	Udomxai - Vientiane					
12	26-Oct	Fri	Meeting with MEM, JICA					
13	27-Oct	Sat	Vientiane - Bangkok					
14	28-Oct	Sun	Bangkok - Tokyo					
Total Date			14	14	14	14	11	11

The Third Field Survey Schedule

Date			JICA Office			JICA HQs			Consultant		
			Representative	Deputy Representative	MEM JICA Expert	JICA Leader	Reserch & Planning	Team Leader	Sub-Leader	Environemt
			Mr. Togawa	Mr. Yuzurio	Mr. Hashimoto	Mr. Niwa	Mr. Koseki	Mr. Tamakawa	Mr. Tsuda	Mr. Wada
1	10-Dec	Mon						Travle to Vientiane	Travle to Vientiane	
2	11-Dec	Tue						Meeting with MEM Meeting with JICA Office		
3	12-Dec	Wed						Meeting with MEM (Explanation of draft Report)		Travle to Vientiane
4	13-Dec	Thu						Travel from Vientiane to Udomxai Travel from Udomxai to Phongsaly		
5	14-Dec	Fri				Travle to Vientiane		Meeting with PDEM & PhongsalyGov. Travel from Phongsaly to Ou Thai		
6	15-Dec	Sat	Travel from Vientiane to Luangphraban Travel from Luangphraban to Udomxai					Site Survey		
7	16-Dec	Sun	Travel from Udomxai to Phongsaly					Ou Thai to Phongsaly	Site Survey	
8	17-Dec	Mon	Meeting with PDEM & Phongsaly Gov. Travel from Phongsaly to Ou Thai Site Visit to Project Site						Preparation of the 2nd SHM	
9	18-Dec	Tue	**The 2nd SHM** Travel from Ou Thai to Bounneua					**The 2nd SHM** Travel from Ou Thai to Phongsaly		
10	19-Dec	Wed	Travel from Bouneua to Luangphraban Travel from Luangphraban to Vientiane					Meeting with Phongsaly Gov. & PDEM on M/D Travel from Phongsaly to Udomxai		
11	20-Dec	Thu						Travel from Udomxai to Vientiane Meeting with MEM on M/D		
12	21-Dec	Fri					**Signing of M/D at MEM** Reporting to Japan Embassy Travel to Japan		**Signing of M/D at MEM** Reporting to Japan Embassy Follow-up Meeting with MEM	
13	22-Dec	Sat				Arrival in Japan			Travel to Japan	
14	23-Dec	Sun							Arrival in Japan	
Total Date			5	5	5	10	14	14	14	12

The Fourth Field Survey Schedule

Date			Members	
			Team Leader	Sub-Leader
			Jun Tamakawa	Naoyuki Tsuda
1	12-Feb	Tue	Move from Narita to Vientiane	
2	13-Feb	Wed	AM Meeting with MEM PM Study on Organizational Structure for O&M of Mini-hydropower Plant	
3	14-Feb	Thu	AM Meeting with MEM PM Meeting with EdL	
4	15-Feb	Fri	AM Meeing with MEM PM Meeting with EDL PM Meeting with MEM	
5	16-Feb	Sat	Meeting with MEM	
6	17-Feb	Sun	Preparation of Minutes of Meeting	Move to Bangkok
7	18-Feb	Mon	AM Meeting with MEM and Singning on M/D	
8	19-Feb	Tue	Reporting to JICA Office	
			Move to Japan	
9	20-Feb	Wed	Ditto	
Total Travel Days			9	7

Appendix-3 List of Parties Concerned in the Recipient Country

List of Parties Concerned in the Recipient Country

(1) Institute of Renewable Energy Promotion (IREP), Ministry of Energy and Mines (MEM)

- Hatsady SYSOULATH, Director General
- Anousak PHONGSAVATH, Deputy Director General
- Khanthara SISMOUTH, Director of Rural Electrification Division
- Phimphone LATSAVONG, Deputy Director of Rural Electrification Division
- Chantho MILATTANAPHENG, Deputy Director General
- Phonepasong SITHIDETH, Acting Director, Renewable Energy Development Division

(2) Phongsaly Provincial Department of Energy and Mines (PDEM)

- Somchit SITTHIVONG, Director General
- Gninxay DOUANGPHACHAN, Deputy Director General
- Souksomphone SIVONGXAI, Electrical Engineer
- Mr. Soulaivanh VATTHASALK, Chief of Energy and Mines for Gnot Ou District

(3) Electricite de Laos (EdL)

- Komonchanh PHET-ASA, Director of Business Department
- Boungnong BOUTTAVONG, Deputy Director, Technical Department
- Bouchiang KEOVILAYVANH, Manager, Technical Department and Loss Reduction & DSM Office
- Keovongsouk SOULIYADETH, Project Manager ADB/KEVXIM, Transmission & Substation Development Department
- Ounneua SIVNPHENG, Manager of Phongsaly Branch

(4)Government of Phongsaly Province

- Angphpou ALI, Deputy Governor, Phongsaly Province
- Khongkheo Khantaphom, Deputy District Party Secretary and Deputy District Governor
- Bounthed Inchak, Deputy Governor, Gnot Ou District
- Noukaisone LAOLI, Assistant Director, Provincial Cabinet Office, Phongsaly Province
- Thanva MALAISAN, Division Head, Planning and Investment Department, Phongsaly Province
- Sysouphanh CHANSAVAT, Deputy Director, Department of Public Works and Transport, Phongsaly Province

(5) Embassy of Japan

- Masahiko Mitsumoto, First Secretary/Head of Economic Cooperation

(6) JICA Laos Office

- Masato Togawa, Chief Representative
- Yoshiharu Yoneyama, Senior Representative
- Susumu Yuzurio, Senior Representative
- Mayumi Miyata, Representative

Appendix-4 Minutes of Discussion

Minutes of Discussions
on the Preparatory Survey
for Mini-Hydropower Development Project
in Lao People's Democratic Republic

In response to the request from the Government of Lao People's Democratic Republic, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), in consultation with the Government of Japan, decided to conduct a Preparatory Survey (hereinafter referred to as "the Survey") for Mini-Hydropower Development Project in Lao People's Democratic Republic (hereinafter referred to as "the Project").

JICA sent to Lao PDR the Preparatory Survey Team (hereinafter referred to as "the Team"), headed by Mr. Hiroto KAMIISHI, Advisor for Energy and Mining Division 1, Energy and Mining Group, Industrial Development and Public Policy Department, JICA. The Team is scheduled to stay in the country for 1st mission from August 23 to September 21, 2012.

The Team held discussions with the officials of concerned authorities in Lao PDR (hereinafter referred to as "the Laotian side"). In the course of the discussions, both sides have confirmed the main items described in the sheets attached hereto.

Vientiane, September 4th, 2012

Mr. Hiroto KAMIISHI
Leader
Preparatory Survey Team
Japan International Cooperation Agency

Mr. Hatsady SYSOULATH
Director General
Institute of Renewable Energy Promotion
Ministry of Energy and Mines

Mr. Somchit SITTHIVONG
Director General
Provincial Department of Energy and Mines of Phongsaly Province

Mr. Sisavath THIRAVONG
General Manager
Electricite du Laos

ATTACHMENT

1. Objective of the Project

The objective of the Project is to promote rural electrification by constructing mini-hydropower plant and extending transmission and distribution lines at Gnod Ou District, Phongsaly Province.

2. Locations of Projects

The project site is located in Gnod Ou District, Phongsaly Province as shown in Annex-1.

3. Responsible and Implementing Organizations of the Laotian side

(1) The responsible organization is Institute of Renewable Energy Promotion (IREP), Ministry of Energy and Mines (MEM)

(2) The implementing organization until the completion of the construction is IREP/MEM and Provincial Department of Energy and Mines of Phongsaly Province (PDEM) with technical support from Electricite du Laos (EDL).

(3) The implementing organization in the operation and maintenance stage is PDEM (for the mini-hydropower plant) and EDL (for the extension of transmission and distribution lines).

The Organization Structures of MEM, IREP, PDEM and EDL are shown in Annex-2, Annex-3 Annex-4 and Annex-5 respectively.

4. Components requested by the Laotian side

Confirmed requests of the Project from the Laotian side are as follows.

(1) Construction of Gnod Ou mini-hydropower plant (Run-of-River Type)
(2) Extension and installation of 22kV transmission lines, 22kV/400V transformers and 400V distribution lines.

The Team explained that the requested components are considered as candidate components to be implemented; however, the scope of the component (2) above would be decided considering the budget frameworks and limitation of the Japanese side, the priority of electrification target areas of the Laotian side and result of the Survey.

5. Japan's Grant Aid Scheme

(1) JICA confirmed that the Laotian side understood Japan's Grant Aid Scheme explained by the Team as described in Annex-6 and 7.
(2) The Laotian side will take the necessary measures, as described in Annex-8, for smooth implementation of the Project as prerequisites for the Japan's Grant Aid to be implemented.

6. Schedule of the Survey

The Team will continue the first field survey in Laos until September 21, 2012. After analysis in Japan, JICA will dispatch a team to Laos in order to explain and discuss contents of the draft final report of the Survey with the Laotian side in around December 2012.

7. Other Relevant Issues

(1) Status of the Survey

The Team explained that the purpose of the Survey is to collect information and data necessary for the outline design and cost estimation of the Project components which are confirmed through the Survey and the analysis in Japan.

(2) Environmental and Social Considerations

a) The Team requested the Laotian side to conduct the required environmental procedures and obtain approval on environmental clearance for implementation of the Project.
b) The Laotian side agreed to comply with the JICA Guidelines for Environmental and Social Considerations (hereinafter referred to as "JICA Guidelines") as well as laws and regulations in Laos, and was requested to prepare Environmental Checklist and Monitoring Form which are designated by JICA Guidelines for an outline design.
c) The Laotian side agreed to make necessary arrangements with concerned governmental organizations in order to secure funding for and execution of the above environmental matters in a schedule as required for smooth implementation of the Project.

(3) Major Undertakings to be taken by the Laotian side

a) The Laotian side agreed to undertake the following particular items out of general undertakings described in Annex-8.
b) The Laotian side agreed to be responsible for connection to each customer of the Project sites. The Laotian side also agreed to complete the above connection in a timely manner after the completion of the Project in order to electrify and benefit the local people in the Project sites.
c) The Laotian side shall take necessary measures for obtaining the permissions as below in prior to the commencement of the implementation of the Project.
   - Permission(s) necessary to cut trees which may obstacle the construction of the mini hydropower plant and transmission and distribution lines by the Project from relevant authorities.
   - Permission(s) necessary to install electric poles from land owner(s), in case electric pole(s) are to be installed in the private land(s).
   - Permission(s) necessary for enforcement of traffic controls during the construction of the mini hydropower plant and transmission and distribution lines from relevant authorities prior to the commencement of construction of the Project.
d) The Laotian side shall secure enough budget and human resources for the following undertakings in accordance with the implementation of the Project
   - Securing ownership of the land for the proposed mini hydropower plant and transmission and distribution lines.
   - Securing access road for transportation of the equipment and materials to the proposed mini hydropower plant and transmission and distribution lines
   - Securing the clearance of UXO at the construction sites, namely the site for the mini hydropower plant and routes for transmission and distribution lines.

(4) Coordination among the Laotian Side

The Team requested the Laotian side to coordinate among the Laotian side including IREP, PDEM, EDL and other related agencies for the successful implementation of the Project and afterwards.

(5) Contribution to the promotion of "Green Growth"

The Team explained that the Project shall be conducted under the Japanese Grant Aid Program aiming at promoting "Green Growth," which the Government of Japan puts stress on, by introducing small scale hydropower plants with elaborated technologies of Japan. Following the policy of the Government of Japan, the major equipment of the Project, such as hydro turbines, shall be selected among the products of Japanese manufacturers.

(6) Customs and tax exemption

The Laotian side understands that it shall be fully responsible on exemption of taxes,

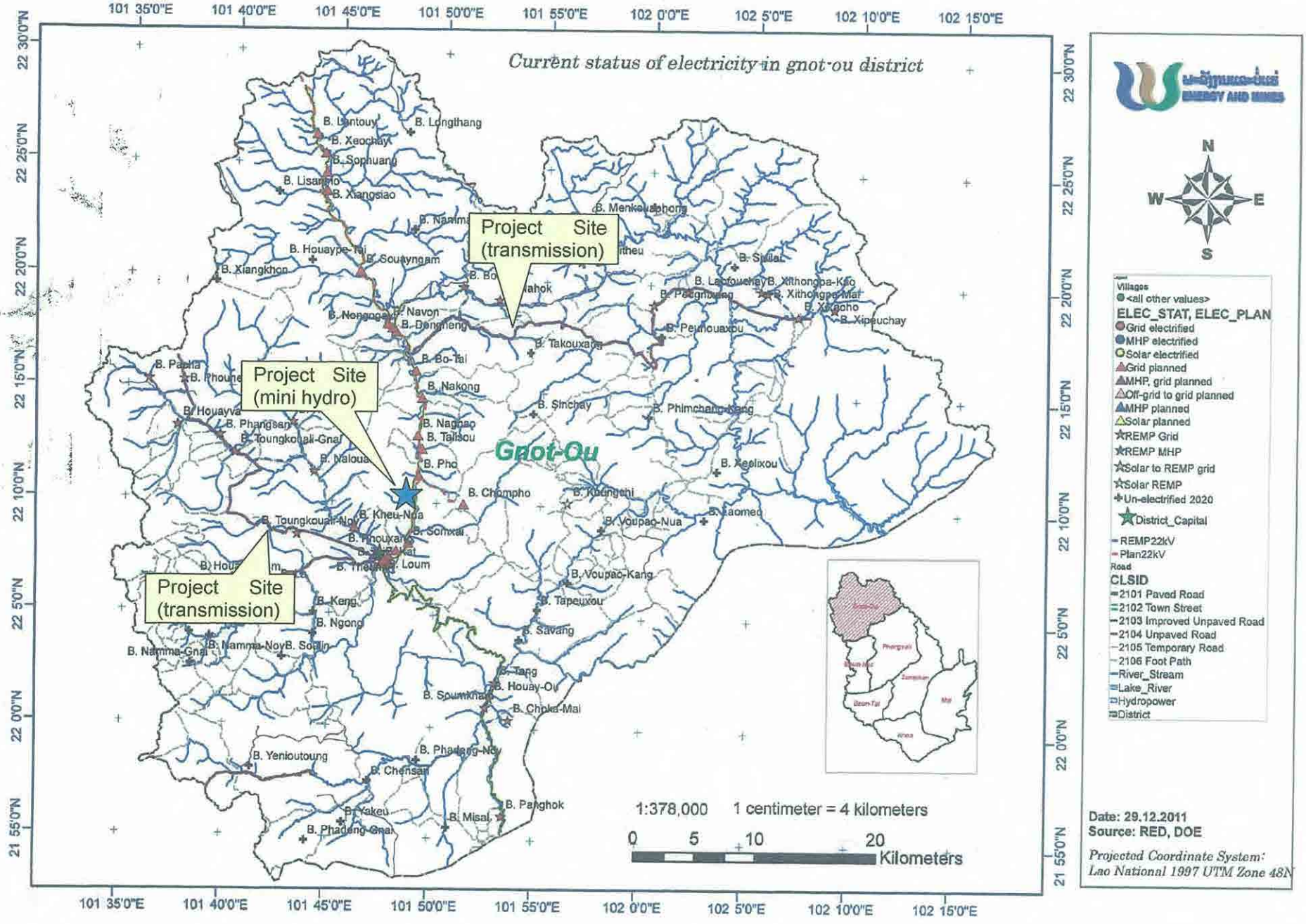
custom duties and any other levies imposed in Laos, in case the Project is implemented.

