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## 1. 調査団員・氏名

## 1. 調査団員・氏名

### 基本設計調査 (2002年3月2日～3月29日)

- (1) 倉科 芳朗 (総括)  
国際協力事業団 無償資金協力部業務第三課 課長代理
- (2) 安松 茂 (業務主任/建築計画)  
(株)久米設計
- (3) 奥山 重也 (建築設計計画)  
(株)久米設計
- (4) 栗城 幹男 (設備計画)  
(株)久米設計
- (5) 平岡 功 (視聴覚機材計画)  
(株)久米設計
- (6) 中野 壮訓 (施工計画/積算)  
(株)久米設計

### 基本設計概要書説明 (2002年6月9日～6月20日)

- (1) 中野 智 (総括)  
国際協力事業団 無償資金協力部業務第三課 課長代理
- (2) 阿部 重康 (無償資金協力)  
外務省 経済協力局無償資金協力課
- (3) 安松 茂 (業務主任/建築計画)  
(株)久米設計
- (4) 奥山 重也 (建築設計計画)  
(株)久米設計
- (5) 平岡 功 (視聴覚機材計画)  
(株)久米設計

## 2. 調査行程

## 2. 調査行程

### 基本設計調査行程 (2002年3月2日～3月29日)

No	月日	曜日	午 前	午 後
1	3月2日	土	成田	バンコク
2	3日	日	バンコク ヴィエンチャン	類似施設・建設サイト調査
3	4日	月	JICA ラオス事務所打合せ 日本国大使館表敬・協議 国家建設委員会表敬・協議	国家建設委員会協議
4	5日	火	国家建設委員会協議	国家建設委員会、建設サイト調査
5	6日	水	公共事業省表敬 国家建設委員会ミニッツ案協議	国家建設委員会ミニッツ案協議 ミニッツ署名
6	7日	木	国立文化ホール調査 地質・測量調査見積依頼	JICA ラオス事務所報告 日本国大使館報告、教育省調査
7	8日	金	倉科団長帰国 青年同盟調査	NOVOTEL 調査 地質・測量調査見積依頼
8	9日	土	ラオス伝統家屋・樹木調査	ヴィエンチャン国際空港調査
9	10日	日	資料整理	団内会議
10	11日	月	NOSPA 調査 水質試験見積徴集	LANG XANG ホテル調査 地質・測量調査再委託契約
11	12日	火	ラオプラザホテル、日本センター調査	国家建設委員会協議
12	13日	水	女性同盟調査	JICA ラオス事務所報告 市水・井水採取
13	14日	木	ヴィエンチャン特別市調査 ASEAN 保健会議調査 建設サイト前交通量調査	ヴィエンチャン国際空港運営調査 サヤセタ地区役所調査 建設サイト前交通量調査
14	15日	金	公共事業省協議	首相府調査、日本政府援助施設調査
15	16日	土	国家建設委員会協議	建設事情調査
16	17日	日	建設事情調査	団内会議、資料整理
17	18日	月	ラオス電話公社調査 施工計画調査、代理店調査	特別市公共事業局調査 施工計画調査調査、代理店調査
18	19日	火	建設サイト前交通量調査 水道局調査、外務省施設調査 施工計画・積算調査	外務省副首相協議 環境保健給水国家センター調査 建設サイト前交通量調査
19	20日	水	電力公社調査 日本国大使館広報文化調査	メコン河委員会調査 日本センター調査
20	21日	木	市都市開発管理局調査 施工計画・積算調査	UNICEF 調査 計画案策定
21	22日	金	国家建設委員会協議	保健省調査
22	23日	土	施工計画・積算調査、代理店調査	施工計画・積算調査、代理店調査
23	24日	日	計画案策定	計画案策定
24	25日	月	建設サイト調査、施工計画・積算調査	国家建設委員会協議
25	26日	火	国家建設委員会協議 (栗城、平岡、中野団員ヴィエンチャン バンコク)	測量・地質調査結果受領  (バンコク：資機材調達調査)
26	27日	水	JICA ラオス事務所報告 日本国大使館報告 (バンコク：資機材調達調査)	国家建設委員会協議  (バンコク：資機材調達調査)
27	28日	木	ヴィエンチャン バンコク (バンコク：資機材調達調査)	  (バンコク：資機材調達調査)
28	29日	金	バンコク	成田着

基本設計概要書説明行程（2002年6月9日～6月20日）

No	月日	曜日	午 前	午 後
1	6月9日	日	成田	バンコク
2	10日	月	バンコク ヴィエンチャン JICA ラオス事務所打合せ	日本国大使館表敬・協議 首相府表敬・協議
3	11日	火	国家建設委員会協議	サイト調査(サイト、日本センター)
4	12日	水	国家建設委員会協議	国家建設委員会協議 団内会議
5	13日	木	国家建設委員会ミニッツ案協議	教育省研修施設調査 日本国大使館報告
6	14日	金	国家建設委員会協議 ミニッツ署名	DIC 報告 JICA ラオス事務所報告
7	15日	土	中野団長、阿部団員帰国	ラオス様式施設調査
8	16日	日	資料整理	ラオス様式施設調査
9	17日	月	国家建設委員会協議 国家経済委員会調査	ラオス様式施設調査 水道局調査、JICA 事務所報告
10	18日	火	ラオス様式施設、資材調査	電力会社調査 ラオス様式施設、資材調査
11	19日	水	ヴィエンチャン バンコク	類似施設調査
12	20日	木	バンコク	成田着

