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調査団員名簿(現地調査時)

Member of the Study Team

フィリピン国「北部ルソン地方電化計画」基本設計調査

The Basic Design Study on the Project

for Rural Electrification in Northern Luzon in Republic of the Philippines

1. 林 宏之 (Mr. Hiroyuki HAYASHI)
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(Senior Program Administration Officer, Transportation and Electric Power Team, Project Management Group I, Grant Aid Management Department, JICA)
2. 長谷川 理雄 (Mr. Michio HASEGAWA)
業務主任／電力計画／環境社会配慮
(Chief Consultant / Power Supply Planner / Specialist on the Environmental & Social Consideration)
日本工営株式会社
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3. 佐野裕一 (Mr. Yuichi SANO)
発電設備計画 I / 自然条件調査 (水理・水文)
(Generating Equipment Planner I / Natural Conditions Surveyor I (Hydrological))
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(NEWJEC Inc.)
4. 中田修二 (Mr. Shuji NAKATA)
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(Generating Equipment Planner II / Hydraulic Turbine Generator)/Operation & Maintenance Planner)
日本工営株式会社
(NIPPON KOEI Co., Ltd.)
5. 江川等 (Mr. Hitoshi Egawa)
配電計画 I / 配電機材計画
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(NIPPON KOEI Co., Ltd.)
6. 林真由 (Mr. Masayoshi HAYASHI)
配電計画 II / 自然条件調査 (地形・地質)
(Distribution Facilities Planner II / Natural Conditions Surveyor II (Topographic, Geology))
株式会社ニュージェック
(NEWJEC Inc.)
7. 亀田 昌明 (Mr. Masaaki KAMEDA)
施工・調達計画 / 積算
(Construction & Equipment Planner)
日本工営株式会社
(NIPPON KOEI Co., Ltd.)

調査団員名簿(基本設計概要説明時)

Member of the Study Team

フィリピン国「北部ルソン地方電化計画」基本設計調査

The Basic Design Study on the Project

for Rural Electrification in Northern Luzon in Republic of the Philippines

1. 林 宏之 (Mr. Hiroyuki HAYASHI)
総括 (Leader)
独立行政法人国際協力機構 無償資金協力部 業務第一グループ運輸交通・電力チーム
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(Generating Equipment Planner I / Natural Conditions Surveyor I (Hydrological))
株式会社ニュージェック
(NEWJEC Inc.)
4. 江川等 (Mr. Hitoshi EGAWA)
配電計画 I / 配電機材計画
(Distribution Facilities Planner I / Distribution Equipment Planner)
日本工営株式会社
(NIPPON KOEI Co., Ltd.)

調査日程(現地調査時)

日順	月日	曜日	宿泊地	官団員	コンサルタント団員					
				JICA 林	長谷川	佐野	江川	林	中田	亀田
1	2006/11/2	木	マニラ	成田(JAL741/9:35)→マニラ(13:25)JICA林、長谷川、亀田、江川 大阪(TG621/10:00)→マニラ(13:10)佐野、林						同他団員
2	2006/11/3	金	マニラ	JICAマニラ事務所ご挨拶、調査方針の説明・協議 DOEとインセプションレポートに関する説明・協議						同他団員
3	2006/11/4	土	イフガオ	現地調査 マニラ→バナウエ バナウエ市長に面談						市場価格調査
4	2006/11/5	日	カンブロ	現地調査 バナウエ→カンブロ						調査事項準備・整理
5	2006/11/6	月	マニラ	現地調査 カンブロ→バナウエ→マニラ						DOE 打合 機材業者調査
6	2006/11/7	火	マニラ	JICAマニラ事務所にて8月実施された環境社会調査の報告書ドラフト受理 DOEへのインセプションレポートに関する説明・協議						成田→マニラ 機材業者調査・連絡
7	2006/11/8	水	マニラ	DOEとミニッツに関する協議・署名 カリンガ州バルバラン地区のセキュリティ調査結果報告会出席						機材業者調査・連絡
8	2006/11/9	木	マニラ	DOEとミニッツに関する協議 JICAマニラ事務所へ報告			移動 マニラ→バナウエ			機材業者/据付業者調査・連絡
9	2006/11/10	金	マニラ	DOEとミニッツに関する署名 在フィリピン日本大使館へ報告			移動 バナウエ→ブラ			輸送業者調査
10	2006/11/11	土	マニラ	マニラ(JAL742/14:45) →成田(19:45)	対象サイトに関する 考察	サイト移動 マニラ→タブック	現地調査 ブラ		市場価格調査	
11	2006/11/12	日	マニラ	休み		移動および現地調査 タブック→マルクサッド	現地調査 ブラ		調査事項準備・整理/見積依頼書作成	
12	2006/11/13	月	マニラ	DOEと対象サイトに関する協議		現地調査 マルクサッド	現地調査および移動 ブラ→カンブロ→バナウエ		保険・輸送業者面談/見積依頼書作成	
13	2006/11/14	火	マニラ	現地再委託の選定理由書説明		現地調査 マルクサッド	資料整理 バナウエ		機材業者調査・地元工場訪問	
14	2006/11/15	水	マニラ	現地再委託の記録簿のJICAマニラ事務所への提出		現地調査 マルクサッド	団内会議 バナウエ		据付業者調査・見積依頼	
15	2006/11/16	木	マニラ	DOEと対象サイトに関する協議		サイト移動および現地調査 マルクサッド→マリン1,2	移動および現地調査 バナウエ→マオヤオ→マ ガ		第三国機材業者調査・地元工場訪問	
16	2006/11/17	金	マニラ	収集資料整理		現地調査 マリン1,2	現地調査 マガ		据付業者調査・見積依頼	
17	2006/11/18	土	マニラ	収集資料整理		現地調査 マリン1,2	移動および現地調査 マガ→マオヤオ		市場価格調査	
18	2006/11/19	日	マニラ	休み		現地調査 マリン1,2	団内会議 マオヤオ		調査事項整理/見積依頼書作成	
19	2006/11/20	月	マニラ	現地調査 マニラ→タバック		現地調査 マリン1,2	現地調査 リオ2		輸送業者調査・訪問	
20	2006/11/21	火	マニラ	現地調査 カルガラン		現地調査 マリン1,2	現地調査 リオ2		据付業者調査・見積依頼	
21	2006/11/22	水	マニラ	現地調査 パンテイヤン・タラン		現地調査 マリン1,2	移動 マオヤオ→バナウエ→マ ニラ		保険・輸送業者面談/見積依頼	
22	2006/11/23	木	マニラ	現地調査 マリン1、マリン2		現地調査およびサイト移動 マリン1,2→タブック	資料整理 マニラ		据付業者訪問・見積依頼	
23	2006/11/24	金	マニラ	現地調査 マニラ→バシル		団内会議および移動 タブック→マニラ	資料整理 マニラ		据付業者調査・見積依頼	
24	2006/11/25	土	マニラ	団内会議		団内会議	団内会議		市場価格調査	
25	2006/11/26	日	マニラ	調査結果まとめ		サイト移動 マニラ→タブック	休み		休み	

資料2 調査日程

日順	月日	曜日	宿泊地	官団員	コンサルタント団員					
				JICA 林	長谷川	佐野	江川	林	中田	亀田
26	2006/11/27	月	マニラ		DOEとの調査工程 中間打合せ	サイト移動および現地調 査 タブック→ブアヤ		DOEとの調査工程中間打 合せ		据付業者訪問・見 積依頼
27	2006/11/28	火	マニラ		NAMRIA(国土地理 院)にて地図購入	現地調査 ブアヤ		移動 マニラ→カヤパ		輸送業者調査・訪 問
28	2006/11/29	水	マニラ		調査結果のまとめ	現地調査 ブアヤ		現地調査 タリカブカブ		資料整理・業者面 談
29	2006/11/30	木	マニラ		テクニカルノートの作 成	現地調査およびサイト移 動 ブアヤ→タブック		現地調査および移動 タリカブカブ→カヤパ→ソ ラノ		据付業者訪問・見 積依頼
30	2006/12/1	金	マニラ		テクニカルノートの作 成	資料整理 タブック		資料整理 ソラノ		マニラ (JAL742/14:45)→ 成田(19:45)
31	2006/12/2	土	マニラ		現地調査結果報告 書作成	サイト移動および現地調 査 タブック→ルボ→ダカラン		資料整理 ソラノ		
32	2006/12/3	日	マニラ		現地調査結果報告 書作成	現地調査 ルボ、ダカラン		移動 ソラノ→ビナリアン		
33	2006/12/4	月	マニラ		現地調査結果報告 書作成	現地調査 ルボ、ダカラン		現地調査 ビナリアン		
34	2006/12/5	火	マニラ		現地調査結果報告 書作成	現地調査 ルボ、ダカラン		現地調査および移動 ビナリアン→ソラノ		
35	2006/12/6	水	マニラ		現地調査結果報告 書作成	現地調査 ルボ、ダカラン		移動 ソラノ→バヨンボン→マニ ラ		
36	2006/12/7	木	マニラ		調査結果のまとめ	現地調査 ルボ、ダカラン		調査結果のまとめ		
37	2006/12/8	金	マニラ		調査結果のまとめ	移動 ルボ→マニラ		調査結果のまとめ		
38	2006/12/9	土	マニラ		調査結果の団内調整会議					
39	2006/12/10	日	マニラ		調査結果のまとめ					
40	2006/12/11	月	マニラ		調査結果のまとめ					
41	2006/12/12	火	マニラ		技プロとの調整会議(於:JICAマニラ事務所) JICAマニラ事務所への調査結果報告					
42	2006/12/13	水	マニラ		マニラ(JAL746/9:45)→成田(14:45)長谷川、江川、中田 マニラ(TG620/14:25)→大阪(19:00) 佐野、林					

調査日程(基本設計概要説明時)

日順	月日	曜日	宿泊地	官団員	コンサルタント団員		
				JICA 林	長谷川	佐野	江川
1	2007/5/30	水	マニラ	成田(JL741/(9:35)-マニラ(13:05)JICA林、長谷川、江川 関西(TG621/(10:35)-マニラ(13:25)佐野 JICAマニラ事務所挨拶、調査方針の説明・協議			
2	2007/5/31	木	マニラ	大使館訪問、調査方針の説明 DOE挨拶、基本設計報告書ドラフトの説明・報告 技術プロジェクトチームと打合せ			
3	2007/6/1	金	マニラ	REMDへ基本設計報告書ドラフトおよび機材仕様書(ドラフト)の説明・報告 DOEおよびREMDとミニッツに関する打合せ			
4	2007/6/2	土	マニラ	団内会議、書類作成および書類整理			
5	2007/6/3	日	マニラ	同上			
6	2007/6/4	月	マニラ	DOEおよびREMDへミニッツのドラフトの説明・協議 JICAマニラ事務所へミニッツ内容の報告 団内会議および書類作成			
7	2007/6/5	火	マニラ	DOEとミニッツに関する署名			
8	2007/6/6	水	マニラ	日本大使館へ日本大使館へ基本設計概要説明結果およびMinutes内容の報告			
9	2007/6/7	木	マニラ	DOEと協議、NEAへ資料収集			
10	2007/6/8	金	マニラ	午前:マニラ→成田	マニラ(14:25)-成田(19:50) by JL742、長谷川、江川 マニラ(14:25)-関西(19:50) by TG620、佐野		

関係者リスト(現地調査時)Person in Charge of the Project

1. エネルギー省 (Department of Energy)

- | | |
|---------------------------|--|
| 1) Mr. Mariano S. Salazar | Undersecretary |
| 2) Mr. Matanog M. Mapandi | Assistant Secretary |
| 3) Mr. Mario C. Marasigan | Director of Energy Utilization Management Bureau |