(End)

Annex-1 Project Sites
Annex-2 Organization Chart of MEM
Annex-3 Organization Chart of IREP
Annex-4 Organization Chart of PDEM
Annex-5 Organization Chart of EDL
Annex-6 Japan's Grant Aid
Annex-7 Flow Chart of Japan's Grant Aid Procedures
Annex-8 Major Undertakings to be taken by Each Government

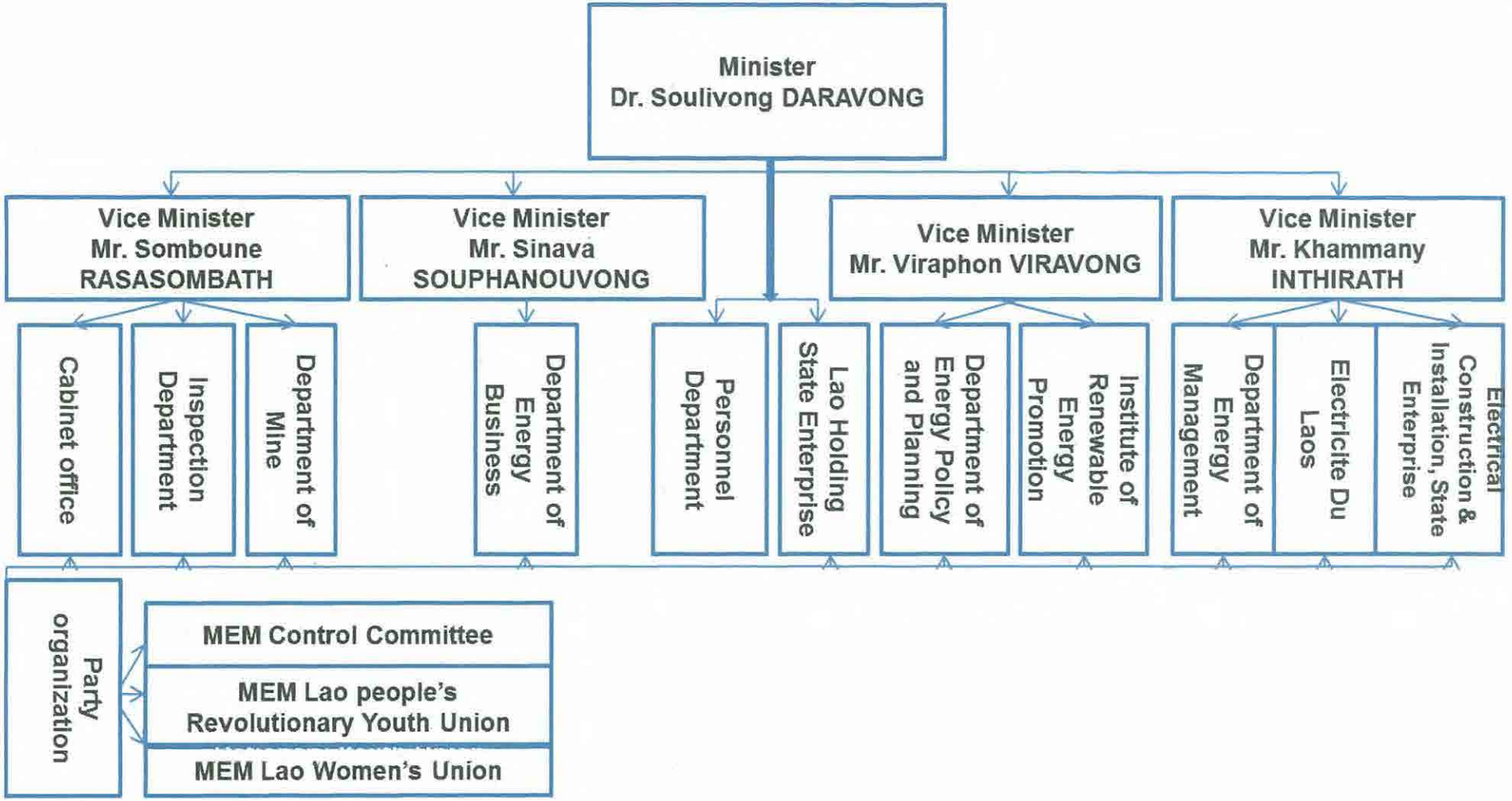
Annex 1

Project Sites



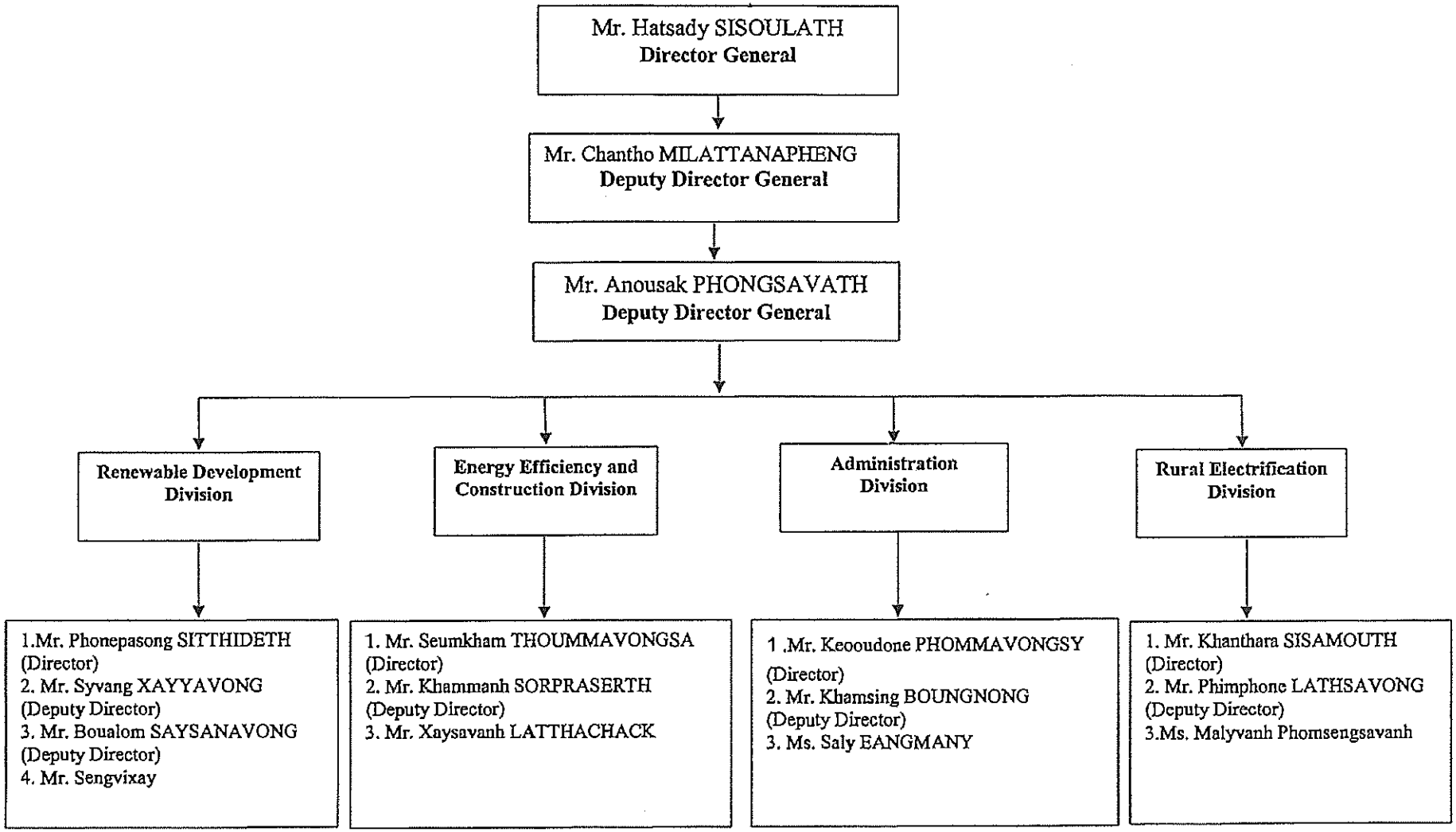
Annex 2

Organization Chart of MEM



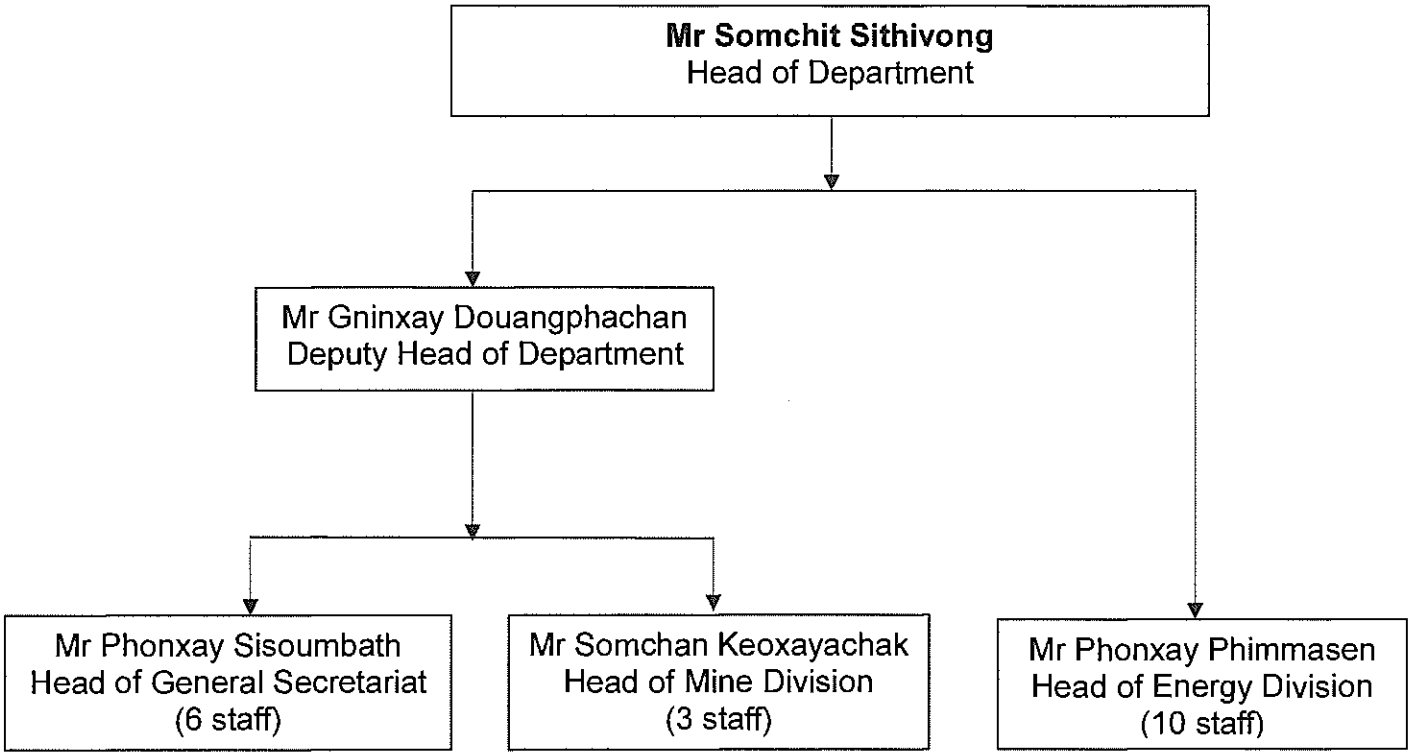
Annex 3

Organization Chart of IREP



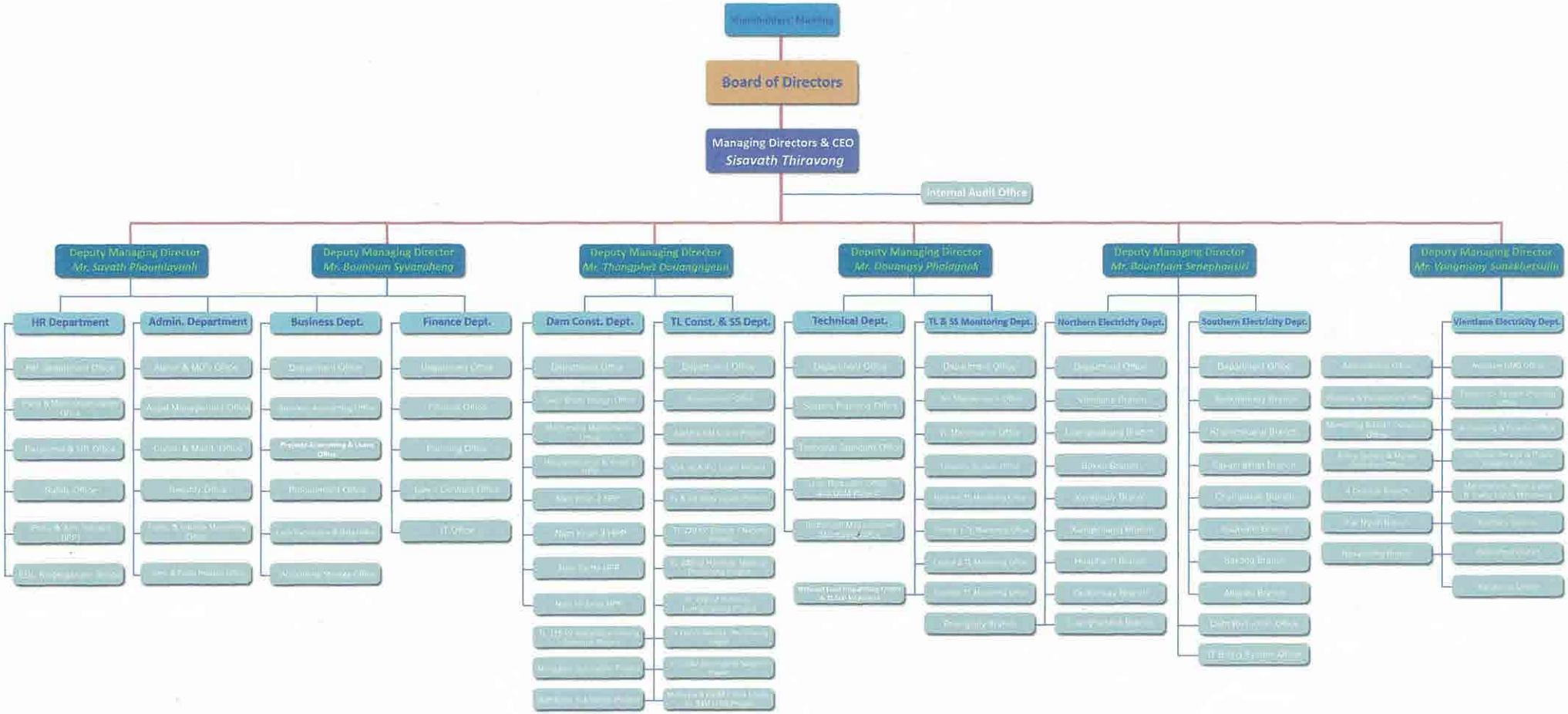
Annex 4

Organization Chart of PDEM at Phongsaly Province



Annex 5

Organization Chart of EDL



Annex-6

Japan's Grant Aid

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, a new JICA law was entered into effect on October 1, 2008. Based on this law and the decision of the GOJ, JICA has become the executing agency of the Grant Aid for General Projects, for Fisheries and for Cultural Cooperation, etc.

The Grant Aid is non-reimbursable fund provided to a recipient country to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for its economic and social development in accordance with the relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

1. Grant Aid Procedures

The Japanese Grant Aid is supplied through following procedures :

・Preparatory Survey
- The Survey conducted by JICA

・Appraisal &Approval
-Appraisal by the GOJ and JICA, and Approval by the Japanese Cabinet

・Authority for Determining Implementation
-The Notes exchanged between the GOJ and the recipient country

・Grant Agreement (hereinafter referred to as "the G/A")
-Agreement concluded between JICA and a recipient country

・Implementation
-Implementation of the Project on the basis of the G/A

2. Preparatory Survey

(1) Contents of the Survey

The aim of the preparatory Survey is to provide a basic document necessary for the appraisal of the Project made by the GOJ and JICA. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of relevant agencies of the recipient country necessary for the implementation of the Project.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, financial, social and economic point of view.
- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of a basic design of the Project.

- Estimation of the Project cost.

The contents of the original request by the recipient country are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed based on the guidelines of Japan's Grant Aid scheme.

JICA requests the Government of the recipient country to take whatever measures necessary to achieve its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization of the recipient country which actually implements the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA employs (a) registered consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

(3) Result of the Survey

JICA reviews the Report on the results of the Survey and recommends the GOJ to appraise the implementation of the Project after confirming the appropriateness of the Project.

3. Japan's Grant Aid Scheme

(1) The E/N and the G/A

After the proposed Project is approved by the Cabinet of Japan, the Exchange of Notes(hereinafter referred to as "the E/N") will be singed between the GOJ and the Government of the recipient country to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Government of the recipient country to define the necessary articles to implement the Project, such as payment conditions, responsibilities of the Government of the recipient country, and procurement conditions.

(2) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the recipient country to continue to work on the Project implementation after the E/N and G/A are signed by both sides.

(3) Eligible source country

Under the Japanese Grant Aid, in principle, Japanese products and services including transport of materials or those of the recipient country are to be purchased. When JICA and the Government of the recipient country or its designated authority deem it necessary, the Grant Aid may be used for the purchase of the products or services from a third country. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm are limited to "Japanese nationals".

(4) Necessity of "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by JICA. This "Verification" is deemed necessary to fulfill accountability to Japanese taxpayers.

(5) Major undertakings to be taken by the Government of the Recipient Country

In the implementation of the Grant Aid Project, the recipient country is required to undertake such necessary measures as shown in Annex-8.

(6) "Proper Use"

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

(7) "Export and Re-export"

The products purchased under the Grant Aid should not be exported or re-exported from the recipient country.

(8) Banking Arrangements (B/A)

a) The Government of the recipient country or its designated authority should open an account under the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). JICA will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the Verified Contracts.

b) The payments will be made when payment requests are presented by the Bank to JICA under an Authorization to Pay (A/P) issued by the Government of the recipient country or its designated authority.

(9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions paid to the Bank.