### 3. 関係者(面会者)リスト

### 3. 関係者(面会者)リスト

< ラオス国側関連機関 >

#### 1. 国家建設委員会(National Committee on the Construction of the Center)

- |                         |  |
|-------------------------|--|
| Mr. Khamsouk SAYASONE   | 委員長 : Vice Minister, Deputy Head of the Cabinet of the Prime Minister's Office                     |
| Mr. Somphet KHOUSAKOUN  | 副委員長 : Permanent Secretary, Ministry of Foreign Affairs  |
| Mr. Bounleuam SISOULATH | 委員 : General Director of DHUP, Ministry of Communication, Transport, Post & Construction           |
| Mr. Oun Visounalath     | 委員 : Director-General, Land & House Department, Ministry of Finance                                |
| Mr. Sybounthum          | 委員 : Chief of Cabinet, Vientiane Municipality Mayor's office,                                      |
| Mr. Lytjou BOUAPAO      | 委員 : Director General, Department of Planning and International Cooperation, Ministry of Education |

#### 2. 首相府(Prime Minister's Office)

- |                            |                         |
|----------------------------|-------------------------|
| Dr. Khampheng SAYSOMPHEUNG | Deputy-Chief of Cabinet |
|----------------------------|-------------------------|

#### 2-1 計画・協力委員会(Committee for Planning and Cooperation)

##### (1) 国際経済協力局(Department of International Economic Cooperation)

- |                           |                  |
|---------------------------|------------------|
| Dr. Bountheaung MOUNLASAY | Director General |
| Mr. Houmphanh             | Director         |

##### (2) 国家経済研究所(National Economic Research Institute)

- |                       |                  |
|-----------------------|------------------|
| Dr. Souphanh KEOMIXAY | Director General |
|-----------------------|------------------|

#### 3. 外務省(Ministry of Foreign Affairs)

- |                                |   |
|--------------------------------|---|
| Mr. Bounkeut SANGSOMSAK        | Deputy Minister,  |
| Mr. Sayakane SISOUVONG         | Director General, ASEAN Department,                         |
| Mr. Somphne                    | Desk Officer, Asia, Pacific and African Affairs Department, |
| Mr. Bounthanongsak CHANTHALATH | Office of Minister  |

#### 4. 公共事業省(Ministry of Communication, Transport, Post & Construction)

- |                          |                             |
|--------------------------|-----------------------------|
| Mr. Khamlouat SIDLAKONE  | Vice Minister               |
| Mr. Khanngoun KHAMVONGSA | Deputy Permanent Secretary, |



- Dr. SengThong VANGKEOMANY      Director of DHUP
5. 保健省(Ministry of Public Health)  
Mr. Nao BOUTTA      Deputy Director of Cabinet
6. ヱィエンチャン特別市(Vientiane Municipality Mayor's office)  
Mr. Bounchanh KEOSITHAMMA      National Project Manager
7. 青年同盟(Lao People's Revolutionary Youth Union)  
Dr. Bounpone BOUTTANAVONG      General Secretary,  
Ms. Keoundone      International Affairs,  
Ms. Dong SALY      Deputy Head
8. 婦人同盟(Lao Women's Union)  
Ms. Khemphet PHOLSENA      Vice President
9. NOSPA(National Organization for the Studies of Policy and Administration)  
Mr. Thongglay SISOUTHAM      Director General, Documentation Center,
10. サヤセタ区役所(Xayasetha District Office)  
Mr. Somphone KHOUNPHILOM      Director of Administration,
11. メコン河委員会ラオス事務局(Lao National Mekong Committee)  
Mr. Vongdara KEOMUONGCHANH Deputy Director General,
12. ラオス電話公社(Lao Telecommunications)  
Mr. Chanthavone SOSAMPHAN      Deputy Director General  
Mr. Sang Khom KHOTPANYA      Manager of Technical Section,
13. ラオス電力公社(Electricite Du Laos)  
Mr. Daovong PHONEKEOManager, System Planning Office
14. ラオス水道公社(Lao Water Supply Company : Nampapa Lao)  
Mr. Sirithasack SISANGOUANE      Head of Engineering Division,
15. 国立環境保健センター(National Center for Environmental Health)  
Dr. Nouanta MANIPHOSAY      Director

16. UNICEF

Mr. Luis Soares Operations Officer

17. ヴィエンチャン国際空港共同企業体(Lao-Japan Airport Terminal Services)

Mr. Masakatsu HARADA Director(JICA Expert)

Mr. Bounheang SOUKHASEUM Assistant Manager, Maintenance Section Facility Department,

18. 国立文化ホール(Lao National Cultural Hall)

Mr. Bounsamong SYHALATH Deputy Director

19. 日本センター(FEM/LJ-Center Project)

Ms. Noriko ABE Chief Advisor,

Mr. Toshihisa TOYODA JICA Expert (Economics),

Ms. Junko TAGUCHI Project Coordinator,

20. ラオプラザホテル(Lao Plaza Hotel)