2. エネルギー省再生可エネルギー管理局(Renewable Energy Management Division)

- | | |
|---------------------------------|---|
| 1) Mr. Ronnie N. Sargento | Supervising Science Research Specialist |
| 2) Mr. Rey V. Salvania | Senior Science Research Specialist |
| 3) Mr. Arnulfo M. Zabala | Senior Science Research Specialist |
| 4) Mr. Epifanio G. Gacusan, Jr. | Senior Science Research Specialist |
| 5) Mr. Winifredo S. Malabanan | Senior Science Research Specialist |
| 6) Mr. Nelson A. Fajardo | Science Research Specialist II |
| 7) Mr. Ramon O. Jaurigue | Science Research Specialist II |
| 8) Ms. Russelle G. Pandaraoan | Science Research Specialist II |
| 9) Ms. Jennifer L. Morante | Science Research Specialist I |

対象プロジェクトサイトの市長 (Mayor of Municipality of Project Sites)

- | | |
|---------------------------------|------------------------------------|
| 1) Mr. Allen Jesse C. Mangaoang | Municipality Balbalan, Kalinga |
| 2) Mr. Artemio B. Dalsen | Municipality Pasil, Kalinga |
| 3) Mr. Francisca Cawi | Municipality Tanudan, Kalinga |
| 4) Mr. Jerry U. Dalipog | Municipality Banawe, Ifgao |
| 5) Mr. Ronnie H. Lumayna | Municipality Mayoyao, Ifgao |
| 6) Mr. Tony A. Dupiano | Municipality Kayapa, Nueva Viscaya |

対象プロジェクトサイト村落長(Barangay Captain of the Project Sites)

- | | |
|------------------------------|-------------------------|
| 1) Mr. Noel Liwaliw | Barangay Maling |
| 2) Mr. Rudy Balutoc | Barangay Buaya |
| 3) Mr. Charlemagne A. Mosing | Barangay Maluksad |
| 4) Ms. Editha Lungid | Barangay Galdang |
| 5) Mr. Jaime B. Baluga | Barangay Guinaang |
| 6) Mr. Alfonso Massagan | Barangay Pugong |
| 7) Mr. Alejandrino Dinao | Barangay Dakalan |
| 8) Mr. Alex Masa-aw | Barangay Lubo(Upper) |
| 9) Mr. Alfred Pasado | Barangay Lubo(Lower) |
| 10) Mr. Dangpason Leon Sr | Barangay Lubo(Babbanoy) |
| 11) Mr. Gabriel Benohlan | Barangay Cambulo |
| 12) Ms. | Barangay Pula (Banawe) |
| 13) Mr. Montejo Omanhan | Barangay Maga |

- | | |
|--------------------------|---------------------|
| 14) Mr. Paul Vicente | Barangay Liwo-2 |
| 15) Mr. Joseph Pedro | Barangay Binalian |
| 16) Mr. Monto M. Macarto | Barangay Talecabcab |

5. 在フィリピン日本大使館

- 1) 木村欣央 書記官

6. JICA マニラ事務所

- 1) 松浦正三 所長
2) 岩上憲三 副所長
3) 前原充宏 事業実施管理班
4) 大類九里 担当所員(企画・調達班)

関係者リスト(基本設計概要説明時)

Person in Charge of the Project

1. エネルギー省 (Department of Energy)

- | | |
|---------------------------|--|
| 1) Mr. Mario C. Marasigan | Director of Energy Utilization Management Bureau |
| 2) Ms. Gloria M. Guiao | Chief of Budget Division |
| 3) Ms. Elena P. Abarca | Budget Division |

2. エネルギー省再生可能エネルギー管理局 (Renewable Energy Management Division)

- | | |
|---------------------------------|------------------------------------|
| 1) Mr. Fortunato Sibayan | Office in Charge |
| 2) Mr. Ronnie N. Sargento | Chief, PDEM Section |
| 3) Mr. Romubo B. Callangan Jr. | Senior Science Research Specialist |
| 4) Mr. Arturo F. Torralba, Jr. | Senior Science Research Specialist |
| 5) Mr. Epifanio G. Gacusan, Jr. | Senior Science Research Specialist |
| 6) Mr. Rey V. Salvania | Senior Science Research Specialist |
| 7) Mr. Ronald T. Angeles | Science Research Specialist II |
| 8) Ms. Russelle G. Pandaraoan | Science Research Specialist II |
| 9) Mr. Ramon N. Galamgam | Science Research Specialist II |
| 10) Mr. Ida A. Madrideo | Science Research Specialist II |
| 11) Mr. Hidelita I. Villanueva | Science Research Specialist II |
| 12) Mr. Elinor P. Quinto | Science Research Specialist II |

3. 在フィリピン日本大使館

- | | |
|---------|-----|
| 1) 木村欣央 | 書記官 |
|---------|-----|

4. JICA マニラ事務所

- | | |
|----------|------|
| 1) 岩上憲三 | 副所長 |
| 2) 朝戸 恵子 | 担当所員 |

5. 技術協力プロジェクトチーム

- | | |
|----------|------|
| 1) 玉川 純 | 業務主任 |
| 2) 清水 満 | |
| 3) 長田 史子 | |
| 4) 林のぶき | |

Minutes of Discussions
on the Basic Design Study on
the Project for Rural Electrification in Northern Luzon
in Republic of the Philippines

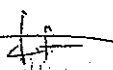
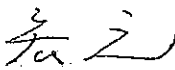
In response to the request from the Government of Republic of the Philippines (hereinafter referred to as "the Philippines"), the Government of Japan decided to conduct the Basic Design Study (hereinafter referred to as "the Study") on the project for Rural Electrification in Northern Luzon (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to the Philippines the Basic Design Study Team (hereinafter referred to as "the Team"), headed by Mr. Hayashi Hiroyuki, Senior Project Administration Officer of the Transportation and Electric Power Team of the Project Management Group I, Grant Aid Management Department, JICA, and is scheduled to stay in the country from November 2 to December 13, 2006.


The Team held discussions with the concerned officials of the Government of The Philippines.

In the course of the discussions, both sides have confirmed the main items described in the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

Manila, November 10, 2006

Hayashi Hiroyuki
Leader
Basic Design Study Team
Japan International Cooperation Agency



Mario C. Marasigan
Director
Energy Utilization Management Bureau
Department of Energy
Republic of the Philippines

ATTACHMENT

1. Objective

The objective of the Project is to construct micro hydropower stations and distribution lines in Northern Luzon.

2. Project Site

The sites of the Project are shown in Annex-1.

3. Organizations concerned in the Philippines

The Responsible and Implementing Agency is the Department of Energy (DOE). The organization chart of DOE is shown in Annex-2.

4. Components Requested by the Government of the Philippines

After discussions with the Team, the components described in Annex-3 were finally requested by the Philippine side. JICA will assess the appropriateness of the request, and will recommend to the Government of Japan for approval.

5. Japan's Grant Aid Scheme

(1) The Philippine side understands the Japan's Grant Aid scheme and the necessary measures to be taken by the Government of the Philippines explained by the Team as described in Annex-4.

(2) The Philippine side promised to take necessary measures as described in Annex-5, for smooth implementation of the Project as a condition for the Japan's Grant Aid to be implemented.

6. Schedule of the Study

(1) The Team will proceed to further studies until December 13, 2006.

(2) JICA will prepare the draft report in English and dispatch a team to the Philippine side in order to explain its contents in the middle of May 2007.

(3) When the contents of the draft report are accepted in principle by the Government of the Philippines, JICA will complete the final report and send it to the Government of the Philippines around July 2007.

7. Other Relevant Issues

(1) The Philippine side should submit answers in English to the Questionnaire, which the Team handed to the Philippine side, by November 17, 2006.

(2) The Philippine side should provide necessary number(s) of counterpart personnel to the Team during the field survey.

(3) The Philippine side should arrange the budget allocation for securing lands for both permanent and temporary facilities, undertakings shown in Annex-4, and others described in this Minutes of Discussion. (ES) (X)

(4) The Philippine side explained to the Team that the alternative sites are selected with the reasons described in Annex-6.

(5) The Team explained to the Philippine side that the candidate sites will be scrutinized based on the inventory i.e. accessibility to the site from the viewpoint of safety transportation, provisional construction period, natural conditions of the site, and results of the environmental and social considerations.

(6) The Philippine side requested the Team to carry out the training in Japan to the staff of REMD and/or relevant Local Government Unit(s) (LGUs) on operation and maintenance of new facilities as technical cooperation by JICA. The Philippine side should submit the official request regarding training with concrete contents of trainings through the Embassy of Japan/JICA Philippines Office by the end of May 2007.

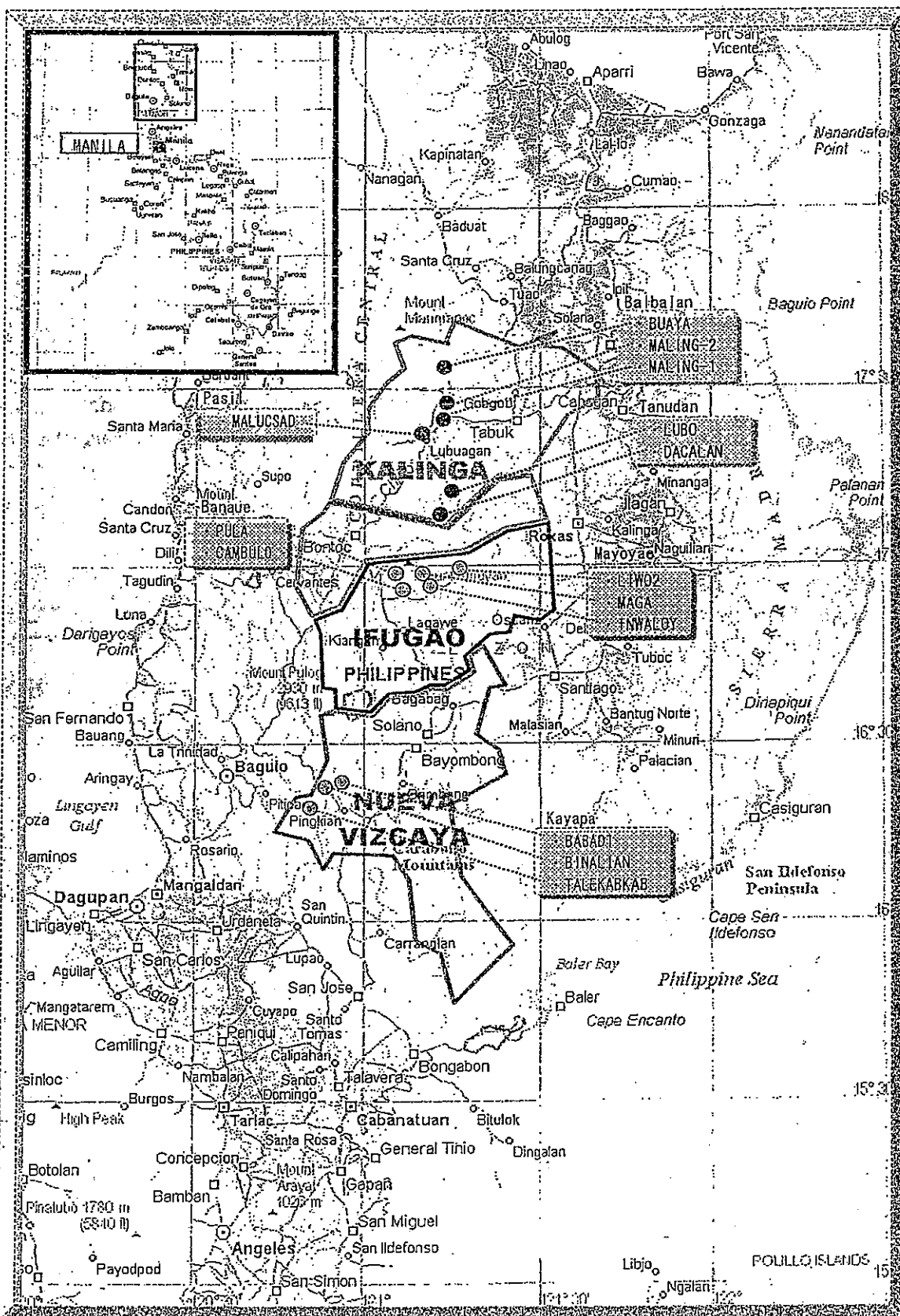
(7) Both sides confirmed that the household wiring shall be, in principle, designed, procured and installed by the Philippine side. The budget allocation and implementation of the above-mentioned shall be borne by DOE.