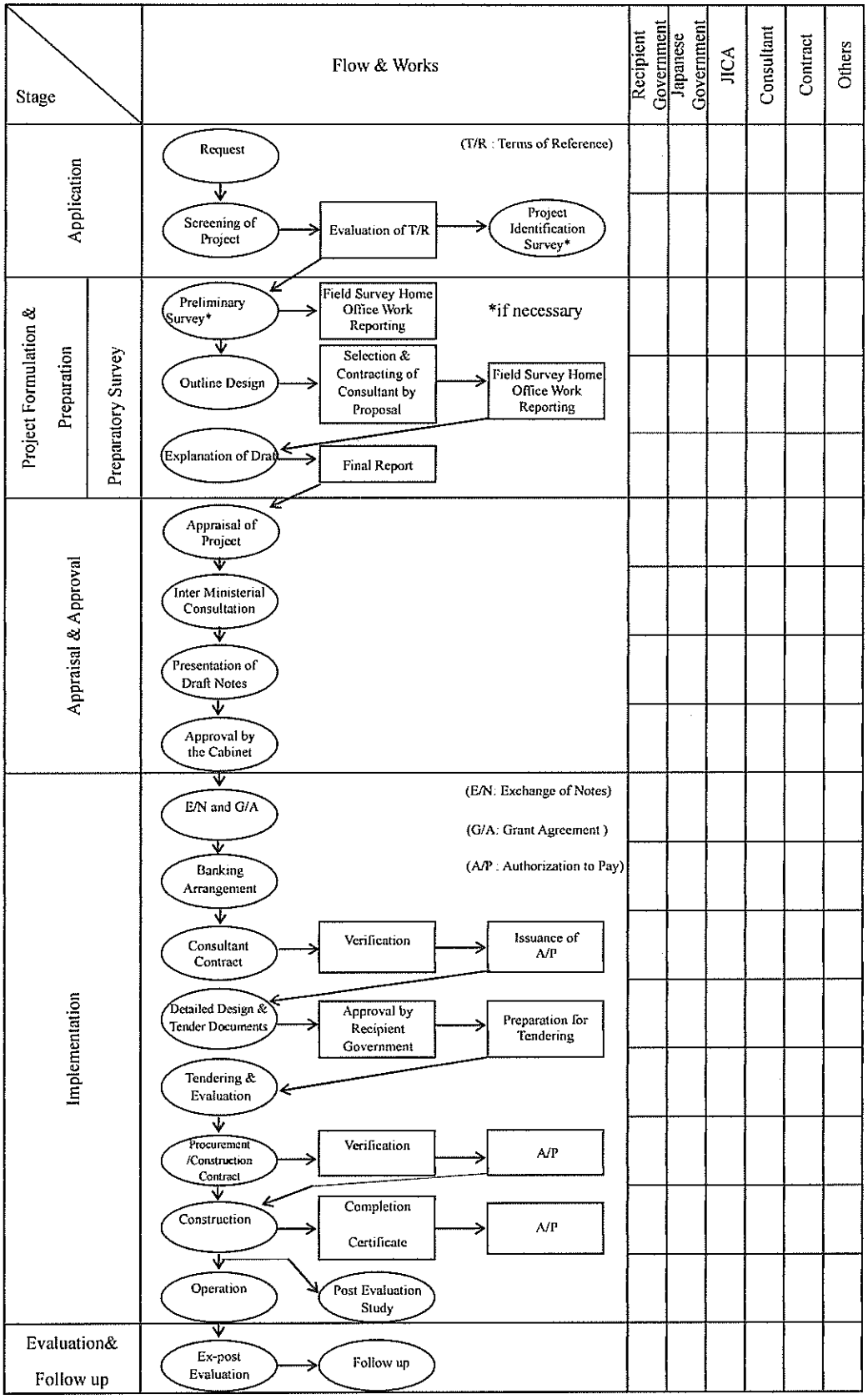
(10) Social and Environmental Considerations

A recipient country must carefully consider social and environmental impacts by the Project and must comply with the environmental regulations of the recipient country and JICA guidelines for Environmental and Social Considerations.

(End)

Annex-7

Flow Chart of Japan's Grant Aid Procedures



Annex-8

Major undertakings to be taken by each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	to secure lots of land necessary for the implementation of the Project and to clear the sites;		●
2	To construct the following facilities		
	1) The building	●	
	2) The gates and fences in and around the site		●
	3) The parking lot	●	
	4) The road within the site	●	
	5) The road outside the site		●
3	To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project outside the sites		
	1)Electricity		
	a. The distributing power 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 elevated tanks)	●	
	3) Drainage		
	a. The city drainage main (for storm sewer and others to the site)		●
	b. The drainage system (for toilet sewer, common 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	●	
4	To ensure prompt unloading and customs clearance of the products at ports of disembarkation in the recipient country and to assist internal transportation of the products		
	1) Marine (Air) transportation of the Products from Japan to the recipient country	●	
	2) Tax exemption and custom clearance of the Products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	●	
5	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 products and the services be exempted		●
6	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
7	To ensure that the Facilities be maintained and used properly and effectively for the implementation of the Project		●
8	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project		●
9	To bear the following commissions paid to the Japanese bank for banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
10	To give due environmental and social consideration in the implementation of the Project.		●

*1 B/A : Banking Arrangement, A/P : Authorization to pay)

Minutes of Discussions
on the Preparatory Survey on the Project for
Mini-Hydropower Development Project in Lao People's Democratic Republic
(Explanation on Draft Final Report)

In response to the request from the Government of Lao People's Democratic Republic (hereinafter referred to as "Lao PDR"), the Japan International Cooperation Agency (hereinafter referred to as "JICA"), in consultation with the Government of Japan, decided to conduct a Preparatory Survey (hereinafter referred to as "the Survey") for Mini-Hydropower Development Project in Lao PDR (hereinafter referred to as "the Project").

In August/September and in October 2012, JICA dispatched the Preparatory Survey Team (hereinafter referred to as "the Team") to Lao PDR, and through discussions, field surveys and the result of technical examination in Japan, JICA prepared a Draft Final Report of the Survey.

In order to explain and to consult with the officials of the concerned authorities in Lao PDR (hereinafter referred to as "the Laotian side") on the contents of the Draft Final Report, JICA dispatched the Team for explanation of the Draft Final Report, which is headed by Dr. Akira NIWA, Senior Advisor of JICA, from December 10 to 22, 2012.

As a result of the discussions, both the Laotian side and the Team (hereinafter referred to as "Both sides") have confirmed the main items described in the sheets attached hereto.

Vientiane, December 21, 2012

Dr. Akira NIWA
Leader,
Preparatory Survey Team,
Japan International Cooperation Agency

Mr. Hatsady SYSOULATH
Director General
Institute of Renewable Energy Promotion
Ministry of Energy and Mines

Mr. Somchit SITTHIVONG
Director General,
Provincial Department of Energy and Mines, Phongsaly Province

Thongpheth DOUANGNGEUNE
Deputy Managing Director

Mr. Sisavath THIRAVONG
Managing Director & CEO
Electricite du Laos

ATTACHMENT

1. Contents of the Draft Final Report

The Laotian side agreed and accepted in principle the contents of the Draft Final Report explained by the Team.

2. Responsible and Implementing Organizations

(1) Responsible organizations

The Institute of Renewable Energy Promotion (IREP) of the Ministry of Energy and Mines (MEM) is the responsible organization of the Project, and shall bear overall responsibility for the administration and implementation of the Project.

(2) Implementing organizations

The Provincial Department of Energy and Mines, Phongsaly Province (PDEM) is the implementing organization for the design and construction stages of the Project with technical supports from IREP/MEM and the Electricite du Laos (hereinafter referred to as "EDL") on necessity bases.

the Hydropower Plantthe Distribution Networks

The organization structures for MEM, IREP, PDEM and EDL are shown in Annex-1, Annex-2 Annex-3 and Annex-4 respectively.

3. Components of the Project

The following (1) and (2) are selected as the Project Components through the Survey. Annex-5 shows the location of project sites.

(1) Construction of a 450kW run-of-river type Gnod Ou hydropower plant (hereinafter referred to as "the Hydropower Plant")

(2) Extension of 22kV mid-voltage distribution lines and installation of 22kV/400V transformers and 400V low-voltage distribution lines (hereinafter referred to as "the Distribution Networks")

Both sides confirmed that the component (2) above would provide electricity access to 22 un-electrified villages in Gnod Ou district, and is quite important for the promotion of rural community development. Thus the Laotian side strongly requested the Team to implement all area proposed in the component (2).

The Team explained that the requested components were considered as candidate components to be implemented, and JICA would assess the appropriateness of the requests for Japan's Grant Aid, and would report the finding to the Government of Japan. The scope of the component (2) above would be decided considering budget available for the Project and the priority of electrification target areas of the Laotian side.

4. Japan's Grant Aid Scheme

(1) The Laotian side understood the Japan's Grant Aid Scheme explained by the Team as described in Annex-6.

(2) The Laotian side has agreed to take the necessary measures, as described in Annex-7, for smooth implementation of the Project as prerequisites for the Japan's Grant Aid to be implemented.

5. Environmental and Social Considerations

(1) JICA Guidelines for Environmental and Social Consideration

The Laotian side agreed to comply with the JICA Guidelines for Environmental and Social Consideration (April 2010) (hereinafter referred to as "JICA Guidelines") as well as Laotian laws and regulations.

(2) The Environmental Checklist

IREP/MEM and PDEM and the Team confirmed information on environmental and social considerations including major impacts and relevant mitigation measures were summarized in the Environmental Checklist attached as Annex-8. IREP/MEM and PDEM confirmed they would inform JICA of any major changes on the items described in the Checklist which may cause environmental and social negative impacts by revising the Checklist in a timely manner.

(3) Environmental Monitoring Plan

IREP/MEM and PDEM and the Team confirmed environmental monitoring would be conducted by IREP/MEM and PDEM in accordance with the Environmental Monitoring Plan described in the Draft Final Report.

(4) Land Acquisition and Compensation Plan

IREP/MEM and PDEM and the Team confirmed the internal monitoring proposed in the Land Acquisition and Compensation Plan (hereinafter referred to as "LACP") would be conducted by IREP/MEM and PDEM. IREP/MEM and PDEM agreed that progress of LACP would be monitored until land acquisition and compensation activities including livelihood restoration program are completed. IREP/MEM and PDEM will report monitoring results to JICA by filling in the Annex-9.

In case there is a remaining issue that needs to be addressed (e.g. insufficient restoration of livelihood of Project Affected Persons (hereinafter referred to as "PAPs"), JICA may request to extend the period of monitoring and reporting until JICA confirms the issues have been properly addressed and solved in accordance with the agreement between IREP/MEM and PDEM and JICA.

(5) Disclosure

IREP/MEM and PDEM confirmed it would take stipulated procedures for information disclosure in accordance with the Lao PDR Government's ordinance No. 192/MONRE on compensation and resettlement of people affected by development projects. In addition, the Team requested IREP/MEM and PDEM to disclose the monitoring results to local stakeholders, and IREP/MEM and PDEM agreed to disclose monitoring results [on their website/in their field offices].

IREP/MEM and PDEM agreed JICA's disclosure of provided monitoring results in the monitoring form Annex-9 on its website.

(6) Initial Environmental Examination

The design of the Project considered the basic principles of the JICA Guidelines, which is to avoid or minimize development projects' adverse impacts on the environment and local communities. Accordingly, as the Initial Environmental Examination (hereinafter referred to as "IEE") in the Draft Final Report shows, the project area was selected to avoid residential houses, school, cultural sites, agricultural farms and protected forest as much as possible.

(7) Environmental Certificate

The Laotian side agreed that PDEM should obtain an Environment Compliance Certificate issued from Provincial Department of Natural Resources and Environment (hereinafter referred to as "PDNRE") before the middle of January 2013 in accordance with the environmental screening process of Lao PDR. IREP/MEM shall guide and assist PDEM to fulfill all the requirements in a timely manner, and shall make necessary arrangements and coordination of the concerned

departments of MEM.

(8) Compensations to PAPs

The Laotian side agreed to establish a compensation committee composed of PDEM, PDNRE and district authorities and implement all the necessary activities as described in Annex-11, and should obtain a government's approval before the end of January 2013 regarding the compensation plan including the budgetary arrangement.

6. Project Cost

The Laotian side agreed that the cost for the Project should not exceed the amount agreed on Exchange of Notes (E/N). The Laotian side also agreed that the cost for the Project contains procurement cost of equipment, transportation cost up to the Project site, installation cost and the consultant fees.

7. Confidentiality of the Project

(1) Detailed specifications of the Facilities and Equipment

Both sides agreed that all the information related to the Project including detailed drawings and specifications of the facilities and equipment and other technical information should not be disclosed to any outside parties (i.e. other than JICA and the Laotian side) before conclusion(s) of all contract(s) for the Project.

(2) Confidentiality of the Cost Estimation

The Team explained the estimated cost of the Project as described in Annex-10. Both sides agreed that the estimated cost for the Project should never be duplicated or disclosed to any outside parties (i.e. other than JICA and the Laotian side) before tender(s) for the Project. The Laotian side understood that the estimated cost for the Project attached as Annex-10 was not the final and subject to change.

8. Possibility of Change in Scope, Schedule and Cost of the Project

The Team stressed that the scope, the schedule, and the cost for the Project were tentative and subject to change due to the domestic circumstances in Japan and Lao PDR. The Laotian side understood it.

9. Undertaking required by the Laotian side

The Team requested the Laotian side to abide by the following undertakings by the Laotian side in addition to major undertakings described in the previous M/D. The Laotian side agreed to do so.

(1) Land usage for the Project Sites

The Laotian side has reconfirmed that land usage of the Project sites for the Hydropower Plant and the Distribution Networks should be secured and there was no objection for the implementation of the Project.

(2) Grid Connection for Power Generation

As the electricity in the Project area is being imported from China and its import condition is bound by the power purchase agreement (hereinafter referred to as "PPA"), the Laotian side reconfirmed that EDL should take necessary actions and establish an agreement with concerned parties before the end of January 2013 on grid connection of the Hydropower Plant.

Both sides agreed that a supporting letter should be issued by MEM addressed to EDL underwriting the current commitment of Lao PDR on the Project and its intention of connecting the Hydropower Plant to the distribution grid.

(3) Long Term Sustainability of Power Generation

The Laotian side has reconfirmed that long term sustainability of power generation of the Hydropower Plant should be maintained regardless of changes in the power supply system in Gnod Ou area due to connection of new generation sources and/or extension of transmission/distribution lines in the future.

(4) Customs and Tax exemption

The Laotian side agreed that it should be fully responsible on exemption and/or reimbursement of taxes, custom duties and any other levies and duties incurred in Laos for the implementation of the Project.

(5) Assignment of Counterpart Personnel

The Laotian side agreed to assign appropriate personnel as counterpart staff to the officials and consultants from the Japanese side, and other necessary members in accordance with the soft component plan described in the Draft Final Report.

10. Ownership and Responsibility for Operation, Management and Maintenance

(1) Ownership of the Project

The Laotian side has reconfirmed its responsibility of securing proper and effective operation, management and maintenance of the facilities and equipment under the Japan's Grand Aid.

Both sides agreed that the ownership of the Hydropower Plant would remain with PDEM while that of the Distribution Network would be transferred to EDL after the Project is completed.

(2) Collaboration with the Rural Electrification Fund

IREP/MEM stated that PDEM would not be able to conclude a PPA with EDL since it was a governmental entity, and expressed its intention to establish a special purpose organization for operating the Hydropower Plant (hereinafter referred to as "SPO") under the responsibility of PDEM as it would enhance efficiency and service quality thus contributing the efficient and effective operation of the Plant.

IREP/MEM also proposed that the Rural Electrification Fund (hereinafter referred to as "REF"), which is a part of the World Bank's funded project, would be an appropriate facility as its functions were i) to subsidize equipment for rural electrification, ii) to extend technical support for stakeholders and local communities, and iii) to facilitate public and private partnerships.

It also explained that, by utilizing REF, PDEM would be able to receive not only technical assistances from IREP/MEM in finding responsible private parties, preferably from local communities, but financial supports for further electrification in rural areas. It also mentioned the possibility of supporting PDEM as well as SPO in negotiating with EDL for setting a power selling price at a commercially sustainable rate.

The Team replied that, to ensure a responsible entity for operation and maintenance get ready well before the Commercial Date of Operation of the Hydropower Plant (hereinafter referred to as "COD"), IREP/MEM would need to start preparations for setting up SPO, including procedures and schedule of a public offering, drafting conditions for contract, confirming a PPA condition with EDL, etc. as soon as the Exchange of Note of the Project is concluded. It also emphasized that, although the public offering and selection process would follow the rules and regulations of REF manual in principle, the procedure should be transparent and competitive as much as possible. In addition, as there is a possibility that no private entity applies for the public offering, or an entity's capacity is found to be insufficient to perform the expected roles, the Team requested

IREP/MEM that it would take the following, but not limited to, steps to avoid any delays and/or failures in the preparation;

i) IREP/MEM shall confirm by writing that PPA with China does not hinder the Project from implementation by the end of January 2013.
ii) IREP/MEM shall review and share with JICA existing procedures for public offering and selection applicable for the Project, and identify the issues that need to be amended considering JICA's concerns above by the end of February 2013, and make necessary amendments by the end of May 2013. Schedule and demarcations among relevant parties should accompany.
iii) IREP/MEM and JICA shall tentatively agree on the outline of procedure by August 2013 in principle.
iv) IREP/MEM shall consult with consultants hired as a part of the soft component of the Project on the procedures above, and finalize it by the end of October 2013 after obtaining a concurrence from JICA.
v) IREP/MEM shall announce a public offering by the end of November 2013
vi) IREP/MEM shall complete selection of an applicant by the end of February 2014 after consultation with consultants above and confirming a concurrence from JICA.
vii) IREP/MEM shall assist PDEM in negotiating with the applicant as well as EDL for contract condition, and make sure the contract and PPA are concluded by the end of July 2014, six months before COD.
viii) In case no applicant is expected to be selected before the end of February 2014, IREP/MEM shall take alternative approach to set up an independent operation and maintenance unit under PDEM with support from EDL as a temporary responsible entity. In the meantime, IREP/MEM shall continue to seek eligible candidate.