Mr. Nobuyuki FUKUDA Executive Assistant Manager,

21. ランサンホテル(Lane Xang Hotel)

Ms. Sukanya C Manager,

22. ノボテル (Novotel)

Mr. Chomkeo Manager

< 日本側関連機関 >

1. 在ラオス日本国大使館

橋本 逸男 特命全権大使

真鍋 寛 参事官

川田 一徳 一等書記官

2. JICA ラオス事務所

西脇 英隆 所長

宮田 伸昭 次長

岡田 有紀子 Assistant Resident Representative

#### 4. 当該国の社会経済状況

ラオス人民民主共和国
Lao People's Democratic Republic

一般指標					
政体	人民民主共和制	*1	首都	ビエンチャン (Vientiane)	*2
元首	大統領/カムタイ・シーバンドーン (KHAMTAY Siphandone)	*1,3	主要都市名	サバナケット、バクセ、ルアンプラバン	*3
独立年月日	1953年10月22日	*3,4	労働力総計	2,436千人 (1999年)	*6
主要民族/部族名	ワ族(タイ系)約60%、他60種族	*1,3	義務教育年数	5年間 (年)	*13
主要言語	ラオ語	*1,3	初等教育就学率	111.9% (1997年)	*6
宗教	仏教	*1,3	中等教育就学率	28.5% (1997年)	*6
国連加盟年	1955年12月14日	*12	成人非識字率	38.2% (2000年)	*13
世銀加盟年	1961年7月5日	*7	人口密度	22.08人/km2 (1999年)	*6
IMF加盟年	1961年7月5日	*7	人口増加率	2.4% (1980-99年)	*6
国土面積	236.80千km2	*1,6	平均寿命	平均 53.10 男 51.90 女 54.40	*10
総人口	5,097千人 (1999年)	*6	5歳児未満死亡率	143 (1999年)	*6
			カロリー供給量	2,108.0cal/日/人 (1997年)	*10

経済指標					
通貨単位	キップ (Kip)	*3	貿易量	(1999年)	
為替レート	1 US \$ = 7,562.00 (2002年 3月)	*8	商品輸出	338.2 百万ドル	*15
会計年度	Dec. 31	*6	商品輸入	-527.7 百万ドル	*15
国家予算	(年)		輸入カバー率	1.9(月) (1999年)	*14
歳入総額		*9	主要輸出品目	電力、木材、織製品、コーヒー	*1
歳出総額		*9	主要輸入品目	燃料、日用品、繊維原料	*1
総合収支	-333.1 百万ドル (1999年)	*15	日本への輸出	12 百万ドル (2000年)	*16
ODA受取額	293.8 百万ドル (1999年)	*18	日本からの輸入	21.4 百万ドル (2000年)	*16
国内総生産(GDP)	1,432.39 百万ドル (1999年)	*6			
一人当たりのGNI	290.0 ドル (1999年)	*6	総国際準備	135.2 百万ドル (1999年)	*6
分野別GDP	農業 52.6% (1999年)	*6	対外債務残高	2,526.7 百万ドル (1999年)	*6
	鉱工業 22.0% (1999年)	*6	対外債務返済率(DSR)	7.7% (1999年)	*6
	サービス業 25.4% (1999年)	*6	インフレ率 (消費者価格物価上昇率)	24.1% (1990-99年)	*6
産業別雇用	農業 男 % 女 % (1996-98年)	*6			
	鉱工業 % % (1996-98年)	*6	国家開発計画	第5次経済・社会発展5カ年計画: 2001-2005	*11
	サービス業 % % (1996-98年)	*6			
実質GDP成長率	6.6% (1990-99年)	*6			

気象 (1961年～1990年平均) 観測地: ビエンチャン (北緯17度57分、東経102度34分、標高171m)														*4,5
月	1	2	3	4	5	6	7	8	9	10	11	12	平均/計	
降水量	7.0	15.9	35.7	84.5	254.2	243.7	248.6	340.3	299.8	96.3	24.8	22.6	1635.3 mm	
平均気温	22.1	24.1	27.0	28.7	28.5	28.2	28.0	27.5	27.4	26.8	24.8	22.6	26.3 °C	

- \*1 各国概況 (外務省)
- \*2 世界の国々一覧表 (外務省)
- \*3 世界年鑑2000 (共同通信社)
- \*4 最新世界各国要覧10訂版 (東京書籍)
- \*5 理科年表2000 (国立天文台編)
- \*6 World Development Indicators2001(WB)
- \*7 BRD Membership List(WB)
- IMF Members' Financial Data by Country(IMF)
- \*8 Universal Currency Converter

- \*9 Government Finance Statistics Yearbook 2000 (IMF)
  - \*10 Human Development Report2000,2001(UNDP)
  - \*11 Country Profile(EIU),外務省資料等
  - \*12 United Nations Member States
  - \*13 Statistical Yearbook 1999(UNESCO)
  - \*14 Global Development Finance2001(WB)
  - \*15 International Financial Statistics Yearbook 2001(IMF)
  - \*16 世界各国経済情報ファイル2001(世界経済情報サービス)
- 注: 商品輸入については複式簿記の計上方式を採用しているため  
支払い額はマイナス表記になる