(8) The operation and maintenance of the micro hydropower stations and distribution lines should be done by the Barangay Alternative Power Association (BAPA). The Philippine side agreed to establish the BAPA for each project site by the end of March 2008.

(9) The Team requested to the Philippine side that the Philippine side should maintain the access roads to each project site for smooth transportation of the materials and/or equipment for the Project. In the case that the access roads were destroyed by natural disasters, such as landslide, flood, DOE should coordinate with related Department and/or LGU(s) to allocate the budget necessary for urgent rehabilitation of the access roads.

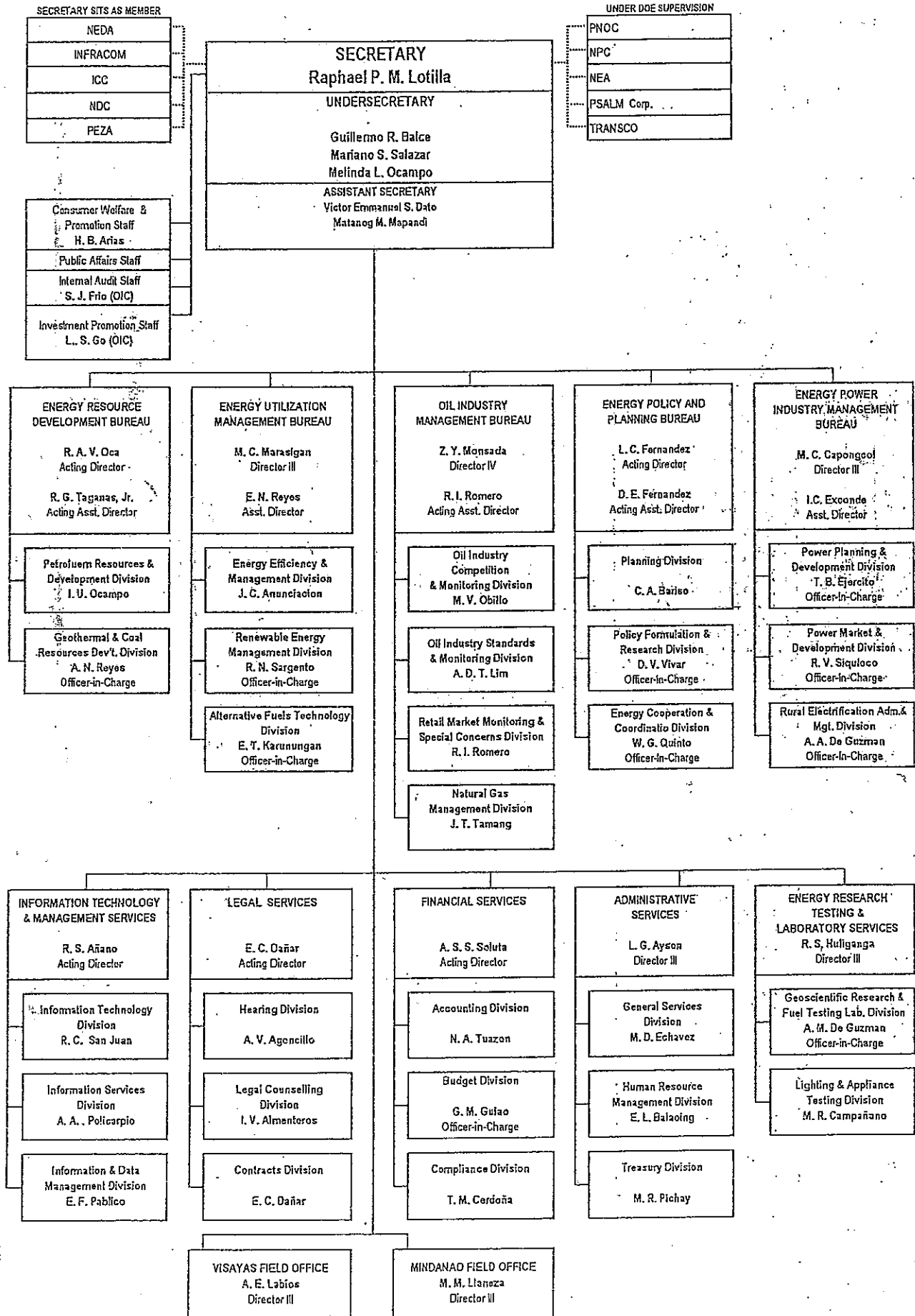
(10) Both sides confirmed that any candidate site, where security goes worse, should be excluded from the Project.

(11) The Team requested to the Philippine side that the Energy Utilization Management Bureau, DOE (EUMB) shall coordinate with the Energy Power Industry Management Bureau, DOE to avoid the duplication of the Project with other donors and EUMB report its results to the Team (through JICA Philippines Office).



The Sites of the Project

DEPARTMENT OF ENERGY



Annex-3

No.	Province	Name of Project	Micro-hydro Power Station			Transmission Line (km)
			Capacity (kW)	Head (m)	Discharge (m ³ /sec)	
1	Balbalan	Maling-2	45	40	0.19	7.0
2		Maling-1	40	17	0.4	7.0
3	Pasi	Maluksad	50	30	0.28	3.0
4	Tanudan	Dacalan	45	25	0.31	4.1
5	Bañaue	Cambulo	55	27	0.35	0.8
6		Pula(Banawe)	25	55	0.08	1.0
7	Mayoyao	Inwaloy	15	40	0.06	1.6
8		Maga	20	31	0.11	1.2
9		Liwo-2	20	22	0.15	3.4
10	Kayapa	Binalian	20	20	0.17	3.0
11		Babadi	25	30	0.14	4.0
Added three requested sites						
12	Balbalan	Buaya	12	21	0.099	
13	Tanudan	Lubo	N/D	N/D	N/D	N/D
14	Kayapa	Talecabab	8	16	0.081	

Remarks

- The data of 1 to 12 are based on the Application Form.
- The data of 12 to 14 are based on preliminary study done by GHD.
- N/D: No data
- Length of transmission lines are to be confirmed by the Basic Design Study.

JAPAN'S GRANT AID SCHEME

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

1. Grant Aid Procedures

Japan's Grant Aid Scheme is executed through the following procedures.

Application	(Request made by the recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by the Cabinet)
Determination of Implementation	(The Note exchanged between the Governments of Japan and recipient country)

Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study) using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Scheme, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes (E/N) signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

2. Basic Design Study

(1) Contents of the study

The aim of the Basic Design Study (hereafter referred to as "the Study") conducted by JICA on a requested project (hereafter referred to as "the Project") is to provide a basic document necessary for the appraisal of the Project by the Government of Japan. The contents of the Study are as follows:

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

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of the Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure 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 in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Study, JICA uses (a) registered consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA. The consultant firm(s) used for the Study is(are) recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency.

3. Japan's Grant Aid Scheme

(1) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

(2) "The period of the Grant Aid" means the one fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with (a) consultant firm(s) and (a) contractor(s) and final payment to them must be completed. However, in case of delays in delivery, installation or construction due to unforeseen factors such as national disaster, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

(3) Under the Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased. When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country. However, the prime contractors, namely, consulting, constructing and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

(4) Necessity of "Verification"

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

(5) Undertakings required of 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 the following:

- a) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction.
- b) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,

- c) To secure buildings prior to the procurement in case the installation of the equipment,
- d) To ensure all the expenses and prompt excursion for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid,
- e) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts,
- f) To accord Japanese nationals, whose services may be required in connection with the supply of the products and services under the Verified contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(6) "Proper Use"

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

(7) "Re-export"

The products purchased under the Grant Aid should not be 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 in the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan 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 the Government of Japan 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 to the Bank.

(end)

(11)

(11)

Major Undertaking to be Taken by Each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	To secure land		●
2	To Clear, level and reclaim the site when needed	●	
3	To construct gates and fences in and around the site	●	
4	To construct the parking lot	N/A	N/A
5	To maintain roads		
	1) Within the site	●	
	2) Outside the site		●
6	To construct the power house	●	
7	To bear the following commissions to the Japanese bank for banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
8	To ensure unloading and customs clearance at port of disembarkation in recipient country.		
	1) Marine (Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and customs clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	●	
9	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.		●
10	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imported in the recipient country with respect to the supply of the products and services under the verified contract.		●
11	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		●
12	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for construction of the facilities as well as for the transportation and installation of the equipment		●

(B/A: Banking Arrangement, A/P: Authorization to Pay)






Republic of the Philippines
DEPARTMENT OF ENERGY

Annex-6

12 October 2006

Mr. SHOZO MATSUURA

Resident Representative

Japan International Cooperation Agency (JICA)

40th Floor, Yuchengco Tower

RCBC Plaza, cor. Ayala Ave and

Sen. Gil J. Puyat Ave, Makati City

Dear Mr. Matsuura:

We refer to the proposed Grant-aid project entitled, "Construction of Micro-hydro Plant for the Electrification of Upland Dwellers in Northern Luzon".

We would like to inform you that as of September 2006, three (3) barangays in the original list of 14 target barangays; have been energized through grid extension. The said barangays are:

1. Bgy. Pinayag, Kayapa, Nueva Vizcaya energized in July 2005
2. Bgy. Nansiakan, Kayapa, Nueva Vizcaya energized in January 2006
3. Bgy. Tawang, Balbalan, Kalinga energized in September 2006

In this regard, we would like to request the replacement of the said barangays with other unenergized barangays such as:

1. Bgy. Talecabcab in Kayapa, Nueva Vizcaya
2. Bgy. Buaya in Balbalan, Kalinga
3. Bgy. Lubo in Tanudan, Kalinga

We recommend Bgy. Talecabcab because the potential site is among the first 20 priority sites recommended in the GHD study in 2002. We have attached the project profiles covered in the GHD study in 2002 for your reference. Moreover, Bgy. Talecabcab meets the criteria for barangay electrification.

Meanwhile, we also recommend Bgy. Buaya and Bgy. Lubo not only for having good hydropower potential but also due to the strong support of their respective local communities and LGU officials.

We would highly appreciate your favorable action on the said requests.

Thank you for your usual support and cooperation.


More power and best regards.

Very truly yours,


MARIO C. MARASIGAN

Director

Energy Utilization Management Bureau


ENR/RNS/AFT/jlm

Technical Notes
on the Basic Design Study on
the Project for Rural Electrification in Northern Luzon
in the Republic of the Philippines

The Minutes of Discussion for the captioned study was signed between Mr. Hiroyuki Hayashi, leader of Basic Design Team and Mr. Mario C. Marasigan, Director Energy Utilization Management Bureau Department of Energy on November 10th 2006.

The Team had carried out detailed survey at the respective sites and held discussions with the engaged staffs of Department of Energy. In the course of discussions, both parties have confirmed the additional items described in the attached sheets for supplementary document of the Minutes of Discussions.