Both sides agreed to the points described above, and make an in-depth study in the detailed design stage.

(3) Sustainability and benefit to the local communities

The Team emphasized the importance of sustainability of the Project and securing economic and social benefits to the local communities in Ou-Thai district. It stated that the budget necessary for investments on operation and maintenance, and social and economic development of the local communities should be set aside from the revenue of power sales with the highest priority.

To do so, it requested that the contract between PDEM and SPO should require SPO to maintain the Hydropower Plant in good condition so that it can be operated soundly even after the expiry date of the contract, and encourage improving operational performance with a view to maximizing profit thereby increasing contribution to the PDEM's coffer through the power sales.

In addition, it requested IREP/MEM and EDL that once un-electrified communities gained power accesses by the Distribution Networks, IREP/MEM and EDL make utmost effort to enable their households to get connected to the grid through REF as well as the Power to Poor schemes funded by the World Bank.

(4) Necessity of technical assistances through the soft component

Both sides agreed that, to get an operation and maintenance entity ready by the time of COD, the soft component of the Project should include studies on procedures and criteria for selecting private partners and conditions for an operation and maintenance contract.

(5) Operation and maintenance structure of the Hydropower Plant

Both sides confirmed that the Hydropower Plant should be operated, managed and maintained in the most sustainable and efficient manner. The expected structure is described in Annex-12.

(6) Monitoring of the Project

Both sides agreed that PDEM would receive periodical reporting from SPO based on an operation and maintenance contract, and then PDEM would report to IREP/MEM. It was also agreed that IREP/MEM and PDEM would constitute an oversight committee for the matters related to operation, management, maintenance and accounting of the Hydropower Plant. It was confirmed that IREP/MEM or the oversight committee would submit to JICA of annual monitoring records on the operation and financial status of the Hydropower Plant.

11. "Green Growth" policy

The Laotian side recognized, as the Embassy of Japan explained, that the Project will be formulated and conducted in accordance with the "Green Growth" policy of the Government of Japan, which emphasizes on utilizing the major equipment such as hydro turbines made by Japan's small and medium enterprises.

12. Adaptation to Climate Change

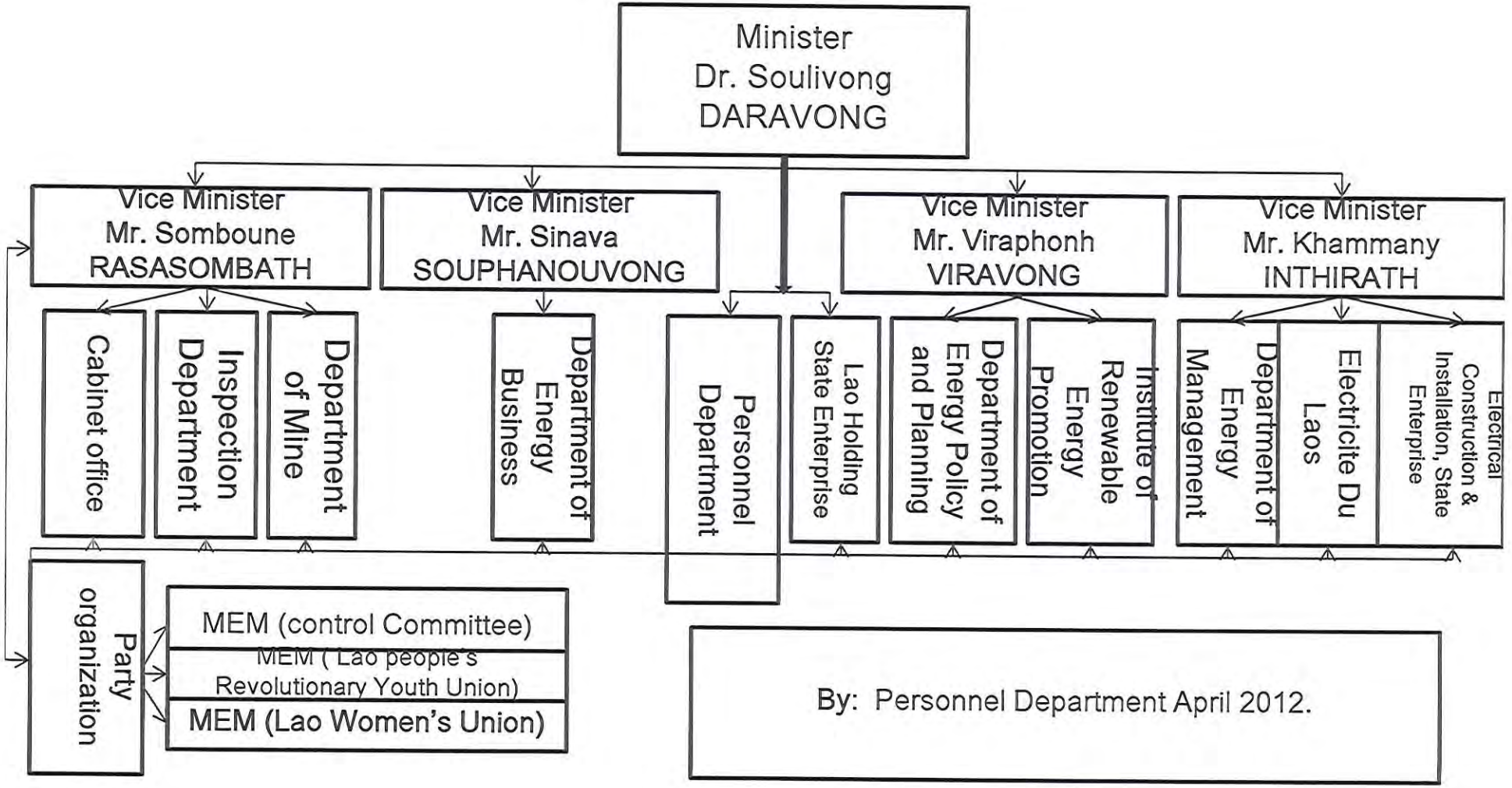
This project is expected to contribute to mitigation of and/or adaptation to climate change.

(End)

[List of Annex]

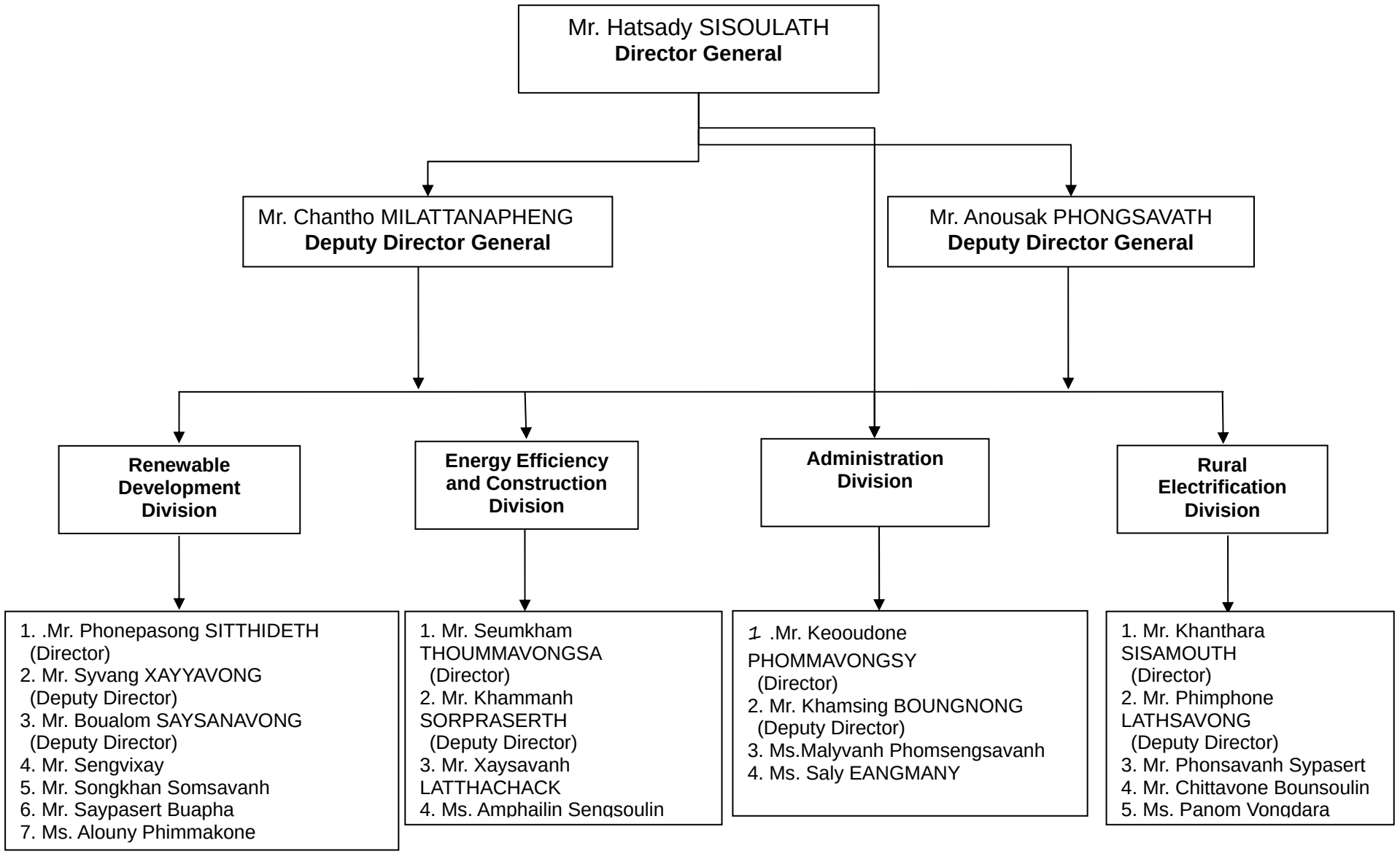
Annex-1: Organization Chart of MEM
Annex-2: Organization Chart of IREP
Annex-3: Organization Chart of PDEM at Phongsaly Province
Annex-4: Organization Chart of EDL
Annex-5: Location of the Project Sites
Annex-6: Japan's Grant Aid
Annex-7: Major Undertakings to be taken by Each Government
Annex-8: Environmental Checklist
Annex-9: Environmental Monitoring Form
Annex-10: Estimated Project Cost (Confidential)
Annex-11: Time Schedule for Socio-Environmental Activities
Annex-12: Organization Structure for Operation, Management and Maintenance