ラオス人民民主共和国
Lao People's Democratic Republic

我が国におけるODAの実績						(単位：億円) *17
項目	年度	1995	1996	1997	1998	1999
技術協力		19.65	16.21	18.27	29.84	31.56
無償資金協力		56.88	54.47	91.24	74.77	80.13
有償資金協力			39.03			
総額		76.53	109.71	109.51	104.61	111.69

当該国に対する我が国ODAの実績						(支出純額、単位：百万ドル) *17
項目	暦年	1995	1996	1997	1998	1999
技術協力		22.31	20.43	18.83	20.90	32.03
無償資金協力		78.79	39.31	59.45	61.61	14.29
有償資金協力		-3.52	-2.33	0.32	3.06	14.29
総額		97.58	57.41	78.59	85.57	132.53

OECD 諸国の経済協力実績 (1999年)						(支出純額、単位：百万ドル) *18
	贈与 (1) (無償資金協力・ 技術協力)	有償資金協力 (2)	政府開発援助 (ODA) (1)+(2)=(3)	その他政府資金 及び民間資金(4)	経済協力総額 (3)+(4)	
二国間援助 (主要供与国)	196.4	14.1	210.5	5.9	216.4	
1. Japan	118.3	14.2	132.5	-7.8	124.7	
2. Germany	21.7	0.0	21.7	12.4	34.1	
3. Sweden	11.6	0.0	11.6	1.0	12.6	
4. France	10.9	-0.2	10.7	-1.2	9.5	
多国間援助 (主要援助機関)	20.9	62.5	83.4	0.7	84.1	
1. AsDB			43.8	0.0	43.8	
2. IDA			18.5	0.0	18.5	
その他						
合計	217.3	76.5	293.8	6.7	300.5	

援助受入窓口機関	*19
技術協力：首相府投資協力委員会 (CIC)	
無償：首相府投資協力委員会 (CIC)	
協力隊：首相府投資協力委員会 (CIC)	

\*17 我が国の政府開発援助2000(国際協力推進協会)

\*18 International Development Statistics (CD-ROM) 2001 OECD

\*19 JICA資料

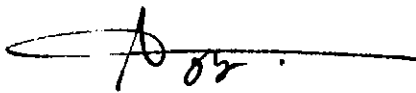
## 5. ミニッツ(予備調査時)

**Minutes of Discussions**  
**on the Project for Construction of the Lao-Japan Friendship Promotion Center**  
**in the Lao People's Democratic Republic**

The Government of the Lao People's Democratic Republic (hereinafter referred to as "the Lao P.D.R.") and the Japan International Cooperation Agency (hereinafter referred to as "JICA") held a series of discussions on the Project for the Construction of the Lao-Japan Friendship Promotion Center (hereinafter referred to as "the Project") which is requested by the Lao P.D.R. to be constructed under the Japanese Grant Aid.

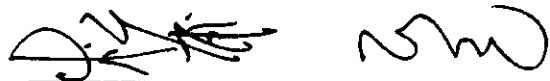
In the course of the discussions and field survey, both parties confirmed the outline of the discussions as attached herewith.

Vientiane, 13th December , 2001



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Mr. SOMPHET KHOUASAKOUN  
Permanent Secretary,  
Ministry of Foreign Affairs  
Lao People's Democratic Republic



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Mr. SHOZO MATSUURA  
Managing Director,  
Grant Aid Management Department  
Japan International Cooperation Agency

## ATTACHMENT

### **1. Background of the Project**

In light of progress of regional economic integration and worldwide economic globalization, the Lao P.D.R. has set the policy of Human Resources Development as the one of the utmost priority strategies in socio-economic development of the country, and has strong intention of enhancement of various activities and provisions the Lao people with regional and international conferences, workshops and other opportunities in addition to the local meetings in various levels and fields in compliance with local and international demands of such activities. However, the Lao P.D.R. has constraints to provide such opportunities due to the lack of facilities.

The Lao P.D.R. has shared the view of the importance of Human Resources Development in various levels with Japanese Government as shown in the statement by "Obuchi Initiative" during his visit to the Lao P.D.R. in January 2000.

Therefore, the Lao P.D.R. proposed that Japanese Grant Aid be used to construct initially referred to as the "Lao-Japan Friendship Promotion Center".

### **2. Relation with the "Lao-Japan Human Resource Cooperation Center"**

Taking into account the explanations given by both sides on the need to integrate the project facilities to the "Lao-Japan Human Resource Cooperation Center." Both sides agreed that the proposed Km-5 site is the most suitable location, adjacent to the "Lao-Japan Human Resource Cooperation Center" for the construction of the "Lao-Japan Friendship Promotion Center." JICA team also agreed to report the proposed site for final approval by the Government of Japan.

For the success of the Project, the Lao P.D.R. has established the National Committee on the Construction of the Center.

### **3. Utilization Plan of the Project**

JICA team pointed out that the precise operational and managerial plan will be presented based on the current situation and potentials from various governmental institutions and business communities at the time of Basic Design Study for the full recognition of the Government of Japan.



#### **4. Steering Committee for the Project**

Both sides agreed that the Lao P.D.R. would set up the appropriate steering committee for the management and effective utilization of the Center under the supervision of the Prime Minister's Office of the Government of Laos.