Manila, December 11, 2006



Michio Hasegawa
Chief Consultant
Basic Design Study Team
Japan International Cooperation Agency



Mario C. Marsigan
Director
Energy Utilization Management Bureau
Department of Energy
Republic of the Philippines



ATTACHMENT

1. Cancellation of two (2) Candidate Sites

By the letter subjected "Construction of Mycro-hydro Plant for the Electrification of Upland Dwellers in Northern Luzon" dated 06th November 2006 issues by Ms. M. C. Capongcol Director of Energy Power Industry Management Bureau address to Mr. Mario Marasigan, Director of Energy Utilization Management Bureau, forwarded to JICA Manila Office, it was found that the two candidate sites of BABADI in Kayapa Nueva Vizcaya and INWALOY in Mayoyao Ifugao have been already approved to energize by extending grid with the fund of DOE ER1-94 in near future.

The both parties visited and confirmed above sites with the engineers of Nueva Vizcaya Electric Cooperative and Ifugao Electric Cooperative whose covering areas are BABADI and INWALOY respectively and have confirmed that those sites are energized by the construction of grid extension with said fund by the end of 2008.

With this regards, both side have agreed to cancel the two (2) sites from the fourteen (14) candidate sites.

2. Scope of Distribution Line

Referring to clause No. 7. (7) of the Minutes of Discussion of the project, the Team explained to DOE the scope of work funded by JICA is limited as shown in Fig. TN-A1.

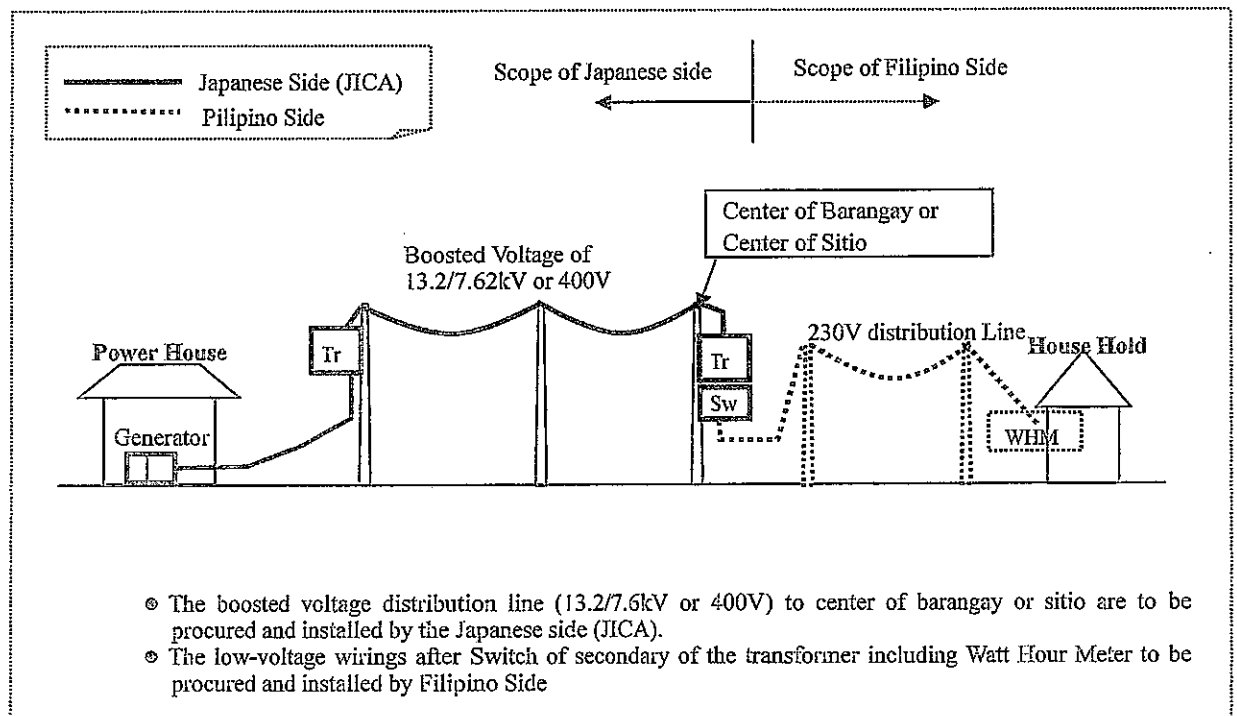


Fig. TN-A1 Scope of Works

The DOE does not agree on the suggestion at this time, and DOE shall review this further and shall provide the Team of the result by 15th of January 2007.

3. Implementation Schedule

The team explained implementation schedule of the project as shown in Fig. TN-A2.

Considering each event after the cabinet approval in Japan scheduled in July 2007, the project will be completed in end of February 2009, which is two months behind the Extended Rural Electrification Program aiming complete by end of 2008.

Year	2007						2008												2009			
Month	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
Cabinet Approval	—																					
Exchange of Notes		—																				
Detailed Design, Preparation of Bid Document			—	—	—	—																
Tender Period							—	—														
Contract and Approval									—													
Construction	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(Seasons)	Rainy						Dry			Rainy						Dry						

Fig. TN-A2 Assumed Implementation Schedule

End ✓

MA

Minutes of Discussions
on the Basic Design Study on
the Project for Rural Electrification in Northern Luzon
in Republic of the Philippines

In November to December, 2006, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team on the Project for Rural Electrification in Northern Luzon (hereinafter referred to as "the Project") to Republic of the Philippines (hereinafter referred to as "the Philippines") and through discussion, field survey, and technical examination of the results in Japan, JICA prepared a draft report of the study.

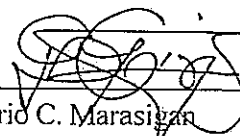
In order to explain and consult the Government of the Philippines on the components of the draft report, JICA sent to the Philippines the Draft Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Mr. Hayashi Hiroyuki, Senior Project Administration Officer of the Transportation and Electric Power Team of the Project Management Group I, Grant Aid Management Department, JICA. The Team is scheduled to stay in the country from May 30 to June 8, 2007.

As a result of discussions, both sides have confirmed the main items described in the attached sheets.

Manila, June 5, 2007




Hayashi Hiroyuki
Leader
Basic Design Study Team
Japan International Cooperation Agency



Mario C. Marasigan
Director
Energy Utilization Management Bureau
Department of Energy
Republic of the Philippines
M

ATTACHMENT

1. Components of the Draft Report

The Japanese side has informed the Philippine side on the number of sites in components shown in the Draft Report.

2. Schedule of the Study

JICA will complete the Final Report in accordance with the confirmed items and send it to the Philippines side around July 2007.

3. Other Relevant Issues

(1) The Philippines side confirmed that the following major undertakings should be taken by the Philippines side at its own expenses;

- to design, procure and install the household wiring and energy meter in accordance with the Demarcation of Transmission and Distribution Line shown in Annex-1.
- to install the low voltage distribution line between end point of transmission line and nearby household, of which materials, i.e. poles and wires, are supplied by Japanese side.
- to maintain the access roads to each project site for smooth transportation of the materials and/or equipment for the Project as shown in the Minutes of Discussions signed on November 10, 2006 (hereinafter referred as to "the previous M/D"),
- to secure lands for both permanent and temporary facilities including compensation of damaged corps by the implementation works of the project, and
- to demolish existing facilities located in the each project site, if any.

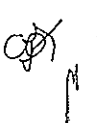
(2) The Team requested the Philippine side to secure the necessary budget for the above-mentioned the Philippines side's scope of works, including the budget for VAT and Import Duties shown in Annex-2, and others shown in Annex-5 of the previous M/D without delay.

The Philippine side would clarify on the issue of the VAT for the services of local contractor to be contracted by Japanese side by 20th of June.

(3) The Philippines side agreed to make the overall schedule with burden sharing of each party of the Philippine side up to March 2008 for establishing the Barangay Alternative Power Association (BAPA). The Philippines side should submit it to the Team through the JICA Philippines Office by end of July 2007.

(4) The Team handed three copies of the draft detailed specifications of equipment and materials to be procured of which main items and initial cost estimation are shown in Annex-3 and Annex-4 respectively. Both sides agreed that the draft specifications and above-mentioned initial cost estimation were confidential and should not be duplicated or released to any outside parties until the completion of the signing of the Contract(s) of the Project.



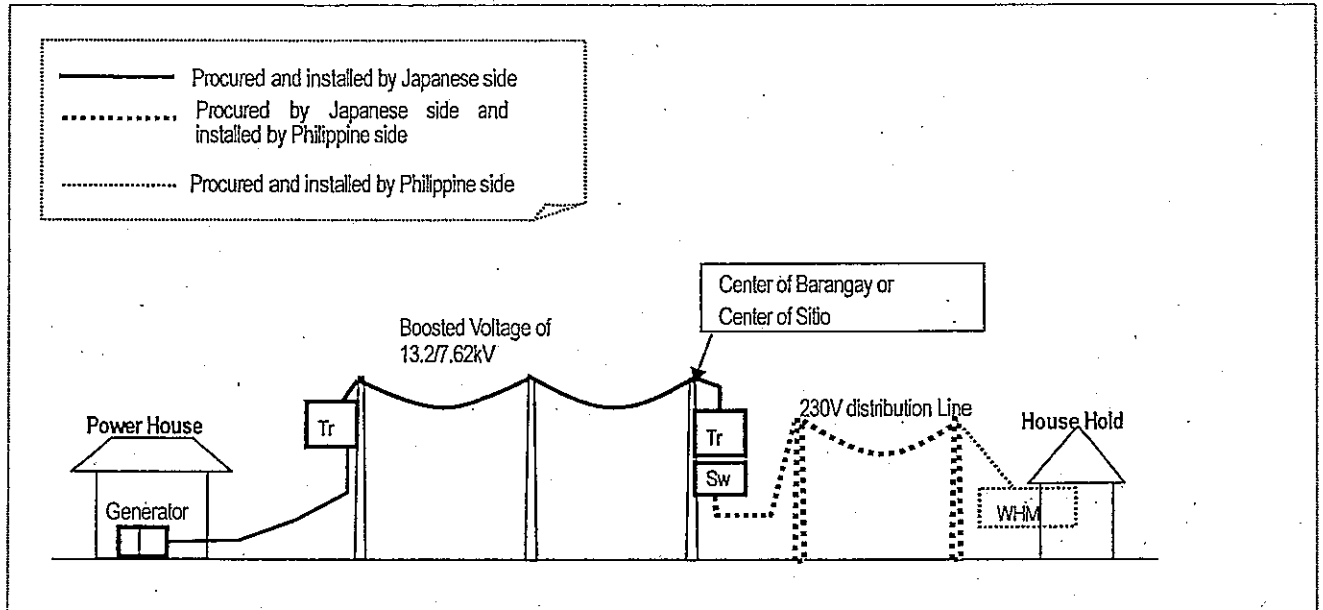


(5) The Philippines side agreed to assign at least two full time staffs to the Project for close communication and coordination with the Consultant, the Contractor, the concerned government officials, LGUs, BAPA, and local communities of Barangay, during implementation period of the Project.