Organization chart of MEM **Annex 1**



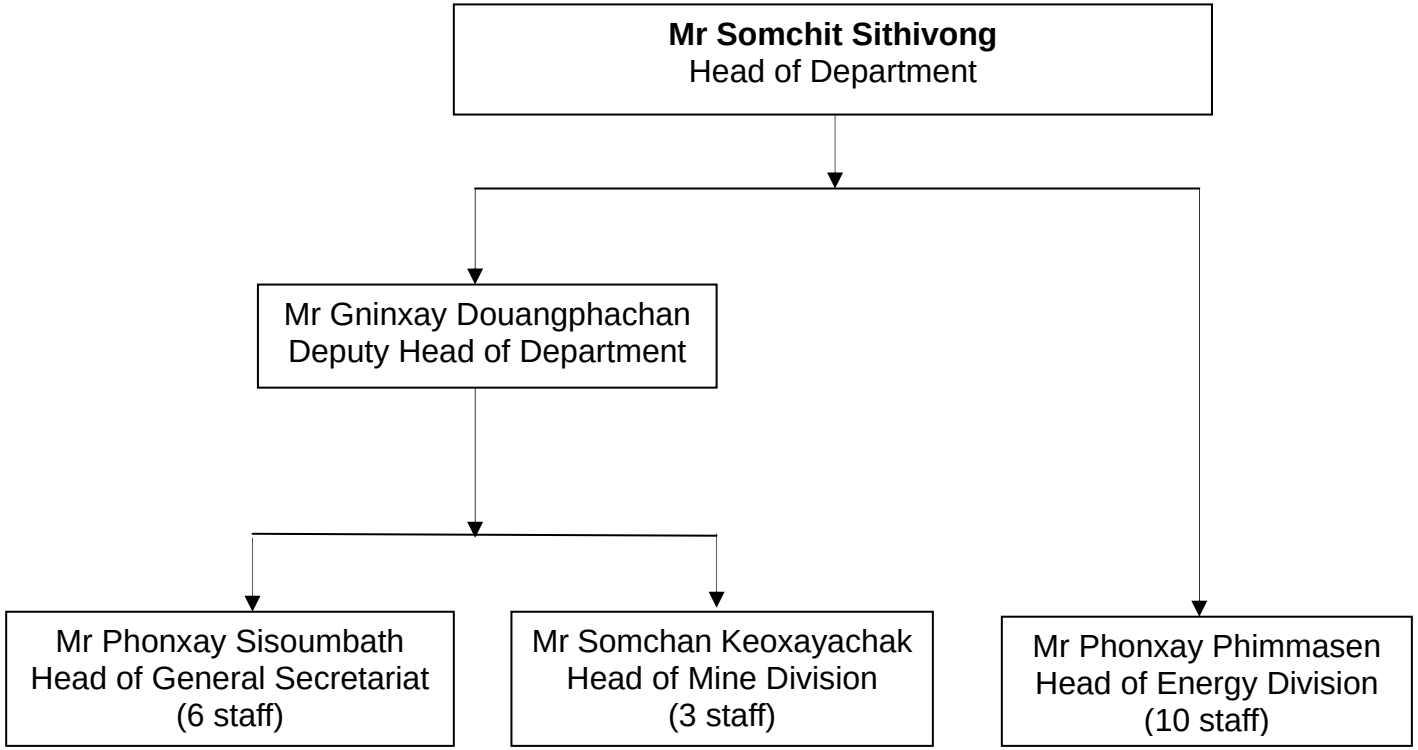
Annex 2

Organization Chart of Institute of Renewable Energy Promotion



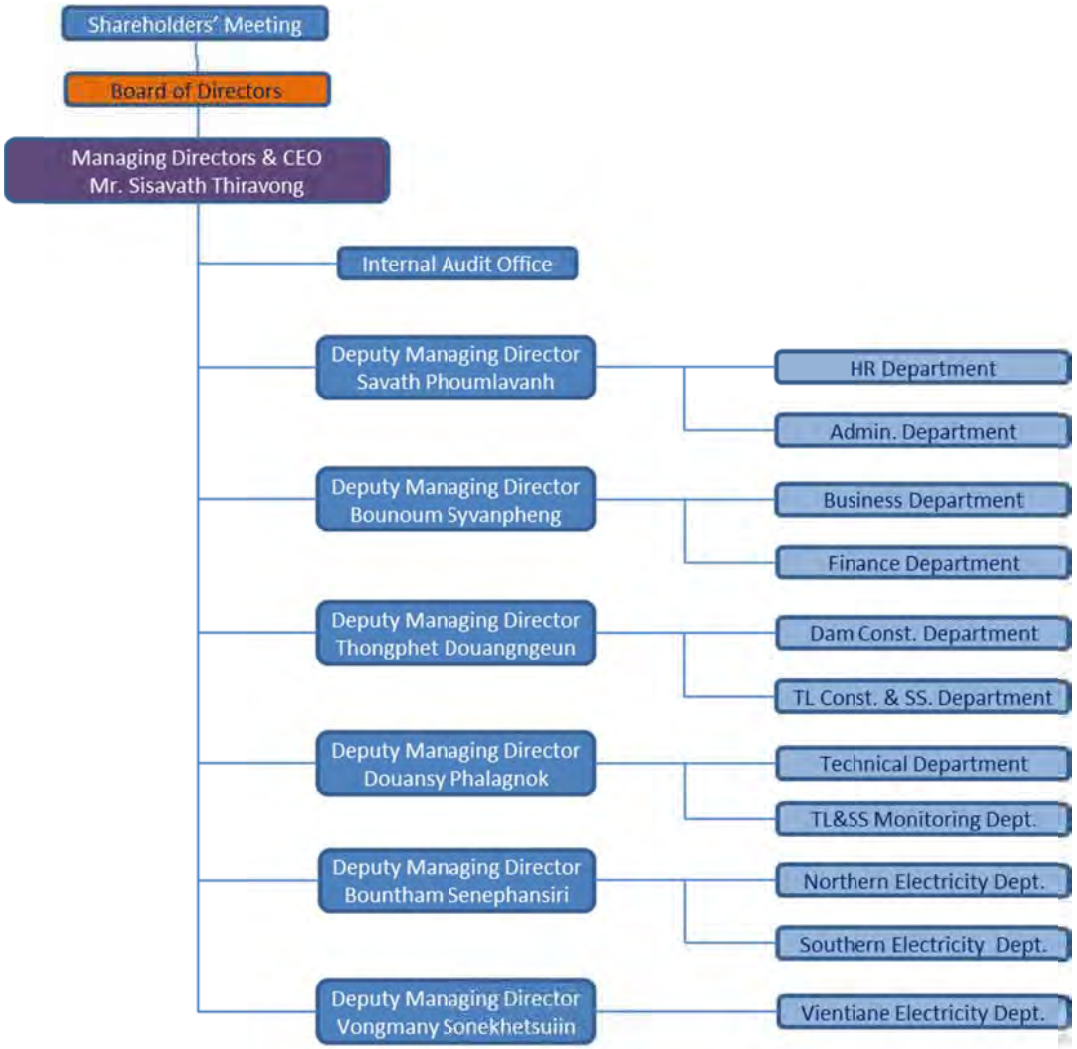
Annex 3

Organization Chart of PDEM at Phongsaly Province



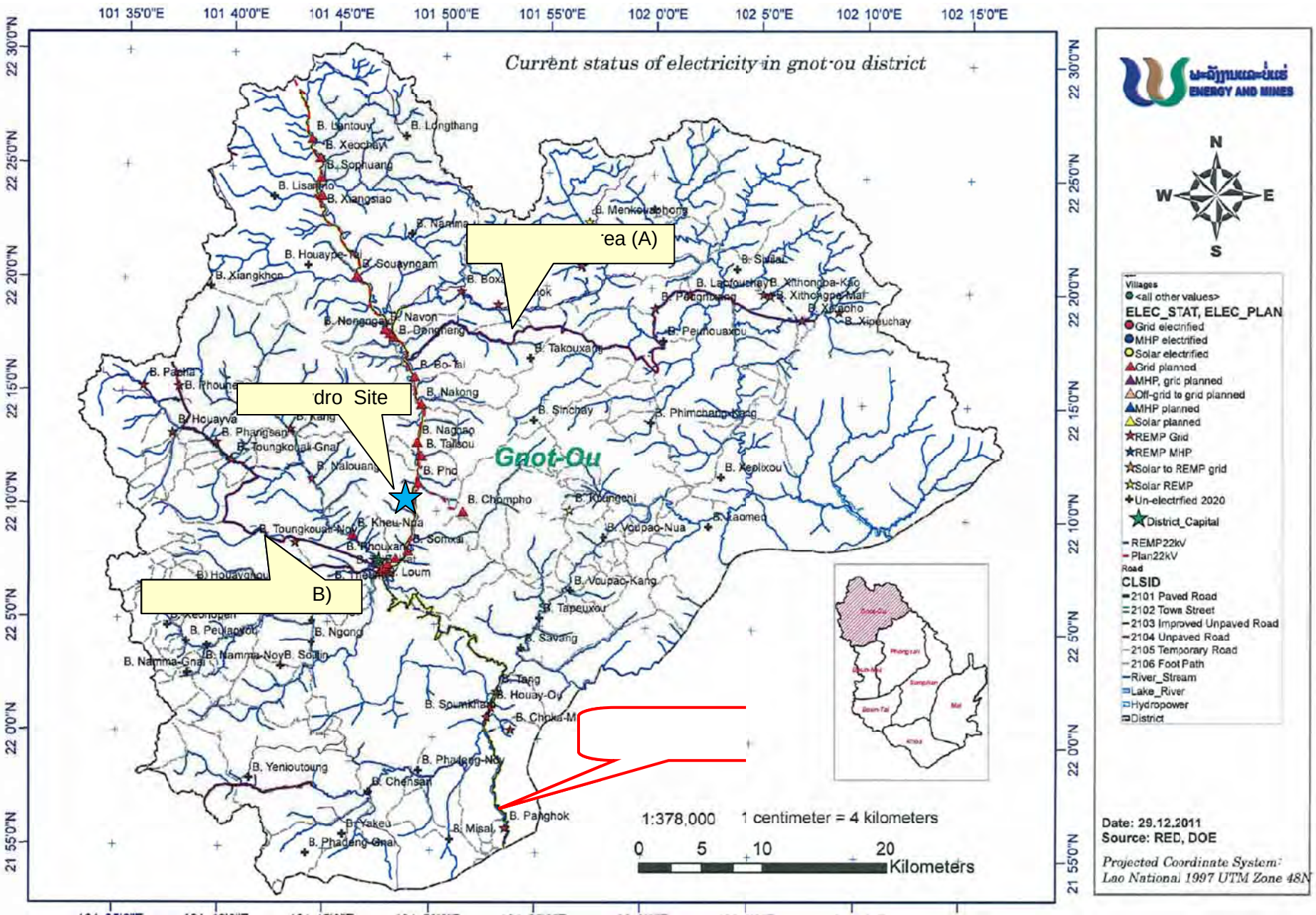
Annex 4

Organization Chart of EDL



Annex 5

Location of the Project Sites



Annex-6

Japan's Grant Aid

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, a new JICA law was entered into effect on October 1, 2008. Based on this law and the decision of the GOJ, JICA has become the executing agency of the Grant Aid for General Projects, for Fisheries and for Cultural Cooperation, etc.

The Grant Aid is non-reimbursable fund provided to a recipient country to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for its economic and social development in accordance with the relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

1. Grant Aid Procedures

The Japanese Grant Aid is supplied through following procedures :

・Preparatory Survey
- The Survey conducted by JICA

・Appraisal &Approval
-Appraisal by the GOJ and JICA, and Approval by the Japanese Cabinet

・Authority for Determining Implementation
-The Notes exchanged between the GOJ and the recipient country

・Grant Agreement (hereinafter referred to as "the G/A")
-Agreement concluded between JICA and a recipient country

・Implementation
-Implementation of the Project on the basis of the G/A

2. Preparatory Survey

(1) Contents of the Survey

The aim of the preparatory Survey is to provide a basic document necessary for the appraisal of the Project made by the GOJ and JICA. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of relevant agencies of the recipient country necessary for the implementation of the Project.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, financial, social and economic point of view.
- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of a basic design of the Project.

- Estimation of the Project cost.

The contents of the original request by the recipient country are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed based on the guidelines of Japan's Grant Aid scheme.

JICA requests the Government of the recipient country to take whatever measures necessary to achieve its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization of the recipient country which actually implements the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA employs (a) registered consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

(3) Result of the Survey

JICA reviews the Report on the results of the Survey and recommends the GOJ to appraise the implementation of the Project after confirming the appropriateness of the Project.

3. Japan's Grant Aid Scheme

(1) The E/N and the G/A

After the proposed Project is approved by the Cabinet of Japan, the Exchange of Notes(hereinafter referred to as “the E/N”) will be singed between the GOJ and the Government of the recipient country to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Government of the recipient country to define the necessary articles to implement the Project, such as payment conditions, responsibilities of the Government of the recipient country, and procurement conditions.

(2) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the recipient country to continue to work on the Project implementation after the E/N and G/A are signed by both sides.

(3) Eligible source country

Under the Japanese Grant Aid, in principle, Japanese products and services including transport of materials or those of the recipient country are to be purchased. When JICA and the Government of the recipient country or its designated authority deem it necessary, the Grant Aid may be used for the purchase of the products or services from a third country. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm are limited to "Japanese nationals".

(4) Necessity of "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by JICA. This "Verification" is deemed necessary to fulfill accountability to Japanese taxpayers.

(5) Major undertakings to be taken by the Government of the Recipient Country

In the implementation of the Grant Aid Project, the recipient country is required to undertake such necessary measures as shown in Annex-7.

(6) "Proper Use"

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

(7) "Export and Re-export"

The products purchased under the Grant Aid should not be exported or re-exported from the recipient country.

(8) Banking Arrangements (B/A)

a) The Government of the recipient country or its designated authority should open an account under the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). JICA will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the Verified Contracts.

b) The payments will be made when payment requests are presented by the Bank to JICA under an Authorization to Pay (A/P) issued by the Government of the recipient country or its designated authority.

(9) Authorization to Pay (A/P)

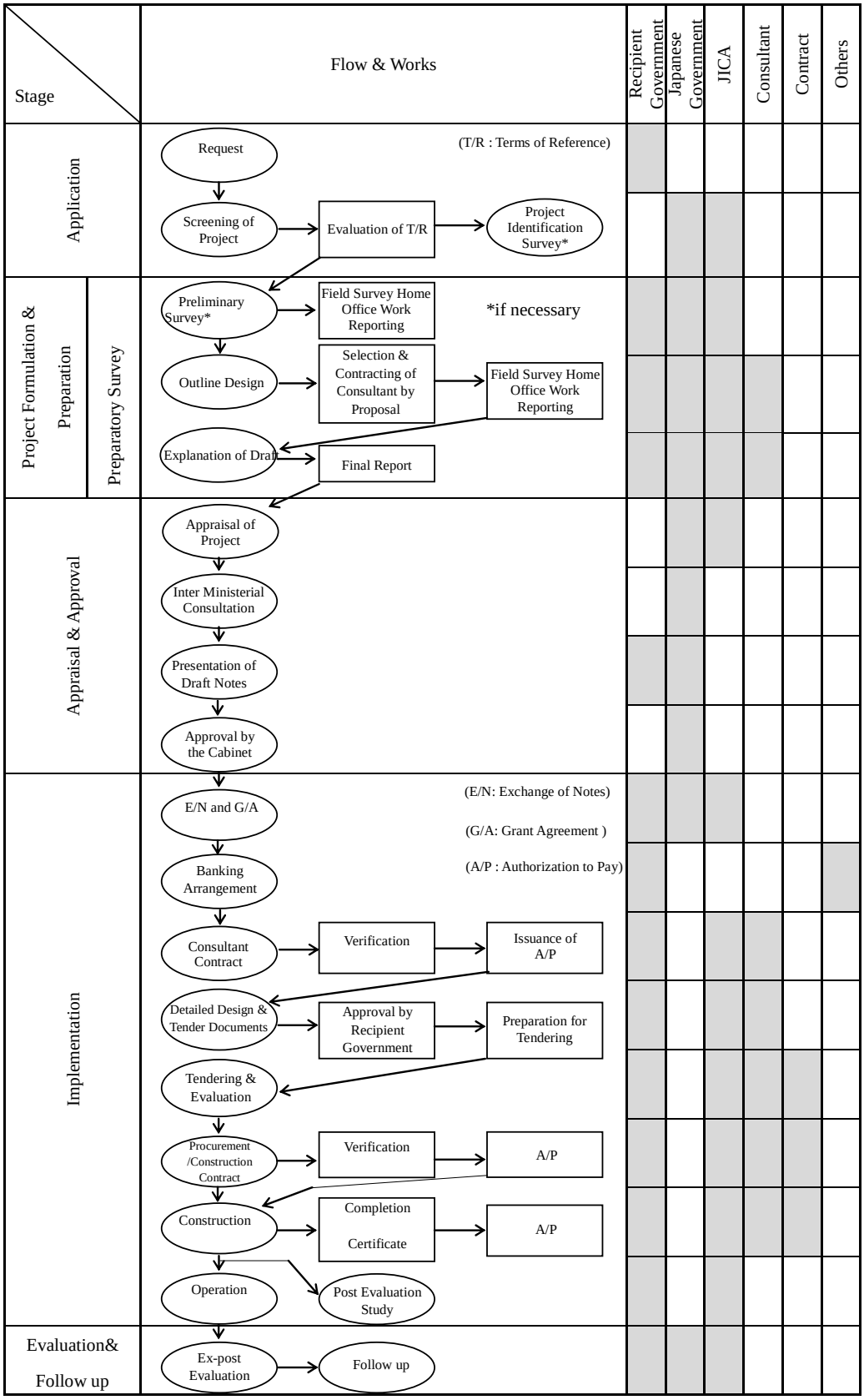
The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions paid to the Bank.

(10) Social and Environmental Considerations

A recipient country must carefully consider social and environmental impacts by the Project and must comply with the environmental regulations of the recipient country and JICA guidelines for Environmental and Social Considerations.

(End)

Flow Chart of Japan's Grant Aid Procedures



Annex-7

Major undertakings to be taken by Each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	to secure lots of land necessary for the implementation of the Project and to clear the sites;		●
2	To construct the following facilities		
	1) The building	●	
	2) The gates and fences in and around the site		●
	3) The parking lot	●	
	4) The road within the site	●	
	5) The road outside the site		●
3	To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project outside the sites		
	1)Electricity		
	a. The distributing power 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 elevated tanks)	●	
	3) Drainage		
	a. The city drainage main (for storm sewer and others to the site)		●
	b. The drainage system (for toilet sewer, common 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	●	
4	To ensure prompt unloading and customs clearance of the products at ports of disembarkation in the recipient country and to assist internal transportation of the products		
	1) Marine (Air) transportation of the Products from Japan to the recipient country	●	
	2) Tax exemption and custom clearance of the Products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	●	
5	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 products and the services be exempted		●
6	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
7	To ensure that the Facilities be maintained and used properly and effectively for the implementation of the Project		●
8	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project		●
9	To bear the following commissions paid to the Japanese bank for banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
10	To give due environmental and social consideration in the implementation of the Project.		●

*1 B/A : Banking Arrangement, A/P : Authorization to pay)

Annex-8

Environmental Checklist

Environmental Checklist				
(Hydropower, Dam, Reservoir)				
Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
1 Permits and Explanation	(1) EIA and Environmental Permits	(a) Have EIA reports been already prepared in official process? (b) Have EIA reports been approved by authorities of the host country's government? (c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied? (d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	(a) N (b) N (c) N (d) Y	(a)IEE report is mandatory. Under carrying out. (b)Not approval (c) Under carrying out (d)After getting approval on IEE, permit on the Land Acquisition and Compensation Plan(LACP) is needed by Compensation Committee consists of "Village Head", "District Staff" and "Project Owner(PDEM)".
	(2) Explanation to the Local Stakeholders	(a) Have contents of the project and the potential impacts been adequately explained to the Local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the Local stakeholders? (b) Have the comment from the stakeholders (such as local residents) been reflected to the project design?	(a) Y (b) Y	(a)Out lines of Project have disclosed to concerned people at SHM (b)Comments are reflected to design of Project (Fish way , reduced weir
	(3) Examination of Alternatives	(a) Have alternative plans of the project been examined with social and environmental considerations?	(a) Y	(a)Three alternatives are discussed with No option
2 Pollution Control	(1) Water Quality	(a) Does the water quality of dam pond/reservoir comply with the country's ambient water quality standards? Is there a possibility that proliferation of phytoplankton and zooplankton will occur? (b) Does the quality of water discharged from the dam pond/reservoir comply with the country's ambient water quality standards? (c) Are adequate measures, such as clearance of woody vegetation from the inundation zone prior to flooding planned to prevent water quality degradation in the dam pond/reservoir? (d) Is there a possibility that reduced the river flow downstream will cause water quality degradation resulting in areas that do not comply with the country's ambient water quality standards? (e) Is the discharge of water from the lower portion of the dam pond/reservoir (the water temperature of the lower portion is generally lower than the water temperature of the upper portion) planned by considering the impacts to downstream areas?	(a) N (b) - (c) - (d) N (e) N	(a)No reservoir, No dam pond (b)No discharged water (c)No reservoir, no dam pond (d)No change (e)No reservoir, no dam pond
	(2) Wastes	(a) Are earth and sand generated by excavation properly treated and disposed of in accordance with the country's regulations?	(a) Y	(a)excavated earth is used for construction materials, rest of earth is carried to other and greened
3 Natural Environment	(1) Protected Areas	(a) Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	(a) N	(a) No
	(2) Ecosystem	(a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)? (b) Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions? (c) Is there a possibility that the project will adversely affect downstream aquatic organisms, animals, plants, and ecosystems? Are adequate protection measures taken to reduce the impacts on the ecosystem? (d) Is there a possibility that installation of structures, such as dams will block the movement of the migratory fish species (such as salmon, trout and eel those move between rivers and sea for spawning)? Are adequate measures taken to reduce the impacts on these species?	(a) N (b) N (c) N (d) Y	(a) No (b) No (c) No impacts to downstream as maintenance flow is being kept (d) No big migratory fish. Fish way is constructed to help small fish to come upstream then no impacts to fish
	(3) Hydrology	(a) Is there a possibility that hydrologic changes due to the installation of structures, such as weirs will adversely affect the surface and groundwater flows (especially in "run of the river generation" projects)?	(a) N	(a) No impacts to hydrologic changes as weirs is small and no water divergeon
	(4) Topography and Geology	(a) Is there a possibility that reductions in sediment loads downstream due to settling of suspended particles in the reservoir will cause impacts, such as scouring of the downstream riverbeds and soil erosion? Is there a possibility that sedimentation of the reservoir will cause loss of the storage capacity, water logging upstream, and formation of sediment deposits at the reservoir entrance? Are the possibilities of the impacts studied, and adequate prevention measures taken? (b) Is there a possibility that the project will cause a large-scale alteration of the topographic features and geologic structures in the surrounding areas (especially in run of the river generation projects and geothermal power generation projects)?	(a) N (b) N	(a) No reservoir No dam pond (b) No impacts as small weir and no water divergen
4 Social Environment	(1) Resettlement	(a) Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement? (b) Is adequate explanation on compensation and resettlement assistance given to affected people prior to resettlement? (c) Is the resettlement plan, including compensation with full replacement costs, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement? (d) Are the compensations going to be paid prior to the resettlement? (e) Are the compensation policies prepared in document? (f) Does the resettlement plan pay particular attention to vulnerable groups or people, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples? (g) Are agreements with the affected people obtained prior to resettlement? (h) Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan? (i) Are any plans developed to monitor the impacts of resettlement? (j) Is the grievance redress mechanism established?	(a) N (b) Y (c) Y (d) Y (e) Y (f) N (g) N (h) N (i) N (j) Y	(a) No Resettlement (b) Corn crops of 0.8 hector at the Mini-Hydro Power Plant Site and Rice crops in anticipated flooding paddy field is to be compensated (c)Explanation and Compensation is to be done prior to construction and after care is to be done (d) Based on Law and Guideline, Compensation is to be done appropriately (e) Prepared in document (f) No Resettlement (g) No Resettlement (h) No Resettlement (i) No Resettlement (j) Grievance redress mechanism is to be set by Las and Guideline
	(2) Living and Livelihood	(a) Is there any possibility that the project will adversely affect the living conditions of inhabitants? Are adequate measures considered to reduce the impacts, if necessary? (b) Is there any possibility that the project causes the change of land uses in the neighboring areas to affect adversely livelihood of local people? (c) Is there any possibility that the project facilities adversely affect the traffic systems? (d) Is there any possibility that diseases, including infectious diseases, such as HIV, will be brought due to the immigration of workers associated with the project? Are adequate considerations given to public health, if necessary? (e) Is the minimum flow required for maintaining downstream water uses secured? (f) Is there any possibility that reductions in water flow downstream or seawater intrusion will have impacts on downstream water and land uses? (g) Is there any possibility that water-borne or water-related diseases (e.g., schistosomiasis, malaria, filariasis) will be introduced? (h) Is there any possibility that fishery rights, water usage rights, and common usage rights, etc. would be restricted?	(a) Y (b) N © N (d) Y (e) Y (f) N (g) N (h) N	(a) air pollution and water contamination is anticipated during construction stage, but watering on road or setting sedimentation pond will decrease its impacts (b) electricity supply will benefits to local people (c) No river use for transportation (d) public health education is given construction works (e) maintenance water flow is planned (f) No water use at downstream, project area is far from sea (g) No possibility as project has not created detention basin (h) No fishery rights, water usage rights at river
4 Social Environment	(3) Heritage	(a) Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage? Are adequate measures considered to protect these sites in accordance with the country's laws?	(a) N	(a) there are no places such as religious heritages
	(4) Landscape	(a) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?	(a) N	(a) there are no places such as landscapes designated bylaws
	(5) Ethnic Minorities and Indigenous Peoples	(a) Are considerations given to reduce impacts on the culture and lifestyle of ethnic minorities and indigenous peoples? (b) Are all of the rights of ethnic minorities and indigenous peoples in relation to land and resources to be respected?	(a) N (b) N	(a) Not anticipated adverse impacts to ethnic minorities (b) Not anticipated adverse impacts to ethnic minorities
	(6) Working Conditions	(a) Is the project proponent not violating any laws and ordinances associated with the working conditions of the country which the project Proponent should observe in the project? (b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents, and management of hazardous materials? (c) Are intangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health program, and safety training (including traffic safety and public health) for workers etc.? (d) Are appropriate measures taken to ensure that security guards involved in the project not to violate safety of other individuals involved, or local residents?	(a) Y (b) Y (c) Y (d) Y	(a) adequate measures are written in IEE and to be implemented (b) adequate measures are written in IEE and to be implemented (c) adequate measures are written in IEE and to be implemented (d) At local office level (EMJ) , adequate measures is to be planned
5 Others	(1) Impacts during Construction	(a) Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)? (b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce the impacts? (c) If construction activities adversely affect the social environment, are adequate measures considered to reduce the impacts?	(a) Y (b) N (c) N	(a) air pollution and water contamination is anticipated during construction stage, but watering on road or setting sedimentation pond will decrease its impacts (b) No impacts to surrounding natures as project not needs big civil works (c)No counter measures as no impacts to social environment
	(2) Accident Prevention Measures	(a) Is a warning system established to alert the inhabitants to water discharge from the dam?	(a) N	(a) No dam
5 Others	(3) Monitoring	(a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts? (b) What are the items, methods and frequencies of the monitoring program? (c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)? (d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?	(a) Y (b)Y (c) Y (d)Y	(a) Compiling monitoring plan and its implementation is mandatory, Items having possibility of adverse impact will be monitored (b) Items, methods and frequencies are appropriate for checking potential impacts. (c) It is described clearly in IEE Report and Environmental Management Unit will be established for implementation of monitoring program (d) It is required by Environmental Protection Law in Lao.
6 Note	Reference to Checklist of Other Sectors	(a) Where necessary, pertinent items described in the Forestry Projects checklist should also be checked (e.g., projects in the mountains including large areas of deforestation). (b) In the case of dams and reservoirs, such as irrigation, water supply, and industrial water purposes, where necessary, pertinent items described in the Agriculture and Water Supply checklists should also be checked. (c) Where necessary, pertinent items described in the Power Transmission and Distribution Lines checklist should also be checked (e.g., projects including installation of electric transmission lines and/or electric distribution facilities).	(a) N (b) N (c) Y	(a) No logging as there are no forest near project site (b) No reservoir or dam pond (c) Checklist for T/L is under compiling
	Note on Using Environmental Checklist	(a) If necessary, the impacts to transboundary or global issues should be confirmed (e.g., the project includes factors that may cause problems, such as trans boundary waste treatment, acid rain, destruction of the ozone layer, or global warming).	(a) N	(a) No impacts to global issues as a small project with no impacts to environment