#### **5. Desire for the Basic Design Study Mission**

JICA team will transmit to the Government of Japan the strong desire of the Lao P.D.R. to dispatch a mission for the Basic Design Study of the Project at the earliest possible time.

## 6. ミニッツ(基本設計調査時)

Minutes of Discussions  
on the Basic Design Study  
on the Project for Construction of the Lao-Japan Friendship Promotion Center  
in the Lao People's Democratic Republic

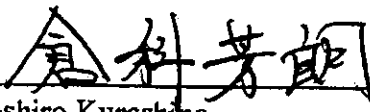
In response to the request from the Government of the Lao People's Democratic Republic (hereinafter referred to as "the Lao P.D.R."), the Government of Japan decided to conduct a Basic Design Study on the Project for Construction of the Lao-Japan Friendship Promotion Center (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to the Lao P.D.R. the Basic Design Study Team (hereinafter referred to as "the Team"), which is headed by Mr. Yoshiro Kurashina, a Deputy Director of the Third Project Management Division, the Grant Aid Management Department, JICA, and is scheduled to stay in the country from March 3 to 28, 2002.

The Team held discussions with the concerned officials of the Government of the Lao P.D.R.

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

Vientiane, March 6, 2002.

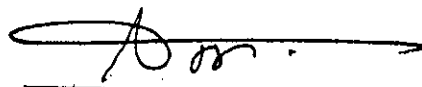


Yoshiro Kurashina

Leader

Basic Design Study Team

Japan International Cooperation Agency



Somphet Khousakoun

Vice Chairman

National Committee on the Construction of

the Friendship Promotion Center

Lao People's Democratic Republic

Witness



H.E. Khampheng Xaysompheng

Vice Minister, Deputy Head of Cabinet

Prime Minister's Office

Lao People's Democratic Republic

## ATTACHMENT

### 1. OBJECTIVE

The objective of the Project is to build the Lao-Japan Friendship Promotion Center (hereinafter referred to as "the Friendship Center") to contribute to human resource development by organizing various seminars, workshops and conferences.

### 2. PROJECT SITE

The site of the Project is shown in Annex-1.

### 3. RESPONSIBLE ORGANIZATION AND IMPLEMENTING AGENCY

(1) Responsible Organization: Prime Minister's Office

(2) Implementing Agency: National Committee on the Construction of the Friendship Center

The organization of the Implementing Agency is shown in Annex-2.

After the completion of construction, the Management and Utilization Committee of the Friendship Center would be as the Implementing Agency, once the Project is implemented.

### 4. ITEMS REQUESTED BY THE GOVERNMENT OF THE LAO P.D.R.

After discussions with the Team, the items described as Annex-3 were finally requested by the Lao P.D.R. 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

5-1 The Lao P.D.R. side understands the Japan's Grant Aid scheme and the necessary measures to be taken by the Government of the Lao P.D.R. explained by the Team as described in Annex-4.

5-2 The Lao P.D.R. side will 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 consultants will proceed to further studies in the Lao P.D.R. until March 28, 2002.

(2) JICA will prepare the draft final report in English and dispatch a Team to the Lao P.D.R. in order to explain its contents around June, 2002.

(3) In case that the contents of the report is accepted in principle by the Government of the Lao P.D.R., JICA will complete the final report and send it to the Government of the Lao P.D.R. by the end of August, 2002.

## 7. OTHER RELEVANT ISSUES

(1) Regarding the Friendship Center and the Lao-Japan Human Resource Cooperation Center (hereinafter referred to as "the Japan Center"), the Japanese side explained the differences of the establishment purpose and way of operation and maintenance of both centers shown in the following table.

	The Friendship Center	The Japan Center
Establishment Purpose	1) To contribute to human resources development on national level by organizing seminar, workshop, and conferences. 2) To contribute to interaction in the region and between ASEAN and other parts of the world by organizing ASEAN summit and other international conferences.	To hold the Business, Computer and Japanese language course for non-student adults and students of the National University of Laos.
Operation and maintenance	The Lao P.D.R. side should cover all of operation and maintenance cost.	The Japanese and the Lao P.D.R. side share the operation and maintenance costs according to the R/D of the Japan Center.

The Lao P.D.R. side understood the difference and agreed to take responsibility for arrangement of the budget for operation and maintenance of the Friendship Center.

(2) The Friendship Center and the Japan Center will co-operate each other on their activities, such as the usage of rooms/hall, and others.

(3) Both sides also confirmed that the Project does not affect at all the contents of the technical cooperation based on the Record of Discussions for the Japan Center.

(4) The Lao P.D.R. side submitted the precise operational and managerial plan to the Japanese side in accordance with the Minute of Discussions of the Preparatory Study in the last December, the Japanese side will study the most proper scale and contents of the Friendship Center.

(5) The Lao P.D.R. side will submit answers to the questionnaire handed over by the Team, by March 21, 2002.



### The Organization of Implementing Agency

The Organization Agency of Implementing Agency of the Project is the National Committee on the Construction of the Friendship Center which is established by the Prime Minister.