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(Handwritten initials)

Demarcation of Transmission and Distribution Line



Scope of Work on 230V Distribution Line

Task	Target Date	Japanese Side	Philippine Side	
			LGU	BAPA
1. Procurement of the equipment and materials for distribution lines and transport to the storage yards of Barangay	Sep. 2008	○		
2. Prepare a storage yards and control the equipment and materials			○	
3. Construction work of the distribution line	Dec. 2008		○	
4. Commissioning of the distribution line	Feb. 2009		○	
5. Control of the spare parts				○
6. Maintenance of distribution line				○

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VAT, Duty for Japan's Grant Aid Project

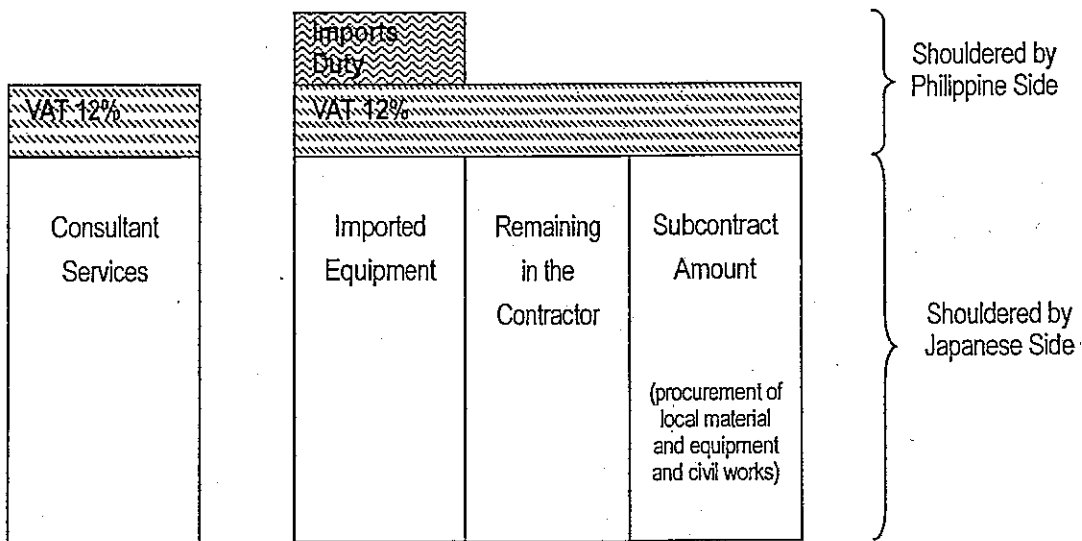
Referring Document

"REVENUE MEMORANDUM CIRCULAR No. 42-99" dated June 2, 1999 (refer to Annex-5)

"CIRCULAR LETTER No. 2006-12" dated July 27, 2006 (refer to Annex-6)

Contract to Consultant

Contract to Contractor



- The import duty shall be exempted by DOE with issuing the letter to BOC
- DOE shall pay the VAT12% amount to the both Consultant and Contractor

[Handwritten signature]

Outline of the Project

Main Items	Name of plant site					Total
	Maling -1	Maling -2	Maluksad	Cambulo	Liwo-2	
Micro Hydro Power Plant -Necessary Civil Works and Plant Building -Turbine, Generator and Protection and Control Equipment	48 kW	83kW	87kW	78kW	38kW	334kW
13.2/6.6kV Transmission Line - length is in total of 13.2/7.6kV 3phase 4wire, 2phase 3 wire and single phase 2 wire	5.4km	12.9km	3.6km	3.4km	5.6km	30.9km
230V Distribution Line - demarcation of Japanese and Philippine side is shown in Annex-1 of this M/D	3.7km (approx.)	4.7km (approx.)	5.6km (approx.)	4.7km (approx.)	3.6km (approx.)	22.3km (approx.)

1. Detailed Features of Micro-Hydro Power Plant are shown in Table 2.2-5 and 2.2-6 in Draft Report dated May 2007
2. Detailed Length of the Transmission Line are shown in Table 2.2-9 in Draft Report dated May 2007
3. Length of 230V Distribution Lines will be confirmed during Detailed Design Stage.

Estimated Cost Shouldered by the Japanese Side

		Million JPY
Items of the Cost		Amount (Approx.)
(1)	Procurement Cost (a. +b.)	307
	a. Procurement Cost	298
	a-1 Imported Equipment	(155)
	a-2 Local Procurement	(143)
	b. Administrative Cost	9
(2)	Civil Works (a. +b. +c. +d. +e.)	310
	a. Direct Cost	193
	b. Temporally Facilities	32
	c. Indirect Cost at Site	47
	d. Gate and Screen Cost	16
	e. Administrative Cost	22
(3)	Design and Supervision	84
Total (1) + (2) + (3)		701



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF FINANCE
BUREAU OF INTERNAL REVENUE



Quezon City

June 2, 1999

REVENUE MEMORANDUM CIRCULAR NO. 4v-99

SUBJECT : Amending Revenue Memorandum Circular No. 32-99.
TO : All Internal Revenue Officers and Others Concerned.

Under the Exchange of Notes between the Japanese Government and the Republic of the Philippines for OECF Funded Projects undertaken in the Philippines, the following are the standard clauses pertaining to the tax treatment of participating Japanese contractors and nationals:

"The government of the Republic of the Philippines will exempt the Fund from all fiscal levies or taxes imposed in the Republic of the Philippines on and/or in connection with the Project Loan, the Engineering Service Package Loan, and the Commodity Loan as well as interest accruing therefrom."

"The Government of the Republic of the Philippines will, itself or through its executing agencies or instrumentalities, assume all fiscal levies or taxes imposed in the Republic of the Philippines on Japanese firms and nationals operating as suppliers, contractors or consultants on and/or in connection with any income that may accrue from the supply of products and/or services to be provided under the Project Loan."

The foregoing provisions of the Exchange of Notes mean that the Japanese contractors or nationals engaged in OECF-funded projects in the Philippines shall not be required to shoulder all fiscal levies or taxes associated with the project. Instead, the taxes shall be shouldered and borne by the executing government agencies. Hence, for the comprehensive treatment of the tax implications arising therefrom, the following rulings are hereby promulgated:

A) VALUE-ADDED TAX:

1. The invoice billings of the Japanese contractors with the executing government agencies are exempt from the 8.5% creditable VAT withholding.

BUREAU OF INTERNAL REVENUE
RECORDS DIVISION
JUN 10 1999
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prescribed under Section 114(C) of the National Internal Revenue Code of 1997 (then Section 110(c), old NIRC) as provided for in Revenue Memorandum Circular No. 32-99. Accordingly, the executing agencies of the Philippine government shall not withhold the 8.5% creditable VAT from the said billings of the Japanese contractors.

2. The suppliers and sub-contractors of the Japanese contractors shall bill and pass on the 10% VAT to the said Japanese contractors. The Japanese contractors, in turn, shall bill and pass on the 10% VAT to the concerned executing agencies of the Philippine government. Thus, billings to the executing government agencies shall be deemed inclusive of VAT. Since, under the Exchange of Notes, the OECF Fund shall not be used to pay for the tax, then the VAT is to be paid out of the Philippine counterpart fund.
3. The Japanese contractors shall file the prescribed VAT returns on gross receipts derived from OECF-funded projects, claim their input taxes from their purchases of goods, properties and services from their suppliers or sub-contractors, and shall pay the VAT thereon, after offsetting the allowable input taxes, considering that the amount intended for payment of the VAT has already been collected and received by the Japanese contractors or nationals from the executing government agencies as part of the total invoice price.
4. In cases where the executing government agencies previously withheld any 8.5% creditable VAT from the total billings of the Japanese contractors, said creditable VAT withholding shall be deducted against the VAT due from the Japanese contractors. Furthermore, if the VAT returns of the Japanese contractors show that there are still excess VAT payments, after applying the 8.5% creditable VAT previously withheld from the VAT due, then such excess VAT payment constitutes taxes erroneously paid and received. Pursuant to Section 204 (C) of the Tax Code of 1997, such excess tax payment shall be refunded or credited to the Japanese contractors, either in cash or Tax Credit Certificate, as the case may be, at the option of the Japanese contractors, subject to the filing of the corresponding claim with the Commissioner or with the Court of Tax Appeals within the two-year prescriptive period.

B) INCOME TAX

1. Japanese firms or nationals operating as suppliers, contractors or consultants on and/or in connection with any income that may accrue from the supply of products and/or services to be provided under the Project Loan, shall file the prescribed income tax returns. Since the executing government agencies are mandated to assume the payment thereof under the Exchange of Notes, the said Japanese firms or nationals need not pay the taxes due thereunder.

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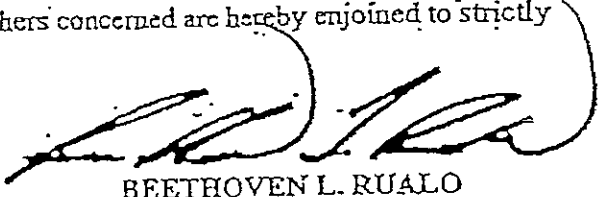
2. The concerned Revenue District Officer shall, in turn, collect the said income taxes from the concerned executing government agencies.
3. In cases where income taxes were previously paid directly by the Japanese contractors or nationals, the corresponding cash refund shall be recovered from the government executing agencies upon the presentation of proof of payment thereof by the Japanese contractors or nationals.

C) CREDITABLE EXPANDED WITHHOLDING TAX

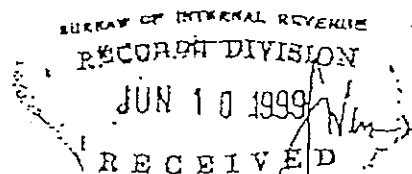
1. The executing government agencies shall remit to the BIR the prescribed 1% creditable expanded withholding tax pursuant to the expanded withholding tax regulations, as amended by Revenue Regulations No. 2-98. However, since the executing government agencies assume payment of the income taxes due from the Japanese contractors or nationals by virtue of the agreement, the same shall not be deducted from the income payments to the Japanese contractors or nationals. Instead, the executing government agencies shall assume the payment thereof out of their own funds.
2. The executing government agencies shall furnish the Japanese contractors or nationals with the prescribed withholding tax statement showing the amount of the 1% creditable expanded withholding tax remitted to the BIR.
3. The 1% creditable expanded withholding tax remitted by the executing government agencies shall be credited or deducted by the Japanese contractors or nationals in computing the net income tax due as referred to in paragraph B hereof.
4. In case the executing government agencies withheld the 1% creditable expanded withholding tax from the Japanese contractors or nationals, instead of having assumed and paid the same out of their own funds as provided for under the Exchange of Notes, the corresponding cash refund shall be recovered by the Japanese contractors or nationals from the said executing government agencies.

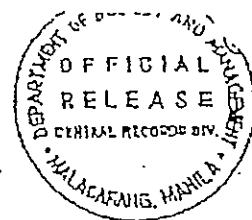
Any ruling or revenue issuance which is inconsistent herewith is hereby amended, repealed or modified accordingly.

All internal revenue officers and others concerned are hereby enjoined to strictly implement the provisions of this Circular.


BEETHOVEN L. RUALO
Commissioner of Internal Revenue

LEG/AJO/bvy





Republic of the Philippines
Department of Budget and Management
 Malacañang, Manila

CIRCULAR LETTER

No. 2006-12
 July 27, 2006

TO : Heads of National Government Agencies (NGAs), State Universities and Colleges (SUCs), Government-Owned and/or -Controlled Corporations (GOCCs), Government Financial Institutions (GFIs), Local Government Units (LGUs), and All Others Concerned

SUBJECT : Budgetary Policies and Procedures on Value Added Taxes (VAT) Arising from Foreign Donations, Grants and Loans

1.0 RATIONALE

Where loan/grant agreements or any other international agreements entered into by the Government of the Philippines (GOP) expressly prohibit the payment of any form of local/domestic taxes from loan/grant proceeds, or where the foreign contractors, suppliers or nationals engaged in foreign-assisted projects in the Philippines are not required to shoulder all fiscal levies or taxes associated with the project, the payment for such taxes shall be assumed by the Philippine Government as counterpart contribution.

National internal revenue taxes and customs duties payable by NGAs to the national government arising from foreign donations, grants and loans are treated in the national budget as part of the annually automatically appropriated budget of a government agency, without cash outlay. All other taxes and duties payable to the contractors, including VAT, are included in the annually appropriated budget of the agency. In the case of GOCCs, GFIs, SUCs and LGUs, payments for these taxes are sourced from their own funds.