1) Regarding the term "Country's Standards" mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are requested to be made.
In cases where local environmental regulations are yet to be established in some areas, considerations should be made based on compansons with appropriate standards of other countries (including Japan's experience).
2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of the country and locality in which it is located.

Power Transmission/Distribution

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
1 Permits and Explanation	(1) EIA and Environmental Permits	(a) Have EIA reports been already prepared in official process? (b) Have EIA reports been approved by authorities of the host country's government? (c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied? (d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	(a) Y (b) Y (c) - (d) Y	(a)IEE report is mandatory. Under carrying out. (b)Not approval (c) Under carrying out (d) Permission for forest usage is required
	(2) Explanation to the Local Stakeholders	(a) Have contents of the project and the potential impacts been adequately explained to the Local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the Local stakeholders? (b) Have the comment from the stakeholders (such as local residents) been reflected to the project design?	(a) Y (b) N	(a)Out lines of Project have disclosed to concerned people at SHM (b)No comments from local people but requested early construction
	(3) Examination of Alternatives	(a) Have alternative plans of the project been examined with social and environmental considerations?	(a) N	(a) No discussion as distribution line is small scale project and not anticipated impacts to environment
2 Pollution Control	(1) Water Quality	(a) Is there any possibility that soil runoff from the bare lands resulting from earthmoving activities, such as cutting and filling will cause water quality degradation in downstream water areas? If the water quality degradation is anticipated, are adequate measures considered?	(a) N	(a) No cutting or filling of earth
3 Natural Environment	(1) Protected Areas	(a) Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	(a) Y	(a) site is designated as protected forest, but no impacts to these forest as project works is done only road side from far forest
	(2) Ecosystem	(a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)? (b) Does the project site encompass the protected habitats of endangered species designated by the country' s laws or international treaties and conventions? (c) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem? (d) Are adequate measures taken to prevent disruption of migration routes and habitat fragmentation of wildlife and livestock? (e) Is there any possibility that the project will cause the negative impacts, such as destruction of forest, poaching, desertification, reduction in wetland areas, and disturbance of ecosystem due to introduction of exotic (non-native invasive) species and pests? Are adequate measures for preventing such impacts considered? (f) In cases where the project site is located in undeveloped areas, is there any possibility that the new development will result in extensive loss of natural environments?	(a) N (b) N (c) N (d) N (e) N (f) N	(a)surrounding of project site is mainly swidden agriculture mountain (b) Not included (c) No impacts to ecosystem (d) Not obstruct to animals behavior, habitats (e) Not anticipated adverse impact to ecosystem (f) project site is in development area
3 Natural Environment	(3) Topography and Geology	(a) Is there any soft ground on the route of power transmission and distribution lines that may cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides, where needed? (b) Is there any possibility that civil works, such as cutting and filling will cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides? (c) Is there a possibility that soil runoff will result from cut and fill areas, waste soil disposal sites, and borrow sites? Are adequate measures	(a) N (b) N (c) N	(a) No possibility of erosion as project site is flat and stable slope area (b) No cutting or filling earth (c) No cutting or filling earth
4 Social Environment	(1) Resettlement	(a) Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement? (b) Is adequate explanation on compensation and resettlement assistance given to affected people prior to resettlement? (c) Is the resettlement plan, including compensation with full replacement costs, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement? (d) Are the compensations going to be paid prior to the resettlement? (e) Are the compensation policies prepared in document? (f) Does the resettlement plan pay particular attention to vulnerable groups or people, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples? (g) Are agreements with the affected people obtained prior to resettlement? (h) Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan? (i) Are any plans developed to monitor the impacts of resettlement? (j) Is the grievance redress mechanism established?	(a) N (b) Y (c) N (d) N (e) Y (f) N (g) N (h) N (i) N (j) Y	(a) No resettlement (b) Compensation on crops is to be done (c) No resettlement (d) No resettlement (e) based laws and guideline , done by document (f) No resettlement (g)No resettlement (h)No resettlement (i)No resettlement (j) Grievance redress mechanism is to be set by Las and Guideline
	(2) Living and Livelihood	(a) Is there a possibility that the project will adversely affect the living conditions of inhabitants? Are adequate measures considered to reduce the impacts, if necessary? (b) Is there a possibility that diseases, including infectious diseases, such as HIV will be brought due to immigration of workers associated with the project? Are adequate considerations given to public health, if necessary? (c) Is there any possibility that installation of structures, such as power line towers will cause a radio interference? If any significant radio interference is anticipated, are adequate measures considered? (d) Are the compensations for transmission wires given in accordance with the domestic law?	(a) N (b) N (c) N (d) Y	(a) electricity supply not gives adverse impacts (b) safety and public health education will be done (c) No power line towers (d) Compensation will be done based on laws and guideline
4 Social Environment	(3) Heritage	(a) Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage? Are adequate measures considered to protect these sites in accordance with the country's laws?	(a) N	(a) there are no places such as religious heritages
	(4) Landscape	(a) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?	(a) N	(a) there are no places such as landscapers designated by laws
	(5) Ethnic Minorities and Indigenous Peoples	(a) Are considerations given to reduce impacts on the culture and lifestyle of ethnic minorities and indigenous peoples? (b) Are all of the rights of ethnic minorities and indigenous peoples in relation to land and resources respected?	(a) N (b) N	(a) Not anticipated adverse impacts to ethnic minorities (b) Not anticipated adverse impacts to ethnic minorities
	(6) Working Conditions	(a) Is the project proponent not violating any laws and ordinances associated with the working conditions of the country which the project proponent should observe in the project? (b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents, and management of hazardous materials? (c) Are intangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health program, and safety training (including traffic safety and public health) for workers etc.? (d) Are appropriate measures taken to ensure that security guards involved in the project not to violate safety of other individuals involved, or local residents?	(a) Y (b) Y (c) Y (d) Y	(a) adequate measures are written in IEE and to be implemented (b) adequate measures are written in IEE and to be implemented (c) adequate measures are written in IEE and to be implemented (d) At local office level (EMU) , adequate measures is to be planned
5 Others	(1) Impacts during Construction	(a) Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)? (b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts? (c) If construction activities adversely affect the social environment, are	(a) Y (b) N (c) N	(a) air pollution and water contamination is anticipated during construction stage, but watering on road or setting sedimentation pond will decrease its impacts (b) No impacts to surrounding natures as project not needs big civil works (c) No counter measures as no impacts to social environment
	(2) Monitoring	(a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts? (b) What are the items, methods and frequencies of the monitoring program? (c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)? (d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?	(a) Y (b) - (c) - (d)-	(a) Compiling monitoring plan and its implementation is mandatory, items having possibility of adverse impact will be monitored (b) (by final report) (c) (by final report) (d) (by final report)
6 Note	Reference to Checklist of Other Sectors	(a) Where necessary, pertinent items described in the Road checklist should also be checked (e.g., projects including installation of electric transmission lines and/or electric distribution facilities).	(a) N	(a) impacts to existing road is not anticipated
	Note on Using Environmental Checklist	(a) If necessary, the impacts to transboundary or global issues should be confirmed, (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).	(a) N	(a) No impacts to global issues as a small project with no impacts to environment

1) Regarding the term "Country's Standards" mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are required to be made.
In cases where local environmental regulations are yet to be established in some areas, considerations should be made based on comparisons with appropriate standards of other countries (including Japan's experience).
2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of the country and locality in which it is located.

Annex-9

Environmental Monitoring Form

(Mini-Hydro Power Plant)

１．Responses/Actions to Comments and Guidance from Government Authorities and the Public

Monitoring Item	Monitoring Results during Report Period
ex.) Responses/Actions to Comments and Guidance from Government Authorities	

２．Mitigation Measures

- Air Quality（Ambient Air Quality）

Item	Unit	Measured Value （Mean）	Measured Value （Max.）	Country's Standards	Referred International Standards WHO	Remarks (Measurement Point, Frequency, Method, Term of investigation,etc.)
Dust (PM10)	mg/m^3				0.02(Annual) 0.05(24 hours)	

- Water Quality（Effluent/Wastewater/Ambient Water Quality）

Item	Unit	Measured Value （Mean）	Measured Value （Max.）	Country's Standards	Referred International Standards WHO	Remarks (Measurement Point, Frequency, Method, etc.)
pH	-				No	
SS (Suspended Solid）	mg/l				No	
DO	mg/l				No	

- Waste

Monitoring Item	Monitoring Results during Report Period
Domestic Waste	
Industrial Waste	

- Noise / Vibration

Item	Unit	Measured Value （Mean）	Measured Value （Max.）	Country's Standards	Referred International Standards WHO	Remarks (Measurement Point, Frequency, Method, etc.)
Noise level	dB				70dB	

３．Natural Environment

- Ecosystem

Monitoring Item	Monitoring Results during Report Period
	(Method of survey)
Impacts to Valuable species (Big mammals)	

Impacts to Wild Valunable Plants	
Impact to Aquatic Valunable Plants	

４． Social Environment

- Living / Livelihood

Monitoring Item	**Monitoring Results during Report Period (Method of survey)**
Level of livelihood	

(Distribution Lines)

１． Responses/Actions to Comments and Guidance from Government Authorities and the Public

Monitoring Item	**Monitoring Results during Report Period**
Responses/Actions to Comments and Guidance from Government Authorities	

２． Mitigation Measures

- Air Quality（Ambient Air Quality）

Item	**Unit**	**Measured Value（Mean）**	**Measured Value（Max.）**	**Country's Standards**	**Referred International Standards**	**Remarks (Measurement Point, Frequency, Method, Term of investigation, etc.)**
Dust					No.	

- Waste

Monitoring Item	**Monitoring Results during Report Period**
Domestic Waste	
Industrial Waste	

- Noise / Vibration

Item	Unit	Measured Value（Mean）	Measured Value（Max.）	Country's Standards	Referred International Standards	Remarks (Measurement Point, Frequency, Method, etc.)
Noise level						

３． Natural Environment

- Ecosystem

Monitoring Item	Monitoring Results during Report Period (Method of survey)
Impacts to Valuable species (Big mammals)	
Impacts to Wild Valuable Plants	

４． Social Environment

- Living / Livelihood

Monitoring Item	Monitoring Results during Report Period (Method of survey)
Level of livelihood	

Annex-10

Estimated Project Cost (Confidential)

This Page is closed due to the confidentiality.