(1) The members of the Committee are:

a) Chairman

Mr. Khamsouk Xayasone, Vice Minister, Deputy Head of the Cabinet of the Prime Minister's Office

b) Deputy Chairman

Mr. Somphet Khousakoun, Director of Cabinet, Ministry of Foreign Affairs

c) Members

• Mr. Bounleuam Sisoulath, Director General, Department of Housing and Urban Planning, Ministry of Communication, Transport, Post and Construction

• Colonel Inkham Inthamaly, Head of Cabinet, Ministry of Interior

• Mr. Bounleuan Boupha, External Relations Division, Ministry of Information and Culture

• Mr. Oun Visounalath, Director General, Land and House Department, Ministry of Finance

• Mr. Sybounthum, Head of the Cabinet of Vientiane Municipality

d) Advisors

• Mr. Khamlouat Sidlakone, Vice Minister, Ministry of Communication, Transport, Post and Construction (for design, construction technique and management of the Project)

• Mr. Bounkeut Sangsomsak, Vice Minister, Ministry of Foreign Affairs (for coordination with the donor country and for seeking additional fundings for satisfying the conditions of the donor country)

e) Mr. Lytoun Bouapao, Director General, Department of Planning and International Cooperation, Ministry of Education, has been nominated as an additional member of the committee.

(2) Roles and Tasks of the Committee

a) To coordinate with Japan for the request of Grant Aid for the construction of the Friendship Center

b) To study the design of the Friendship Center before submitting to the government for approval

- c) To submit for the necessary budget as contribution of the Friendship Center
- d) To study and establish the location for the construction of the Friendship Center
- e) To instruct the consulting firm to build the Friendship Center
- f) To guide, monitor and report the progress of the construction and to execute the guidelines of the government
- g) To coordinate with the concerned authorities to complete the construction of the Friendship Center
- h) To seek regularly advises from the Advisors, specifically on the coordinating with Japan, on the selecting of design and other technical works



ITEMS REQUESTED BY THE GOVERNMENT OF THE LAO P.D.R.

The followings were finally requested by the Lao P.D.R.;

(1) To build the Friendship Center, which consists of;

- a multipurpose hall,
- seminar/workshop rooms,
- data information room, office and related rooms.

The other basic conditions are followings;

- a) The Friendship Center is also able to hold minimum size of complete set of ASEAN major meetings, which consists of reception/waiting, opening, main meeting, bilateral meeting and closing, and compatible with low cost maintenance and operation,
- b) The Lao P.D.R. side asked the Japanese side to base on the Lao traditional design to the design of the Friendship Center, the Japanese side agreed to study the detail of it in the Basic Design Study.

(2) To design the Lao garden into the site of the Friendship Center.

(3) To procure the equipment.

Details are listed below;

- a) Furniture,
- b) Simultaneous interpretation system,
- c) Desk monitor for conference room (monitor in control room),
- d) Audio -visual presentation system,
- e) Tele-conference system,
- f) Audio-visual equipment,
- g) Lighting equipment (will be included in building),
- h) Small scale of cooking & kitchen equipment,
- i) General tool for repairing,
- j) Others.
  - 1) Copying machine(s)
  - 2) Facsimile machine(s)
  - 3) Internal telephone system (will be included in building)
  - 4) Wheel chair(s)
  - 5) Fire extinguishers
  - 6) Personal computer set(s)
  - 7) Stand-by generator
  - 8) Others

## JAPAN'S GRANT AID

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:

- (1) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction,
- (2) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,
- (3) To secure buildings prior to the procurement in case the installation of the equipment,
- (4) 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,
- (5) 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,
- (6) 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.

## 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 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	●	
	To construct roads		
5	1) Within the site	●	
	2) Outside the site		●
6	To construct the building	●	
	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
	1)Electricity		
	a. The distributing line to the site		●
	b. The drop wiring and internal wiring within the site	●	
	c. The main circuit breaker and transformer	●	
	2)Water Supply		
	a. The city water distribution main to the site		●
	b. The supply system within the site ( receiving and/or elevated tanks )	●	
	3)Drainage		
7	a. The city drainage main ( for storm, sewer and others ) to the site		●
	b. The drainage system ( for toilet sewer, ordinary waste, storm drainage and others ) within the site	●	
	4)Gas Supply		
	a. The city gas main to the site		●
	b. The gas supply system within the site	●	
	5)Telephone System		
	a. The telephone trunk line to the main distribution frame / panel (MDF) of the building		●
	b. The MDF and the extension after the frame / panel	●	
	6)Furniture and Equipment		
	a. General furniture		●
	b. Project equipment	●	

	To bear the following commissions to a bank of Japan for the banking services based upon the B/A	
8	1) Advising commission of A/P	●
	2) Payment commission	●
	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country	
	1) Marine(Air) transportation of the products from Japan to the recipient country	●
9	2) Tax exemption and customs clearance of the products at the port of disembarkation	●
	3) Internal transportation from the port of disembarkation to the project site	(●)
10	To accord 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	●
11	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract	●
12	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid	●
13	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	●



## 7. ミニッツ(基本設計概要書説明調査時)

**Minutes of Discussions  
on the Basic Design Study  
on the Project for Construction of the Lao-Japan Friendship Promotion Center  
in the Lao People's Democratic Republic**

**(Explanation on the Draft Final Report)**

In March 2002, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Basic Design Study Team on the Project for Construction of the Lao-Japan Friendship Promotion Center (hereinafter referred to as "the Project") to the Lao People's Democratic Republic (hereinafter referred to as "the Lao P.D.R."), and through discussions, field survey, and technical examination of the results in Japan, JICA prepared a draft final report of the study.