However, it has been observed that there have been delays in the payment of VAT assumed by these government entities mainly due to lack of budgetary cover (peso counterpart) for the purpose.

This Circular Letter is being issued to prescribe the budgetary policies and procedures to ensure that VAT arising from foreign donations, grants and loans is included in the budgets of the respective implementing agencies.

2.0 COVERAGE

- 2.1 This Circular Letter shall cover all NGAs, GOCCs, GFIs, SUCs and LGUs implementing foreign loan and grant-assisted projects.

3.0 POLICY GUIDELINES

- 3.1 All national internal revenue taxes, including VAT, shall be included in the estimated total cost of the proposed project. It shall be reflected as part of the Philippine counterpart fund.
- 3.2 VAT payable by NGAs to the *national government* arising from foreign donations, grants and loans is deemed automatically appropriated pursuant to pertinent general provisions of the annual appropriations act.
- 3.3 VAT payable by NGAs to their *contractors/suppliers* arising from foreign donations, grants and loans shall be included in the regular annually appropriated budget of the agencies, and shall be paid within the same calendar year the billing is received from the contractor/supplier.
- 3.4 The release of funds for VAT shall be within authorized appropriations and expenditure program of the national government for a given calendar year. Thus, any request for release in excess of the programmed VAT for the current year shall be deferred and proposed in the budget for the ensuing year.
- 3.5 GOCCs shall use their corporate funds to pay VAT arising from grants and loans, including those relented by the national government. Requests of GOCCs for Tax Expenditure Subsidy from the national government to cover VAT assumed by GOCCs pursuant to a valid agreement are subject to the approval of the Fiscal Incentives Review Board (FIRB) and governing guidelines under Executive Order No. 93, series of 1986, as amended.
- 3.6 SUCs that are beneficiaries or implementers of foreign loans and grants shall assume VAT out of their normative funding for Maintenance and Other Operating Expenses (MOOE), or from their internally generated income. VAT and other taxes arising from foreign grants and loans shall not be passed-on to the national government.
- 3.7 LGUs as borrowers or recipients of grants and/or loan assistance from the national government shall likewise pay the contract cost, including VAT, to the contractor or supplier of foreign-assisted projects out of their local funds.
- 3.8 In line with the previous policy per BIR Revenue Memorandum Circular No. 42-99, series of 1999, VAT arising from foreign donations, grants and loans, which are passed-on by the Japanese contractors/suppliers to implementing government entities, are

exempted from withholding tax prescribed under Section 114(c) of the National Internal Revenue Code.

Accordingly, the implementing government agencies shall not deduct the amount of VAT from the amount to be paid to the Japanese contractor/supplier.

- 3.9 Refund of erroneous or excess VAT imposed on contractors/suppliers shall be processed by the Bureau of Internal Revenue (BIR), chargeable against the BIR Tax Refund Fund, a special account in the General Fund.

4.0 SPECIFIC GUIDELINES

4.1 NGAs

4.1.1 Prior to submission of the budget proposal, agencies shall determine the estimated and unpaid VAT due on transactions arising from all foreign-assisted projects being implemented by them based on the following documents:

a. Estimated VAT

1. Projected work program for the budget year; and
2. Signed contract agreement with the contractor/supplier.

b. Unpaid prior years' VAT

1. Billing Notice from the contractor/supplier;
2. VAT Return filed by the contractor/supplier with the Revenue District Office (RDO) of the BIR (with supporting attachments); and
3. VAT payment plan previously coordinated with contractor/supplier and lending/donor institutions, if any.

4.1.2 The estimated VAT shall be reflected in the budget proposal as GOP counterpart of the project under MOOE - Taxes, Insurance Premiums and Other Fees.

4.1.3 Upon approval of the budget, agencies shall prepare their allotment release and annual cash program or a special budget request based on their work plan for the year and submit the same to the DBM. The head of the agency shall ensure that the submitted program includes the corresponding VAT for the activities to be undertaken.

4.1.4 After evaluation, the DBM shall issue the Agency Budget Matrix (ABM) or Special Allotment Release Order (SARO) to the agency. The issuance of the corresponding Notice of Cash Allocation (NCA), when necessary, shall be made either through the common fund scheme or direct payment system.

- 4.1.4.1 For those under the common fund release system, agencies need not request for the issuance of NCA to cover payment of VAT. The NCA issued for the GOP requirements of the project on a monthly or quarterly basis can be utilized to cover payment of VAT of programmed transactions.
- 4.1.4.2 For those covered under the direct payment scheme, agencies shall include the VAT claims in the List of Due and Demandable Accounts Payables for External Creditors (LDDAP-EC) which shall be submitted to the DBM on or before the 25th of every month. All LDDAP received shall be chronologically acted upon by the DBM based on the "first-in, first-out" policy, that is, according to the batch number of the LDDAP submitted by the agency.
- 4.1.5 The DBM shall issue NCA directly to the Modified Disbursement Scheme Government Servicing Bank (MDS-GSB). Agency concerned shall be provided a Letter of Advice of NCA Issued (LANCAI) to officially inform them of the NCA released.
- 4.1.6 Upon receipt of the release documents, the NGA shall obligate and liquidate obligations in accordance with the existing budgeting, accounting and auditing procedures. The VAT shall be paid out of the peso counterpart fund of the project chargeable against the regular budget of the NGA concerned.
- 4.2 GOCCs and GFIs
- 4.2.1 For VAT paid out of corporate funds
- 4.2.1.1 The GOCC or GFI shall determine the estimated or unpaid prior years' VAT arising from foreign donations, grants and loans and shall include the same in their Corporate Operating Budget required under Executive Order No. 518 based on the documents enumerated under item 4.1.1.
- 4.2.1.2 During project implementation, the VAT claim shall be processed by the GOCC or GFI upon receipt of the Billing Notice from the contractor or supplier. If it pertains to unpaid prior years' VAT, the contractor or supplier concerned shall also provide the GOCC or GFI a copy of the VAT Return filed with the RDO.
- 4.2.1.3 The GOCC or GFI concerned shall obligate and pay the amount of VAT due out of the peso

counterpart fund of the project chargeable against its corporate funds.

4.2.2 For VAT covered by the Tax Subsidy approved by the FIRB

4.2.2.1 The GOCC or GFI must first secure a Certificate of Entitlement to Subsidy (CES) from the FIRB.

4.2.2.2 In turn, the DBM shall issue the corresponding SARO in favor of the Bureau of the Treasury and shall provide a copy to the RDO of the GOCC or GFI concerned.

4.2.2.3 The settlement of VAT may follow the guidelines and procedures prescribed under Revenue Regulations No. 17-2005 dated 21 October 2005 (Providing for the Policies, Guidelines and Procedures in the Implementation of the Tax Subsidy Granted by the FIRB to Bases Conversion Development Authority for the Subic-Clark-Tarlac Expressway Project) or any alternative mechanism that may be agreed upon by all concerned parties.

4.3 SUCs and LGUs

4.3.1 Based on the documents enumerated under item 4.1.1, the implementing or benefited entity shall determine the estimated requirements of the project for the year, inclusive of VAT, and include the same in their annual operating budget. The head of the implementing entity shall ensure that the amount of VAT corresponding to the transactions arising from foreign-assisted projects being implemented is included within the approved budget.

4.3.2 During project implementation, the contractor shall submit its Billing Notice to the implementing agency together with other supporting documents that may be required by the implementing entity concerned. If it pertains to unpaid prior years' VAT, the contractor or supplier concerned shall also provide a copy of the VAT Return filed with the RDO.

4.3.3 The implementing entity shall obligate and pay the VAT passed-on by its contractor or supplier from the peso counterpart fund of the project chargeable against their budget.

5.0 EFFECTIVITY

This Circular Letter shall take effect immediately.

ROLANDO G. ANDAYA, JR.
Secretary

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事業事前計画表（基本設計時）

1. 協力対象事業名
フィリピン国 北部ルソン地方電化計画
2. 要請の背景(協力の必要性・位置付け)
<p>フィリピン国(「フィ」国)は総面積 299,400m²(日本の約 80%)、7,100 以上の島々からなる島嶼国である。地理的制約から同国の電化率は 70%程度に留まっており、現在でも人口の約 8,300 万人の内約 2,000 万人が電気のない生活を余儀なくされている。</p> <p>このため「フィ」国は農村地域における生活水準の向上や、収入源創出による貧困撲滅を目的に「2008 年に村落電化率 100%」「2017 年に家屋電化率 90%」目標に掲げ地方電化を最重要政策に位置づけている。これら未電化地域の多くは、山岳部や離島に散在しており、送電線の延長による電化は困難な状況にあることから、これまで小・マイクロ水力および太陽光発電等の再生可能エネルギーを活用した独立電源の導入が促進されてきた。</p> <p>今回要請のあった北部ルソン地域は山岳地帯の過疎地域にあり、現在も 500 以上の村落(約 6 万世帯)が電化されていないことから、エネルギー省(DOE)は 1999 年より河川が多く水力資源に富む同地域において、マイクロ水力を活用した電化に取り組んでいるものの、設置台数が少ないことに加え、発電設備の品質に起因する故障の頻発や運営維持管理体制等の問題を抱えている。</p> <p>わが国は 2001 年から 2004 年までの長期専門家を派遣し、地点選定や運営技術等の技術移転を行い、2004 年からは技術協力プロジェクト「地方電化プロジェクト」を実施し、料金制度構築等について継続的に協力中である(2009 年終了予定)。さらに 2003 年に実施した「北部ルソン未電化地域マイクロ水力発電基礎調査」(在外基礎調査)においては、50 箇所の地点調査を実施し、水力ポテンシャル、電力需要、運営維持管理体制、サイトアクセス条件等を考慮した上で、候補地点を 20 箇所に絞り込んだ。</p> <p>「フィ」国政府は上記基礎調査の結果に基づき、マイクロ水力発電を整備する意向であるものの、慢性的な財政難から自助努力での整備が困難であるとして、候補地点をさらに 14 箇所へと絞り込んだ上で、わが国の無償資金協力による整備を要請してきた。</p> <p>マイクロ水力発電所の運営、維持・管理は、村落電化組合(BAPA: Barangay Alternative Power Association)が行なうこととなるが、運転員、点検保守要員に対する技術指導、組織、運営に係るマネジメントに係る指導が必要であり、DOE 職員、LGUs 関係者による支援が不可欠である。DOE 職員及び LGUs 関係者のこのような指導能力向上に係るキャパシティディベロップメントは、地方電化プロジェクトにおいて実施中であり、同技術協力プロジェクトと連携をとり、村落電化組織が適切に形成され、運営されるようバックアップを行うことが本案件では重要となる。</p>
3. プロジェクト全体計画概要
<p>(1) プロジェクト全体計画の目標(裨益対象の範囲および規模)</p> <ul style="list-style-type: none"> ① 村落の電化で住民生活レベルの向上が図れる ② 村落の電化で、住民の勉学環境の向上が図れる ③ 村落の電化で生計向上活動の創出に寄与する <p>裨益対象: マリン-1、マリン-2、マルクサッド、カンプロ、リオ-2サイト周辺住人 裨益人口: 約 8,000 人</p> <p>(2) プロジェクト全体計画の成果</p> <ul style="list-style-type: none"> ① <u>マイクロ水力発電施設・送配電機材が整備・調達される</u>