Annex-11

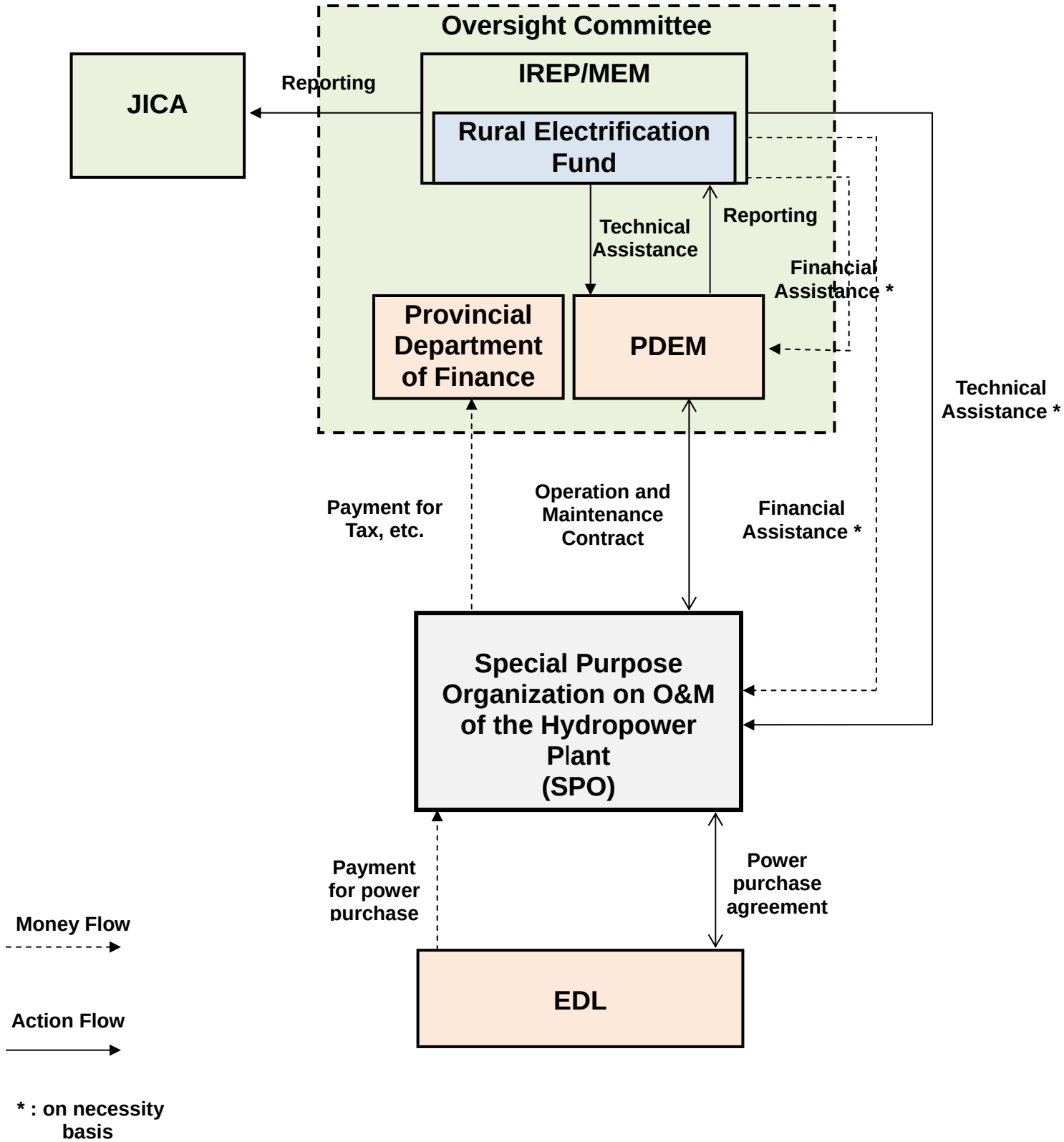
Time Schedule for Socio-Environmental Activities

Activities	Responsible Party	Date	Year 2012	Year 2013			
			December	January	Februrary	March	April
2nd SHM	IREP/MEM & PDEM	18 Dec 2012	△				
Finalization of IEE and EMMP	JICA	End of Dec 2012	△				
Explanation of the Outline Design to the Government of Japan	JICA	08 Jan 2013		△			
Submit for Lao PDR Government Approval on IEE & EMMP including budgetting	IREP/MEM & PDEM	End of Dec 2012	△				
Obtain Environment Certificate from PDNRE	IREP/MEM & PDEM	Mid Jan 2013		△			
Establish Compensation Committee	IREP/MEM & PDEM	Beginning of Jan 2013		△			
Property pegs installation	IREP/MEM & PDEM	Beginning of Jan 2013		△			
PAPs meeting for compensation plan including compensation policy	IREP/MEM & PDEM	Mid Jan 2013		△			
Negotiation & signing of compensation plan by PAPs	IREP/MEM & PDEM	Mid Jan 2013		△			
Obtain Approval on Compensation Plan by Lao PDR Government including budgeting	IREP/MEM & PDEM	End of Jan 2013			△		
Approval by Government of Japan	Government of Japan	Mid Feb 2013			△		
G/A	Governments of Japan and Lao PDR	Mid Mar 2013				△	
Commence Compensation Disbursement	IREP/MEM & PDEM	Beginning of Apr 2013					△
Site Clearing of compensated areas	IREP/MEM & PDEM	Beginning of Apr 2013					△
D/D & T/D Preparation	JICA	Apr 2013 → Jun 2013					▬
Procurement of Contractor	JICA	Jul 2013 → Oct 2013					
Construction	JICA	Nov 2013 → Dec 2014					
Commissioning	JICA	End Dec 2014					
Operation & Matintenance	IREP/MEM & PDEM	Jan 2015→					

IEE: Initial Environmental Evaluation, EMMP: Envorinmental Management & Monitoring Plan, PDNRE: Provincial Department of Natural Resouces & Environment of Ponsaly Province, PAPs: Project Affected Peoples, G/A: Government
D/D: Detail Design, T/D: Tender Document, PDEM: Provincial Department of Energy and Mines,

Annex-12

Organization Structure for Operation, Management and Maintenance of the Hydropower Plant



MINUTES OF DISCUSSION
ON
THE PREPARATORY SURVEY
FOR
MINI-HYDROPOWER DEVELOPMENT PROJECT
IN
LAO PEOPLE'S DEMOCRATIC REPUBLIC

DATE: February 18, 2013
PLACE: Vientiane, Lao PDR

The Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Survey Team (Tokyo Electric Power Services CO.,LTD (TEPSCO) and Tokyo Electric Power Co., Inc.(TEPCO)) from February 12 to 19, 2013 for the fourth survey in Lao PDR on the Preparatory Survey for Mini-Hydropower Development Project in Lao People's Democratic Republic (hereinafter referred to as "the Project"). The Survey Team has had a series of discussion with officials of Institute of Renewable Energy Promotion of Ministry of Energy and Mines (IREP/MEM) and Electricite du Laos (EdL) during the fourth survey in Lao PDR mainly on organizational structure for operation and maintenance of 450kW mini-hydropower plant, which will be constructed in Gnod Ou District, Phongsaly Province.

The Survey Team and IREP/MEM, in principal, mutually confirmed and agreed upon the proposed organizational structure and related issues for the Project as follows:

1. Organizational Structure

1.1 Organizational Structure

The proposed organizational structure is shown in the Organization Chart in Attachment-1. Roles and functions of each party are as follows:

(1) Provincial Department of Energy and Mines (PDEM) of Phongsaly

PDEM will have a key role of technical monitoring of the plant operation and fund supervision/management for sustainable operation of the mini-hydropower plant as an asset owner.

(2) District Department of Energy and Mines (DDEM) of Gnod Ou

As a local authority, DDEM will monitor and assist the plant operation, and report to PDEM periodically.

(3) Special Purpose Organization (SPO)

SPO will operate and maintain the mini-hydropower plant as a plant operator in compliance with the conditions of PPA and licensing, which will be set during the preparation stage of the SPO selection.

Selection of the SPO will be done by open bidding from private companies and governmental enterprises whoever has sufficient technical and financial capability

complying with the selection criteria, which will be set during preparation stage. In case that no entity is eligible as the SPO, a community-based organization will be set up.

(4) Electricite de Laos (EdL)

As a power off taker, EdL will be supplied with power from the mini-hydropower plant, and make monthly payment to the SPO as set in the PPA.

(5) Provincial Rural Electrification Fund (P-REF)

P-REF and its account will be newly created in Phongsaly in order to manage fund generated from the operation of the mini-hydropower plant.

In order to facilitate the payment/fund-release and administration of P-REF, an operation manual for P-REF needs to be prepared in reference to the national REF's manual.

In accordance with the prepared manual, P-REF will receive monthly payment from EdL, and make monthly payment to the SPO. P-REF will keep and accumulate fund for the future overhaul and replacement, and release the fund for the specific purpose when required. P-REF will save and release additional fund for electrification-related projects in the Province.

(6) Provincial Department of Finance (PDOF)

As a financial management authority, PDOF will conduct monitoring and audit of P-REF.

(7) Steering Committee

Steering Committee will control the overall activities related to operation of the mini-hydropower plant and management of P-REF as a steering body of the Project.

(8) Board of Meeting

As an oversight body for the Project, Board of Meeting will offer direction and advise to the steering committee on management of the Project.

(9) National Rural Electrification Fund (REF)

REF will advice to P-REF on management of fund, and provide financial assistance, if necessary, when emergency fund is required.

(10) Japan International Cooperation Agency (JICA)

As a donor agency of the Project, JICA will monitor activities related to the Project, and advice to the board of meeting for the Project.

1.2 Financial Management

(1) Monthly income for power selling from EdL will be fully transferred to P-REF directly. The way of money transfer will be decided in the licensing contract and the PPA.

(2) SPO will acquire net operation and maintenance cost and reasonable O&M Charge from P-REF monthly. The O&M Charge will be allocated from a certain portion of net profit after deduction of saving for future overhaul and replacement and other expenses. The

amount of monthly O&M Charge will be decided after evaluation of financial study for the plant operation.

(3) The fund for future overhaul and replacement will be saved and accumulated in the P-REF account.

(4) Additional saving at the P-REF can be utilized for rural electrification activities in the Province.

(5) In case of shortage of accumulated fund for an emergency occasion, financial assistance from national REF is expected.

(6) Necessity of payment of royalty, income tax and other legal expenses will be studied during preparation stage of SPO selection.

2. Assistance for Selection of SPO

IREP/MEM has experience in setup of the national REF and procedures of private entities for O&M of Solar power systems under the assistance of World Bank. However, since manpower at IREP/MEM is limited, IREP/MEM requested JICA through the Survey Team to assist it in preparation of P-REF manual and bidding documents for SPO selection with the soft component of the Project.

3. Schedule of the Organizational Setup

The assumed schedule for the organizational setup is shown in Attachement-2.

The schedule will be reviewed in detail during the preparation stage of the organizational setup.

For
JICA Survey Team

Jun TAMAKAWA
Team Leader
JICA Survey Team for the Preparatory Survey
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For
IREP/MEM

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Deputy Director General
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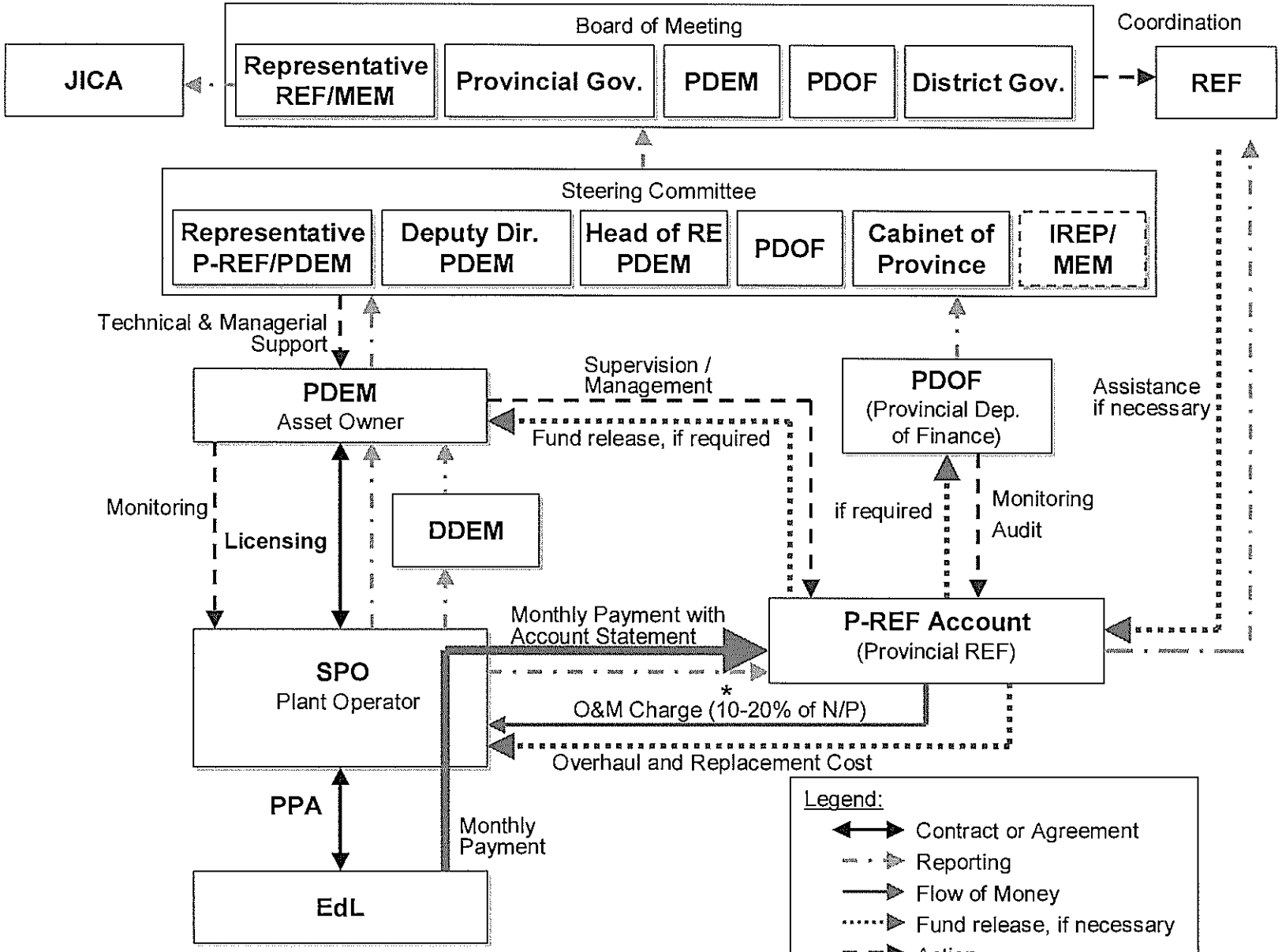
Ministry of Energy and Mines,
Lao People's Democratic Republic

Attachment:

Atachment-1: Organization Chart for Operation, Maintenance and Maintenance of the Mini-Hydropower Plant.

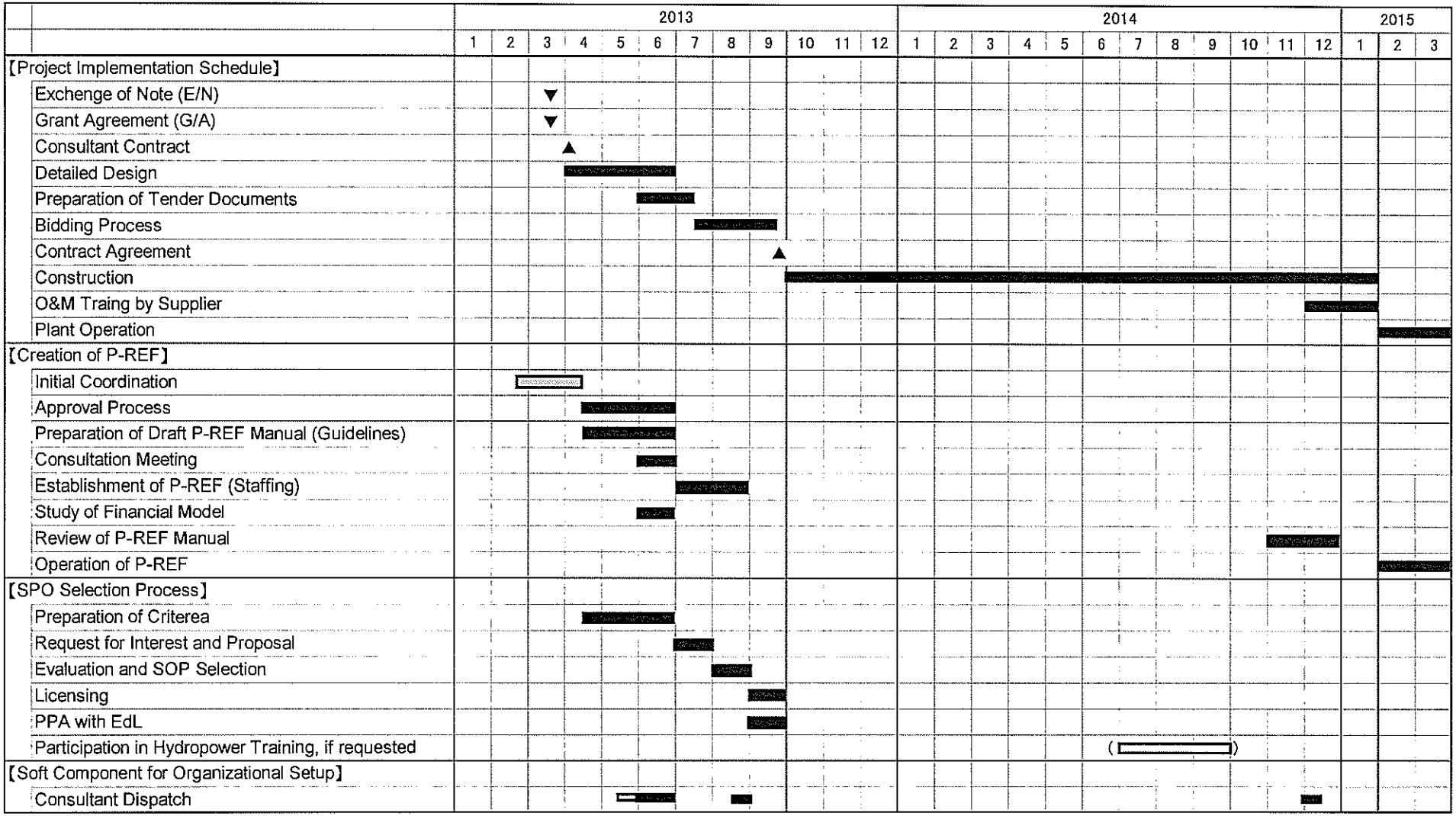
Attachment-2: Organizational Setup Schedule



* Percentage of the share will be fixed during Preparation Stage

Attachment-2

Tentative Organizational Setup Schedule



Appendix-5 Soft Component (Technical Assistance) Plan

Soft Component Plan

1. Background

According to the Guideline on Operating and Managing Lao Electric Power Technical Standards and Safety Rules for O&M (MEM, JICA), operation and maintenance (O&M) activities of hydropower plants at 2000kW or less shall be implemented by Provincial Department of Energy and Mines (PDEM). It is therefore understood that PDEM in Phonsaly Province under Ministry of Energy and Mine (MEM) is to be operating the Gnod-Ou mini-hydropower plant (450kW).

It is also noted that the Government of Lao acknowledges the lack of resources of O&M staff in Phonsaly-PDEM and therefore prefers to be involving private sectors for O&M activities based upon philosophies of PPP, i.e., Public Private Partnership.