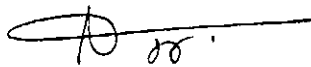
In order to explain and to consult with the officials concerned of the Government of the Lao P.D.R. on the components of the draft final report, JICA sent to the Lao P.D.R. the Basic Design Explanation Team (hereinafter referred to as "the Team"), which was headed by Mr. Satoshi Nakano, a Deputy Director of the Third Project Management Division, the Grant Aid Management Department, JICA, from June 10 to 19, 2002.

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

Vientiane, June 14, 2002

中野 聡

Satoshi Nakano  
Leader  
Basic Design Explanation Team  
JICA



Somphet Khousakoun  
Vice Chairman  
National Committee on the Construction of  
the Lao-Japan Friendship Promotion Center  
Lao P.D.R.

Witness:



H.E. Khampheng Xaysompheng  
Vice Minister, Deputy Head of Cabinet  
Prime Minister's Office  
Lao P.D.R.

## ATTACHMENT

### 1. Components of the Draft Final Report

The Lao side agreed and accepted in principle the components of the draft final report explained by the Team.

### 2. Japan's Grant Aid Scheme

The Lao side understands the Japan's Grant Aid scheme and the necessary measures to be taken by the Lao side as explained by the Team and described in Annex-4 and Annex-5 of the Minutes of Discussions signed by both sides on March 6, 2002.

### 3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to the Lao side by the end of August, 2002.

### 4. Other Relevant Issues

4-1. Both sides confirmed that the official name of "the Lao-Japan Friendship Promotion Center" should be "the International Cooperation and Training Center" (hereinafter referred to as "the Center"). So the Project name was also changed from "the Project for Construction of the Lao-Japan Friendship Promotion Center" to "the Project for Construction of the International Cooperation and Training Center."

4-2. The Lao side confirmed that the Center would be managed by the National Committee on the Management and Utilization of the Center, which would be set up after the construction of the Center, under the supervision directly by the Prime Minister's Office. So the Prime Minister's Office shall be responsible for securing the budget and providing the subsidiaries necessary for the operation and maintenance of the Center.

4-3. The Lao side confirmed that the land for the Center was already secured by the Government of the Lao P.D.R., so the construction of the Center could be commenced at any time according to the laws and regulations of the Lao P.D.R.

4-4. The Lao side shall complete the necessary banking work at the Project site with the Lao side's own expenses before the commencement of the construction work of the Center by the Japanese contractor, so that the construction will be completed within the allowed period of time for the Project.

4-5. The Lao side shall procure the general furniture and other miscellaneous items, which are not specified as the equipment procured by the Grant Aid in the draft final report, necessary for the operation and maintenance of the Center with the Lao side's own expenses.

4-6. The Lao side shall secure the budget necessary for renewal of the equipment procured under the Grant Aid in the future, and also for periodic renovation of the building of the Center.

4-7. The Lao side requested the Team to include the consultant service, so called "the Soft Component," for the management of the operation of the Center as one of the components of the Grant Aid.

4-8. The Lao side requested the Team to carry out the counterpart training in Japan on the

management of the operation of the Center as a technical cooperation by JICA, and the Lao side understands that another official request will be needed to submit from the Lao side to the Japanese side through the JICA Laos Office.

4-9. The Team handed three copies of the draft detailed specifications of the equipment to the National Committee on the Construction of the Center. Both sides confirmed that the specifications were confidential and should not be duplicated or handed over to any outside party in order to secure the fairness of the Tender concerning the Project.

*Set*

*J. M. W.*

## 8. 事業事前評価表

## 事業事前評価表

無償資金協力部業務第三課

<b>1. 協力対象事業名</b>	ラオス人民民主共和国 国際協力・研修センター建設計画
<b>2. 我が国が援助することの必要性・妥当性</b>	<p>(1) 我が国が当該国に対し援助することの必要性・妥当性 我が国はラオスが、</p> <p>(イ) 大メコン圏の中央に位置し、その開発が、インドシナ半島全域の政治的安定と経済的繁栄にとって重要であること、</p> <p>(ロ) 我が国と伝統的に友好関係にあること、</p> <p>(ハ) 後発開発途上国(LLDC)であることに加え、経済発展を図る上で内陸山岳国であるとの制約があること、</p> <p>(ニ) 86年以降、経済開放化政策を推進し、中央計画経済から市場経済への移行に取り組むとともに、91年の新憲法採択、92年及び97年の国民議会選挙に見られるように民主化の動きも進めていること、</p> <p>(ホ) 構造的な財政赤字・貿易赤字を抱えているとともに、97年のアジア経済危機を契機にマクロ経済運営能力の強化が求められており、また97年のASEAN加盟と同時にASEAN自由貿易地域(AFTA)に加盟し、2005年までに域内関税の引き下げが義務付けられている。これに対応するためには財政構造改革や制度・組織体制等の整備が不可欠であり、支援を必要としていること</p> <p>等を踏まえ、援助を実施している。</p> <p>(2) 当該プロジェクトを実施することの必要性・妥当性 ラオス国政府は2020年までのLLDCからの脱却を長期目標に掲げ、社会経済開発計画を進めており、人材育成は同計画の8重点開発分野の一つとなっている。 公務員・テクノクラート・有識者を対象とした人材育成のための研修・会議等が政府機関、党の団体、ドナーにより行われ、ASEANなどの地域・国際協力に関する会議も行われているが、既存の施設は収容規模が小さく、また、音響システムやAVプレゼンテーションシステムなどの会議設備も十分ではない。 現在、研修・会議数の増加および民間利用の増加により、既存施設では不足が生じ、研修や地域・国際会議の開催を制限せざるを得ない状況にある。 このため、公務員を中心とした人材育成及びASEAN等地域・国際協力を推進するための研修・会議を開催できる専用施設の建設が求められている。</p>
<b>3. 協力対象事業の目的(プロジェクト目標)</b>	ヴィエンチャン特別市に国際協力・研修センターを建設することにより、人材育成及び地域・国際協力を推進するための研修・会議が開催可能となることを目的とする。