<ul style="list-style-type: none"> ② 電化製品を使用することが可能となる ③ 電灯の使用が可能となり、夜間における勉強環境が整備される ④ 村落電化組合が結成される ⑤ 設備の運転・維持に係る雇用が創出される ⑥ 脱穀等の電動化により農作業の効率化が図れる <p>(3) プロジェクト全体計画の主要活動</p> <ul style="list-style-type: none"> ① <u>マイクロ水力発電施設および送電線が整備され、また低圧配電用機材が調達される</u> ② 低圧配電線を据え付ける ③ 村落電化組合が適切に設立・運営される ④ 運開後、設備の運転・維持管理を行う <p>(4) 投入(インプット)</p> <p>ア. <u>日本側(=本案件):無償資金協力 6.97 億円</u></p> <p>イ. 相手国側:</p> <ul style="list-style-type: none"> ① VAT予算の措置 ② 低圧配電線の据付工事 ③ サイトまでのアクセス道路の補修 ④ 用地取得 ⑤ 不要な既設設備の撤去 ⑥ プロジェクトの実施に必要な人員及び経費の確保 ⑦ 各種関連機関との調整・申請・承認 <p>(5) 実施体制</p> <p>実施機関:エネルギー省、エネルギー管理局、再生可能エネルギー管理課 主管官庁:エネルギー省</p>
<p>4. 無償資金協力案件の内容</p>
<p>本無償協力案件は、技術協力プロジェクトと連携し、村落電化組合を中心とした電力供給運営を実現する為のパイロットプロジェクトとして選定された5サイトにマイクロ水力発電所を整備するものである。</p> <p>(1) サイト</p> <ul style="list-style-type: none"> ① マリン-1 (カリंगा州 バルバラン県) ② マリン-2 (カリंगा州 バルバラン県) ③ マルクサッド (カリंगा州 バジル県) ④ カンプロ (イフガオ州 バナウエ県) ⑤ リオ-2 (イフガオ州 マオヤオ県) <p>(2) 概要</p> <p>当該無償資金援助協力案件により整備・供与される主要な施設・機材は以下のとおりである。</p> <ul style="list-style-type: none"> ① マイクロ水力発電機および付帯設備の調達・据付 ② 13.2kV 送電線用資機材の調達・据付 ③ 低圧配電用資機材の調達 <p>(3) 相手国側負担事項</p> <ul style="list-style-type: none"> ① VAT予算の措置 ② 低圧配電線の据付工事 ③ サイトまでのアクセス道路の補修 ④ 用地確保 ⑤ 不要な既設設備の撤去等 ⑥ プロジェクトの実施に必要な人員及び経費の確保 ⑦ 各種関連機関との調整・申請・承認 <p>(4) 概算事業費</p> <p>概算総事業費 7.93 億円(無償資金協力 6.97 億円、「フィ」国側負担 0.96 億円)</p>

(5) 工期 詳細設計・入札期間を含め約 20 ヶ月(予定)		
(6) 貧困、ジェンダー、環境及び社会面の配慮 該当事項なし。		
5. 外部要因リスク(プロジェクト全体計画の目標の達成に関するもの)		
特に該当事項なし。		
6. 過去の類似案件からの教訓の活用		
特に該当事項なし。		
7. プロジェクト全体計画の事後評価に係る提案		
(1) プロジェクト全体計画の事後評価に係る成果指標		
	現状(2007年)	プロジェクト実施後(2009年)
マイクロ発電設備の導入	未電化	5サイトに出力計334kWのマイクロ水力設備及び送電線が整備される
電力供給時間	0	24時間供給が可能となる
(2) その他の成果指標 特になし		
(3) 評価のタイミング 2009年以降		

収集資料リスト

主管部長	文書管理課長	主管課長	情報管理課長	図書資料室受付印

平成18年12月13日 作成

地域	アジア	調査団	北部ルソン地方電化計画	調査の種類	基本設計調査	作成部	課
国名	フィリピン国	等名称		現地調査期間	2006年11月02日～2005年12月13日	担当者	氏名

番号	資料名称	形態	版数	ページ数	オリジナルコピーの別	部数	収集先名称又は発行機関	寄贈・購入(価格)の別	取扱区分	利用表示	利用者所属氏名	納入予定日	納入確認欄
1	Philippine Energy Plan 2005 Update VOLUME 1	冊子	A4	57	コピー	1	DOE	オリジナル					
2	Manual for Micro-Hydropower Development (March 2004)	冊子	A4	217	コピー	1	DOE REMD	コピー					
3	Guide on Mini-Hydropower Development in the Philippines SUPPLEMENT (Rev. Feb 1999)	冊子	A4	20	コピー	1	DOE REMD	コピー					
4	A Guide to the Social Aspect of Rural Electrification Projects by Using Renewable Energy	冊子	A4	66	コピー	1	DOE REMD	コピー					
5	Project Implementation Manual DOE-Funded Barangay Electrification Project	冊子	A4	79	コピー	1	DOE REMD	コピー					
6	地方電化プロジェクト実施協議報告書 平成16年6月 国際協力機構	冊子	A4	200	コピー	1	DOE REMD	コピー					
7	DOE's Barangay Electrification Program (BEP) Frequently Asked Questions' 17 Feb 2006	冊子	A4	6	コピー	1	DOE REMD	コピー					
8	PANTIKIAN Alternative Power Association (APA) Constitution and By-Laws	冊子	A4	7	コピー	1	PANTIKIAN, BALBALAN	コピー					
9	PANTIKIAN APA Financial Statements: as of May 31, 2006	冊子	A4	7	コピー	1	- Ditto -	コピー					
9	PANTIKIAN APA Contract for Electric Service/Membership for Residential Connection	冊子	A4	2	コピー	1	- Ditto-	コピー					
9	Barangay Development Planning and Budgeting Workshop September 20, 2005	冊子	A4	9	コピー	1	MALING BALBALAN	コピー					
10	Barangay Development Plan Updating Workshop August 31, 2005	冊子	A4	10	コピー	1	BALANTOY, BALBALAN	コピー					
11	13.2kV Distribution Line General Drawings (National Electrification Administration)	図面	A4	18	コピー	1	KAELCO	コピー					

表1 マイクロ水力発電所建設候補 12 サイトの総合評価表

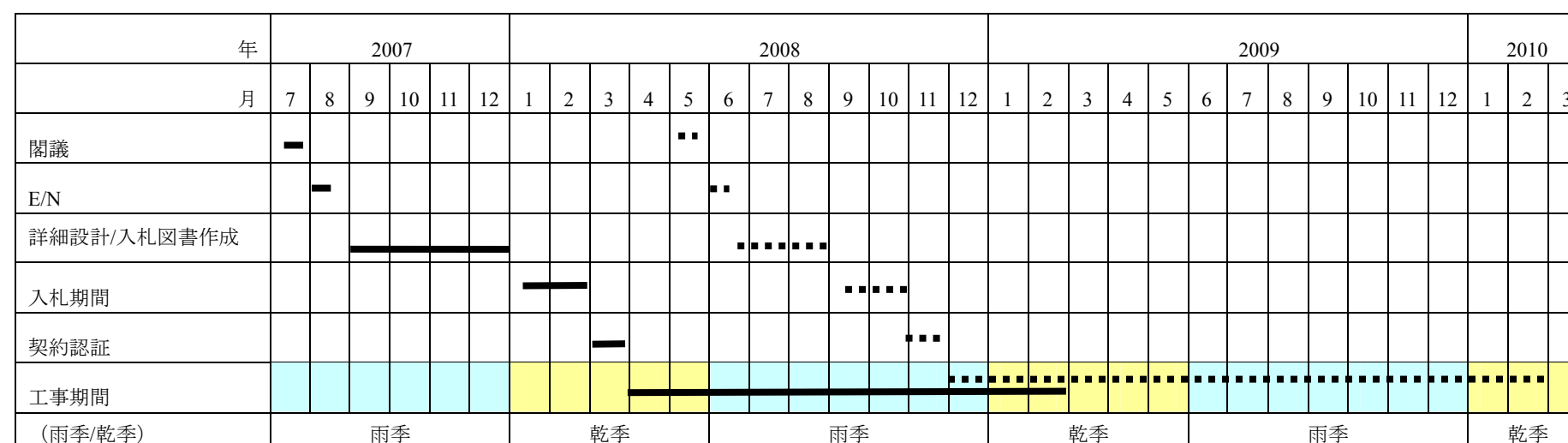
■ : 実施効果総合評価にて 20 点中 11 点以上の箇所
 赤字 : 上記 10 点以下で特に評価の低いポイント

番号	サイト名称	① グリッド配電線の状況 5 点評価	② 住民の参加意識 環境社会配慮 5 点評価	対象世帯数 5 点評価	③ 可能出力 (a) 必要出力 (b) (a)/(b) 5 点評価	④ 1 世帯あたり の 建設コスト 比 5 点評価	⑤ 実施効果総 合評価 ①+②+③+④	⑥ サイトへのアクセス 5 点評価	⑦ 施工工期の制限 5 点評価	第1期での施工 の可否 H18.4~H19.2 の 11 ヶ月を想定 ⑥⑦の低い数値 3点以上を可	第2期での施工 の可否 H18.12~H20.2 の 15 ヶ月を想定
1	マリン-2 Maling-2	カリンガ州の州都タブック (Tabuk)より国道約 25km 手前地点まで配電グリッドがある。	市長自らの Site に同行する等非常に協力的であった。バランガイキャプテンはリーダーシップがありプロジェクトへの関心が強い。	244+218+16 =478	57 (96) (59%)	0.35		村落へは年間を通じ小中型 4 輪駆動車のアクセスが可能、また発電所サイトまで年間を通じ小中型 4 輪駆動車のアクセスが可能。	水量が多いので堰の工事は乾期の終盤 3 月～5 月に実施することが必須。	可	
		5	5		3	5	18	5	3	3	
2	マリン-1 Maling-1	同上	市長自らの Site に同行する等非常に協力的であった。バランガイキャプテンはリーダーシップがありプロジェクトへの関心が強い。	54+163 =217	31 (44) (70%)	0.42		村落へは年間を通じ小中型 4 輪駆動車のアクセスが可能、また発電所サイトまでは約 1km で途中まで人道がある。	堰の工事は乾期から雨期の始まりまで実施可能。	可	
		5	5		3	4	17	5	5	5	
3	ブアヤ Buaya	隣の村落タワン(Tawang)まで今年 2006 年に配電線が延長された。同村落よりブアヤまでは約 4km。	PRA 等も初めて行われたため住民参加意識形成は今後の課題である。村落内の部落が地域内に点在しており意識の共有化が計れていない。	146	9 (28) (32%)	1.24		雨期においては村落手前 14km 地点まで普通車両にて、また乾期においては手前 8km まで 4 輪駆動車にてアクセス可能。また発電所サイトは村落より約 1km で人道もない。	堰の工事は乾期から雨期の始まりまで実施可能。	不可	可
		3	1		1	1	6	1	5	1	
4	マルクサッド Maluksad	村落手前約 10km 手前まで配電グリッドがある。	LGU の Engineer が Site に同行する等の協力がなかったが、バランガイは協力的であった。供給対象村落の電化プロジェクトに対する意識の共有化が困難。	80+156+ 120+60 =416	52 or 67 (84) (62% or 80%)	0.34		村落手前 500m 地点まで年間を通じ中型トラックがアクセス可能。また発電所地点はサイトまで中型トラックでアクセス可能。但し、雨季および台風時にアクセス道路に土砂崩れの可能性大。	水量が多いので堰の工事は乾期の終盤 3 月～5 月に実施することが必須。	可	
		5	3		4	5	17	4	3	3	
5	ダカラン Dacalan	村落手前約 20km まで配電グリッドがある。	LGU の Engineer が Site に同行する等非常に協力的であった。バランガイキャプテンはリーダーシップがありプロジェクトへの関心が強い。	179	36 (36) (100%)	0.51		乾期においては村落手前 11.5km 地点まで、小型 4 輪駆動車にて、また、雨期においては手前 18km 地点まで小型特殊 4 輪駆動車アクセス可能。また発電所サイトまでは 1.5km で人道がある。資材の運搬は年間を通じ極めて困難。	水量が多いので堰の工事は乾期の終盤 3 月～5 月に実施することが必須。	不可	可
		5	5		5	3	17	1	3	1	
6	ルボ Lubo	村落手前約 15km まで配電グリッドがある。	LGU の Engineer が Site に同行する等非常に協力的であった。PRA 等も初めて行われたため住民参加意識形成は今後の課題である。	122+127+ 118 =367	16 (74) (22%)	0.83		前述ダカランサイトと同様発電所サイトまではダカランから 7km で人道がある。資材の運搬は年間を通じ極めて困難。	堰の工事は乾期から雨期の始まりまで実施可能。	不可	可
		5	2		1	2	10	1	5	1	
7	カンブロ Cambulo	隣の村落Batadまでグリッド配電線がきておりBatadより当該村落まで約6km。	LGU の Engineer 及び staff が Site に同行する等非常に協力的であった。	274+65 =339	68 (68) (100%)	0.35		村落より 4km 手前地点まで年間を通じ小型特殊 4 輪駆動車でアクセス可能。同地点よりサイトは下りほぼ直線で見渡せるので索道を仮設すれば資材の運搬が容易。	水量が多いので堰の工事は乾期の終盤 2 月～4 月に実施することが必須。	可 (手法検討中)	
		4	5		5	5	19	3	3	3	