Thus, JICA and MEM has agreed upon the arrangement of the O&M structure, as shown in Figure-1, for the Gnod-Ou mini-hydropower plant (450kW). As shown in Figure-1, PDEM as an asset owner of the power plant is responsible for sustainable utilization of the mini-hydropower plant. PDEM will provide O&M license to the Special Purpose Organization (SPO), and the SPO will operate and maintain the mini-hydropower plant as a plant operator. For financial management, Provincial Rural Electrification Fund (P-REF) will be established to manage the fund related to the Project for the future overall as well as rehabilitation activities of the plant.

In order to support for establishment of P-REF and to strengthen PDEM staff for monitoring and supervising SPO's O&M activities, the implementation plan of soft components of the Project is herein proposed and described as follows.

2. Objectives

The soft component of the Project is aimed at establishment of P-REF and strengthening PDEM staff for monitoring and supervising SPO's O&M activities, for functioning adequate and continuous power plant operation.

3. Expected Outputs

As results of implementation of the soft components of the project, the following outcomes can be expected as;

1) Establishment of Provincial-Rural Electrification Fund (P-REF)
2) Procurement of Special Purpose Organization (SPO)
3) Establishment of O&M Supervising System

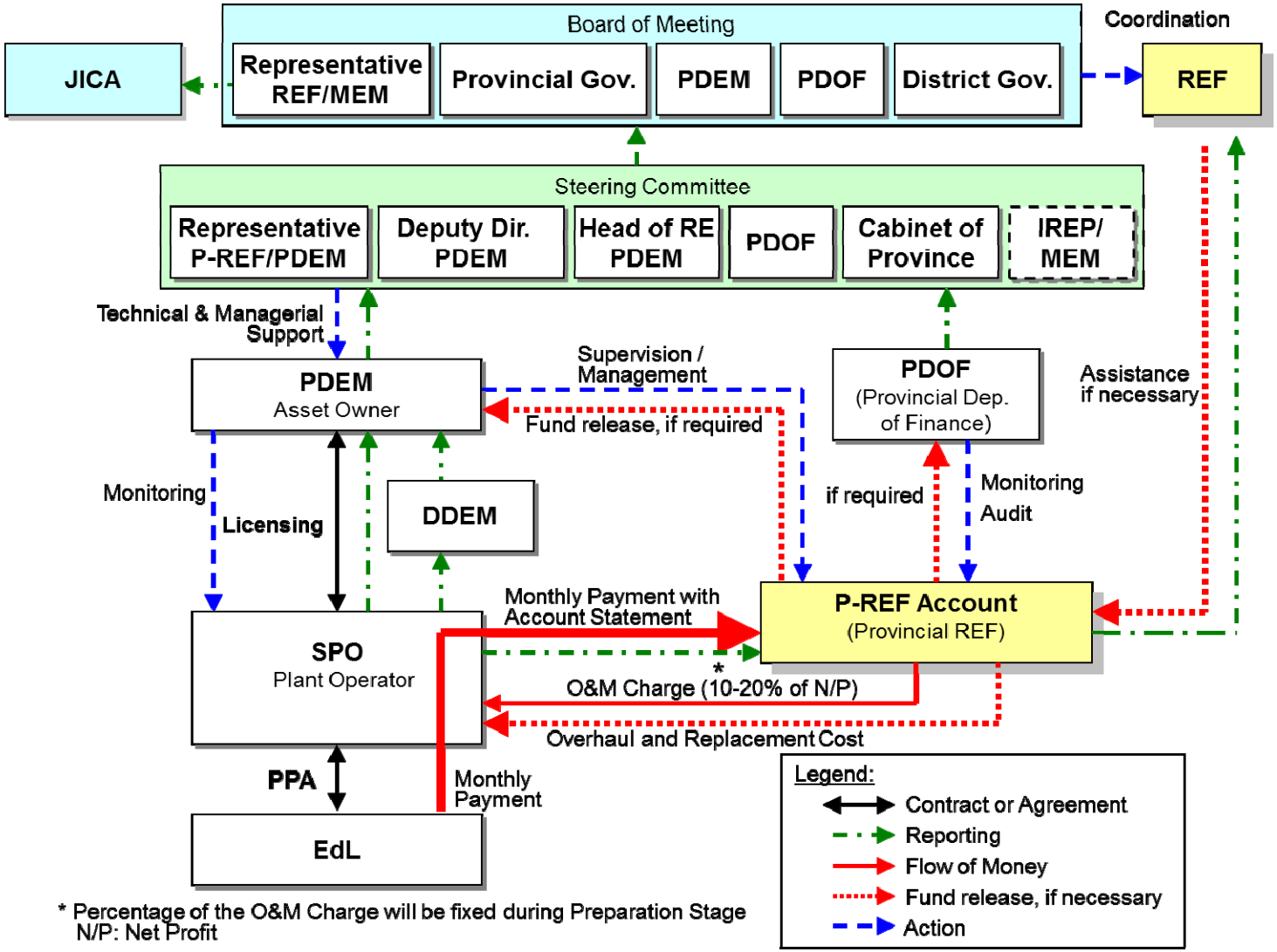


Figure-1 O&M Structure (Draft)

4. Verification Plan

In order to verify achievements of the above-mentioned outcomes, the respective goals and indicators are set as summarized below.

Table-1 How to Verify Achievements of Outcomes

Outcome	Goal	Indicators	Means of Verification
1) Establishment of P-REF	P-REF management manual is prepared.	-Preparation of organism -Preparation of rules and regulations of P-REF management	relevant documents
	P-REF is established.	-Governmental approval of execution of P-REF -Selection of P-REF staff	relevant documents
	P-REF officers properly have capability for financial management.	-Level of understandings on the manual -Ability of financial accounting management -Ability of commodities management	a confirmation test
2) Procurement of SPO	Criteria for SPO selection are prepared.	-Criteria for SPO selection	relevant documents
	O&M license is issued to a selected SPO	-Agreement between PDEM and SPO to issue an O&M license	relevant documents
3) Establishment of O&M Monitoring System	PDEM staff acquires sufficient knowledge and skills of designing and plant structures for monitoring/supervising O&M activities.	Level of understandings of; -Designs, -Structure, and -Function of the plant	a confirmation test
	O&M manual is prepared.	Preparation of O&M supervising manual	relevant documents
	PDEM staff is capable in monitoring/supervising activities for the plant.	Level of understandings of; -Check-points of Operation records -Facilities and equipment diagnosis	a confirmation test on site with simulations

5. Implementation Plan

(1) Target Organizations

Targets of the soft components are set as officers/staff of MEM/IREP and PDEM.

(2) Activities of Soft Components

Activities of soft components, planned herein, can be described as follows:

1) Assistance for establishment of P-REF in Phonsaly Province

P-REF will have a role of financial management related to the Project such as:

- Receiving earnings by power generation through SPO or directly from EdL,
- Paying O&M cost and O&M charge to SPO,
- Saving and accumulating fund for future overall and rehabilitation of the plant,
- Releasing fund for rural electrification activities in Phongsaly Province.

For proper financial management, P-REF shall be managed in the healthy and transparent manner.

When establishing P-REF, the following assistance will be provided under the soft components:

a) Assistance for establishment of P-REF management manual

In order to make P-REF management in the system healthy and transparent manner, it is needed to prepare P-REF management manual.

Japanese consultant will prepare the draft manual based upon mutual discussion with MEM and provincial government with reference to the existing national REF documents.

b) Assistance for the Government approval on execution of P-REF

Based upon the above-mentioned draft manual of P-REF, the MEM and PDEM will proceed with the governmental approval procedures.

Japanese consultant will assist and advise upon the above-mentioned approval steps.

b) Training on management of P-REF

After the selection of P-REF management staff, Japanese consultant will implement the training for the P-REF management to the staff based on the above-mentioned manual.

2) Assistance for Selection/Procurement of SPO

a) Assistance for preparation of rules of SPO selection

Since transparent selection of a qualified plant operator as SPO is extremely important for the sustainable operation of the plant, it is necessary to prepare criteria for SPO selection.

Japanese consultant will prepare a draft of the criteria in view of technical and financial capability with reference to those of the existing projects.

b) Advice on the SPO procurement

For the SPO procurement on the basis of invitation of open bidding, Japanese consultant will advise to Lao government upon procurement schedule, evaluation of proposal and agreement conditions.

In case that any qualified entities are participated in the bidding, Japanese consultant will assist in establishment of community based organization as a plant operator.

3) Assistance for Establishment of O&M Monitoring System

PDEM as an asset owner of the plant shall have responsibility for healthy and sustainable O&M of the plant, and therefore shall properly monitor and supervise SPO's O&M activities. In order for ability strengthening of PDEM staff, the following assistance will be implemented.

a) Basic training for mini-hydro power plant（Objective persons：PDEM staff）：

For acquisition of fundamental knowledge regarding mini-hydropower plants, PDEM staff will participate in training at the EdL training center. Training program consists of two (2) components, i.e., basic training for mini-hydro power plant that is part of existing training program of the EdL training center, and site survey training at a several existing similar hydropower plants in Laos.

In the basic training mentioned above, PDEM staff can acquire fundamental knowledge of civil, electrical and mechanical subjects as well as basic function and operation scheme of simulators of gate, valve, turbine, generator, control board, and others at the hydropower laboratory of EdL training center.

In the site survey training mentioned above, PDEM staff can observe actual O&M and also administrative management records at some existing power plants.

The roles of Japanese Consultant are as follows:

- Detailed discussion and coordination of contents of EdL training programs as well as contract procedures between EdL and the Japanese Consultant
- Participation in and supervision of the EdL training to confirm the progress
- Preparation of verification tests and those execution plan, and also post evaluation by the tests inclusive of those follow-up lectures on the site
- Lecture for design and structure of the power facilities at the site during construction

b) Preparation of O&M Manual (Objective persons: PDEM staff)：

Aside from an operation manual, which will be prepared by a supplier of the equipment, more simplified but useful O&M manual is needed for PDEM staff to refer to for

monitoring and supervision of SPO's O&M activities. The manual is also used by plant operators to follow during its O&M activities. The manual describes instructions how to carry out daily patrol, periodical inspection, O&M recordings, O&M activities before/during/after floods such as operation of intake and sand flush gates, clean-up of settling basin and head tank, and communication with Lantouy substation, etc.

Japanese Consultant will prepare a draft of O&M manuals using figures, photos and illustration in order for PDEM staff and operators to easily understand. In consideration of work efficiency, the draft manual will be prepared in Japan.

c) O&M Training and Instruction (Objective persons: PDEM staff and SPO staff (only if requested by SPO)) :

In addition to the initial operation training provided by the supplier, Japanese Consultant will provide PDEM staff with training and instruction utilizing the above mentioned draft manual in order for them to fully understand monitoring check points. SPO's plant operators can participate in the training, if requested by SPO.

The roles of Japanese Consultant are as follows:

- Holding an O&M training
- Assistance in finalization of O&M manual
- Instructions during repeated simulations of O&M and troubleshooting on the site
- Confirmation test

(3) Man-Month Plan

Outline of soft component activities and Man-Month allocations of Japanese Consultant as well as Local Consultant upon contract bases can be summarized below.

Table-2 Man-Month Plan

Consultant	Implementation Stage	Outline of Activities	M/M
Institutional and management Expert/JPN Consultant	1st Site Mission /During detailed design	- Moving between Tokyo and Vientiane : 3days - Moving between Vientiane and the Site : 4days - Discussion/modification of P-REF management manual : 8days - Financial simulation of P-REF : 4 days - Preparation/discussion on rules of SPO selection : 4 days - Discussion of SPO procurement schedule : 3 days - The other coordination, communication, etc. : 4 days	1.0
	2nd Site Mission /During Bidding	- Moving between Tokyo and Vientiane : 3days - Moving between Vientiane and the Site : 4days - Advise on establishment of P-REF : 4 days - Advise on appraisal and agreement conditions of SPO : 2 days - The other coordination, communication, etc. : 2 days	0.5

	6th Site Mission /Before Completion of the work	- Moving between Tokyo and Vientiane : 3days - Moving between Vientiane and the Site : 4days -Training for P-REF management :6 days - The other coordination, communication, etc. :2 days	0.5
	Domestic Mission / During Bidding	Preparation of a draft of P-REF management manual	0.5
	Sub-total		**1.5**
Civil Engineer/JPN Consultant	3rd Site Mission /After Commencement of the work	- Moving between Tokyo and Vientiane : 3days - Moving between Vientiane and the Site : 4days - Income and expenditure account forecast, as well as confirmation and advise of contribution amount to P-REF : 2days - Confirmation and advice regarding recruitment standards, organization structures and management rules : 3 days - Schedule control for recruitment of operators : 3 days	0.5
	4th Site Mission /Initial Stage of the work	- Moving between Tokyo and Vientiane : 3days - Moving between Vientiane and the Site : 4days - Lecture for civil design to the PDEM staff : 3 days - Lecture for civil structure during construction : 5 days	0.5
	5th Site Mission /Mid-term Stage of the work	- Moving between Tokyo and Vientiane : 3days - Moving between Vientiane and the Site : 4days - Reconfirmation of organization structure and management rules : 1 days - Lecture for civil structure during construction : 5 days - coordination of contract between EdL and the Consultant : 2 days - Partial participation and supervise of EdL training : 7 days - Preparation of verification tests and those execution plan : 4 days - The other coordination, communication, etc. on the Site : 4 days	1.0
	6th Site Mission /Before Completion of the work	- Moving between Tokyo and Vientiane : 3days - Moving between Vientiane and the Site : 4days - Lecture for civil structure during construction : 10days - Post evaluation and additional training of EdL training : 3 days - Lecture for public and plant safety : 3 days - Advise to the operators on their preparation of safety workshop to villagers : 3 days - Participation to the safety workshop and support for the operators : 3 days - Confirmation of record of the safety workshop : 1 days - Explanation of O&M scheme to the operators : 3 days - Advise on the PDEM's preparation of O&M manuals : 5 days - Implementation of case simulations and troubleshooting regarding O&M on the Site : 14 days	2.0

		- Implementation of case simulations and troubleshooting regarding O&M on the Site : 3 days - The other coordination, communication, etc. on the Site : 5 days	
	Domestic Mission /Mid-term Stage of the work	- Preparation of O&M Manual for civil portion	0.5
	Sub-total		**4.5**
Electrical & Mechanical Engineer/JPN Consultant	4th Site Mission /Initial Stage of the work	- Moving between Tokyo and Vientiane : 3days - Moving between Vientiane and the Site : 4days - Lecture for electrical and mechanical design to the PDEM staff : 3 days - Detailed discussion and coordination of contents of EdL training : 5 days	0.5
	6th Site Mission /Before Completion of the work	- Moving between Tokyo and Vientiane : 3days - Moving between Vientiane and the Site : 4days - Lecture for electrical and mechanical structure during construction : 5 days - Post evaluation and additional training of EdL training : 3 days - Lecture to the operators regarding public and plant safeties : 3 days - Advise to the operators on their preparation of safety workshop to villagers : 3 days - Participation to the safety workshop and support for the operators : 3 days - Confirmation of record of the safety workshop : 1 days - Explanation of O&M scheme to the operators : 3 days - Advise on the operators' preparation of O&M manuals : 5 days - Implementation of case simulations and troubleshooting regarding O&M on the Site : 14 days - Implementation of verification tests and those follow-up on the Site : 3 days - The other coordination, communication, etc. on the Site : 5 days	2.0
	Domestic Mission /Mid-term Stage of the work	- Preparation of O&M Manual for electrical and mechanical portion	0.5
	Sub-total		**3.0**
EdL/Local Enterprise upon contract basis	Mid-term Stage of the work	-Basic training for mini-hydro power plant at EdL training center -Site visit training at several existing power plants in Laos	3.0
Total（Excluding EdL）			**10.0**

6. Implementation Schedule

Implementation: From May. 2013 up to Jan. 2015 (total 21 months)

The detailed schedule is shown in the Table-3, i.e., "Implementation Schedule for Soft components".

7. Outputs

(1) Establishment of P-REF in Phonsaly Province

a) P-REF Management Manual

b) Organizational Chart of P-REF

c) Results of confirmation test on Financial Management

(2) Selection/Procurement of SPO

a) Criteria of SPO Selection

b) Licensing Agreement

(3) Establishment of O&M Monitoring System

a) Results of confirmation test on Facility Structures and Designing

b) O&M Manual

c) Results of confirmation test on O&M of Mini-hydropower Plant

8. Proposed Obligation of MEM/PDEM

In order to function the Gnod-Ou Hydropower Plant adequately and continuously, it is necessitated that the Lao side, i.e., MEM/PDEM, should fulfill the following obligations.

< <u>During Implementation of soft components</u> >

a) Allocation of MEM/PDEMs' budget necessitated for the Lao side activities on soft components

b) Proper establishment of P-REF and transparent procurement of SPO

c) Coordination of and attendant to the site visit training that is part of EdL training programs for Operators

< <u>After Implementation of soft components</u> >

d) Monitoring and appropriate action for the sustainable O&M activities in the Gnod-Ou Hydropower Plant

e) Keeping the P-REF management manual continuously and/or preparing revision thereof, if necessary, on the basis of MEM's acceptance

f) Keeping transparency of the relation between the power plant and P-REF

g) Keeping usage of the O&M supervising manual continuously and/or preparing and enacting revision thereof, if necessary, on the basis of MEM's acceptance

h) Continuous allocation of trained operators to the power plant operation

Table-3 Implementation Schedule for Soft components (Draft)