8	プラ Pula (Banawe)	村落手前約 8km 地点まで配電グリッドがある。	LGU の Engineer 及び staff が Site に同行する等非常に協力的であった。	85	15 (17) (88%)	0.81		村落手前 13km 地点まで年間を通じ大型普通車両のアクセスが可能。ここより村落への 13km の道路は幅 50cm 程度の平坦な山道であるが資材の輸送は極めて困難。	堰の工事は乾期から雨期の始まりまで実施可能。	不可	可
		5	5		4	2	16	1	5	1	
9	マガ Maga	隣の村落 Inwaloy まで 2008 年までに配電線が延長される。Inwaloy より当該村落までの距離は約 4.5km	LGU の staff が Site に同行する等の協力は得られた。バランガイキャプテンは非常に協力的であった。	115	17 (23) (74%)	0.75		村落より 10km 手前地点まで年間を通じ普通車両のアクセス可能、ここより村落までの 10km の道路は幅 50cm 程度の山道であり資材の輸送は極めて困難。	堰の工事は乾期から雨期の始まりまで実施可能。	不可	可
		3	4		3	2	12	1	5	1	
10	リオ-2 Liwa-2	村落手前約 8km まで配電グリッドがある。	LGU の staff が Site に同行する等の協力は得られた。バランガイキャプテンは非常に協力的であった。	152	30 (30) (100%)	0.49		村落まで年間を通じて普通車両でアクセス可能	堰の工事は乾期から雨期の始まりまで実施可能。	可	
		5	4		5	4	18	4	5	4	
11	ビナリアン Binalian	隣の村落 Babadi (当初要請をキャンセル) までの延長工事 2007 年中に実施される。 Babadi ~ 当該村落は約 1km。	LGU の staff が Site に同行する等の協力は得られた。	38	8 (8) (100%)	1.22		村落まで特殊四輪駆動車にてアクセス可能、但し通常に車両が通行していないので雨季の状況が把握不能。	堰の工事は乾期から雨期の始まりまで実施可能。	可	
		1	3		5	1	10	4	5	4	
12	タリカブカブ Talicabab	村落センターより約 2km まで延長されている。また同村落の Oyawe 地域より約 1.5km に配電線が通過している。	LGU の staff が Site に同行する等の協力は得られた。	38	8 (8) (100%)	1.22		村落まで年間を通じ四輪駆動車にてアクセス可能、発電所サイトへのアクセスは別ルートであり、同サイト 2.5km 手前地点まで年間を通じ普通中型車両までアクセス可能。	堰の工事は乾期から雨期の始まりまで実施可能。	可	
		1	3		5	1	10	4	4	4	

注) 1 世帯あたりの建設コストについては、限定された供給世帯数 (可能出力/200W) にて算定した。

表2 期分けによる実施の工程(案)



既電化村落調査結果報告

1. 調査対象村落

サイト名称: カリンガ州、バルバラン県、パンティキアン村落

● 概要

日本の草の根無償資金協力により 2002 年着工、2004 年 10 月に竣工式がおこなわれ、発電所運開より約 2 年間が経過している。発電容量 18kW、供給対象は住宅 119 戸および学校、診療所、教会等。

- プロジェクト費用 3,684,000 ペソ
- 日本大使館草の根無償資金協力 2,239,600 ペソ
- ローカル政府、受益者 1,445,000 ペソ

2. 発電所の維持管理の現状

発電所は基本的に夕刻の 5 時より翌朝の 8 時の 15 時間に運転される、この間は 1 名のオペレータが発電所に常駐し管理している、またこれ以外の時間の運転については、イベント(結婚式、葬式、集会等)および木工所における電動工具の使用等特別な要望が前日までに連絡があれば、発電所の記録簿に記帳され、要望の昼間の時間帯に運転されている。運開当初制御装置の初期故障が発生したが、その後 2 年間経過しているが主だった故障は発生していない。

3. 需要電力

発電所の出力の各電流を毎日午後 9 時に記録台帳に記載している、このデータより算定した発電機の負荷は約 9kW 程度であり、定格出力の 18kW の 50%程度である。しかしオペレータによれば、負荷のピークは午後 6 時～7 時頃であり、記録は無いがピーク時の負荷の運開より 1 年後の 2005 年 11 月の 13kW がその 1 年後の現在 2006 年 11 月には 16kW に達し、定格出力 18kW の約 9 割弱となっている。

4. 需要家の負荷調査

2004 年マイクロ水力発電が運開後、電化により住民の生活は大幅に向上しており、照明は全家庭に、ステレオは大半に、また雑貨屋を中心に冷蔵庫が 7 世帯に、洗濯機が 3 世帯に導入されている。1 戸あたりの平均最大負荷も約 135W(発電出力ピーク負荷を世帯数で割った値 $16,000/119 \text{ 戸}=135\text{W/戸}$ と算定される。

5. 村落電化組合(BAPA)

村落電化組合は 2004 年 6 月に組織され、その規約内容の抜粋を表 S9-1 に示す。

同表のとおり、電気料金は積算電力計を設置している家庭で 4 ペソ/kWh また設置していない家庭では電気製品の定格容量 1W あたり月 1 ペソと決められている。また積算電力計の設置世帯数は全体の 6 割程度。

表 S9-1 パンティキアン村落 BAPA 規約要点

項目	規約内容	備考
入会金	建設時に役務提供したもの 50 ペソ 建設時に役務提供をしていないもの 1,000 ペソ	
入会義務	BAPA の規約を守ること BAPA ミーティングに参加すること 発電出力が不足した場合負荷制限の応じること 料金を期日に支払うこと 電気を正等に使用すること	
入会権利	BAPA の役員選挙権 BAPA の記録をチェックすること	
電気料金	積算電力計が有る場合 4 ペソ/kWh 積算電力計が無い場合 1 ペソ/W 電気製品定格	
ペナルティ	電気料金を2ヶ月支払わない場合供給線を断線 不正接続 500 ペソ、1,000 ペソ、1,500 ペソ罰金 積算電力計の不正改造 1,000 ペソの罰金	
総会	毎年 1 月 15 日に1回実施	
役員選挙	毎年 1 回	
理事会	理事は県職員も代表 1 名、村落キャプテン 1 名、村落長老 3 名の計 5 名で構成	
理事会役割	BAPA の監督、助言、政策策定	
BAPA 役員	会長、副会長、プラント責任者、秘書、会計、監査役(以上各 1 名) および運転員(4名)	
BAPA 役員報酬	会長 700 ペソ、副会長 500 ペソ、プラント責任者 500 ペソ、秘書 500 ペソ、会計 500 ペソ、監査役 500 ペソ、運転員 2000 ペソ	1 ヶ月あたり 4,750 ペソ
収入	入会金、再入会金、電気料金、貸金の返済、献金、寄付等	
支出	役員報酬、プラントのスペアパーツの購入、プラントの修繕、取替え、事務所の事務用品、会員の積算電力計および内線工事費の貸付金	
財務報告書提出	財務表は LGU を通じ DOE へ提出する。	1回/年

出所: Pantikian Alternative Power Association Constitution and By-Low より抜粋

なお、BAPA の 2004 年 10 月の発電所運開以降直ぐには料金の徴収は実施されず。正式に 2005 年 6 月より料金徴収が開始されたとのこと、年間(2005 年 6 月～2006 年 5 月)の収支について表 S9-2 に要約する。

また、未収金については同収支表には記載されておらず、この額については 2006 年 5 月末時点のデータは無く、2005 年 9 月末までの累計が 53,346 ペソと記録されている。5 月末時点の額を比率にて算定すると約 42,676 ペソが年間前述1年間の未収金として想定される。未収金が回収された場合の年間収支を同表下段に示す。

表 S9-2 パンティキアン電化組合年間収支

収入		支出	
電灯	70,395	報酬	14,733
テレビ	4,035	料金収集員費	4,557
CD	1,789	修理、維持費	16,181
アンプ	376	技術料	479
カンナ (工具)	605	監査費	8,158
再接続費	150	供給者費	240
入会金	250	会計報酬	1374
罰金	110	会議費	580
雑収入	3,874	交通費	600
発電収入(徴収)合計	81,584	支出合計	46,902
年間収支	34,682		

未収金	42,700		
発電収入合計	124,284	支出合計	46,903
年間収支	77,382	(未収金算入)	

注)積算電力計の設置の場合の電力は全て電灯負荷として計上されている。

表 2.1-5 の年間の発電収入合計より販売電力量および一世帯あたりの平均使用電力量および電力料金を分析すれば表 S9-3 および表 S9-4 のとおりとなる。

表 S9-3 使用電力量

項目	算定式	算定	結果
1. 年間総供給電力量	年間収入/電力単価	124,284 / 4	31,071 kWh
2. 一戸あたりの年間平均	年間販売電力料/戸数	31,071 / 119	261 kWh
3. 一戸あたりの月平均	年間平均/月数	261 / 12	22 kWh
4. 一戸あたりの日平均	月平均/日数	22 / 30	0.73 kWh

表 S9-4 電力料金

項目	算定式	算定	結果
1. 一戸あたりの年間平均	使用電力料 x 4 ヶ月	261 x 4	1,044 ヶ月
2. 一戸あたりの月平均	月平均/月数	22 x 4	88 ヶ月

5) 村落電化組合(BAPA)および維持運営上の問題点

- 徴収されるべく料金 124,282 ヶ月に対して、徴収額が 81,584 ヶ月と徴収率が約 66%と約 2/3 の状況である。規約によれば 2 ヶ月支払わない場合は電源供給線を切り離すこととされているが、それらの強制措置が実際に十分になされていない。正式に BAPA が運営され始めてから約 1 年少々であるが、今後この改善が望まれる。

- 組合役員の 1 ヶ月の報酬が 4,750 ヶ月(運転員が 1 名の場合)であり、通常に支払うと年間 12 ヶ月分で 57,000 ヶ月と電力料金年間収入の約 50%となる。このため、現在オペレー

タと料金収受員のみ報酬を支給しており、その他の役職は電気料金を無料とで報酬なし年間の支出実績は 19,290 べソと低く抑えて運用しているが、年間収入を想定した現実的な報酬額の策定が必要。

- ・ 発電機出力においての積算発電量の記録がないため、発電電力量に対し需要家の消費電力量の割合が算定不可能である。発電所における積算電力計の設置も本プロジェクトにおいては考慮することが必要。