<b>4. 協力対象事業の内容</b>											
(1) 対象地域	ラオス国全域										
(2) アウトプット	ヴィエンチャン特別市に人材育成と地域・国際協力のための研修・会議施設 / 機材が整備される。										
(3) インプット	【日本側】 国際協力・研修センター施設の建設 / 研修・会議に必要な機材の調達 / 運営マネージメントについての技術指導										
	【ラオス国側】 建設用地の確保 / 建設用地の盛土工事 / 設備・電気インフラ接続工事 / 門・塀工事 / 植栽工事 / 技術指導に係る指導者確保										
(4) 総事業費	概算事業費 8.10 億円 (日本側 7.90 億円、ラオス国側 0.20 億円)										
(5) スケジュール	詳細設計期間を含め約 17.5 ヶ月の工期を予定										
(6) 実施体制	主管官庁：首相府 実施機関：国際協力・研修センター国家建設委員会 運営機関：国際協力・研修センター国家運営活用委員会										
<b>5. プロジェクトの成果</b>											
(1) プロジェクトの裨益対象の範囲及び規模	センターを利用する公務員・テクノクラート・有識者 (2005 年：延べ 28,700 人程度、  2009 年：延べ 57,600 人程度)										
(2) 事業の目的(プロジェクト目標)達成を示す成果指標	<table border="1"> <thead> <tr> <th></th> <th>2005 年</th> <th>2009 年</th> </tr> </thead> <tbody> <tr> <td>研修・会議等の開催日数</td> <td>270 日程度</td> <td>540 日程度</td> </tr> <tr> <td>研修・会議等への延べ参加者数</td> <td>28,700 人程度</td> <td>57,600 人程度</td> </tr> </tbody> </table>			2005 年	2009 年	研修・会議等の開催日数	270 日程度	540 日程度	研修・会議等への延べ参加者数	28,700 人程度	57,600 人程度
	2005 年	2009 年									
研修・会議等の開催日数	270 日程度	540 日程度									
研修・会議等への延べ参加者数	28,700 人程度	57,600 人程度									
(3) その他の成果指標	なし										
<b>6. 外部要因リスク(事業の目的(プロジェクト目標)の達成に関するもの)</b>											
	センター職員の採用と運営維持管理体制を確立すること。 研修・会議の需要が現状より減少しないこと。 機材更新、大規模保守・修繕コストを確保すること。										
<b>7. 今後の評価計画</b>											
(1) 事後評価に用いる成果指標	研修・会議等の開催日数 研修・会議等への参加者数										
(2) 評価のタイミング	2005 年以降										

## 9. 参考資料/入手資料リスト



## 収集資料リスト

番号	名称	形態	利シ <sup>°</sup> ル・ 北 <sup>°</sup> -	発行機関	発行年
1	Foreign Aid Report 1999-2000	報告書	利シ <sup>°</sup> ル	State Planning Committee	2001年5月
2	Social-Economic Development Strategy for 2020, 2010 and Five years Social-Economic Plan(2001-2005)	報告書	北 <sup>°</sup> -	Lao Government	2001年3月
3	The Education Strategic Vision Up to the Year 2020	報告書	北 <sup>°</sup> -	Ministry of Education	2000年10月
4	Education Strategy Plan 20 years(2001-2020), 10 years (2001-2010) and the Fifth 5 years Education Development Plan (2001-2005)	報告書	北 <sup>°</sup> -	Ministry of Education	2001年8月
5	L' HABITATION LAO Volume 1	本	北 <sup>°</sup> -	Peeters Press	1990年
6	L' HABITATION LAO Volume 2	本	北 <sup>°</sup> -	Peeters Press	1990年
7	Organization of the Government of Lao PDR	本	北 <sup>°</sup> -	Prime Minister's Office	1997年9月
8	Luang Prabang	報告書	北 <sup>°</sup> -	MCTPC	2000年
9	Environmental Protection Law	報告書	北 <sup>°</sup> -	National Assembly	1999年4月
10	Higher Education, Education Sector Development Plan	報告書	北 <sup>°</sup> -	Ministry of Education	?

## 10. その他の資料・情報(水質検査結果)

Lao People's Democratic Republic  
Peace Independence Democracy Unity Prosperity

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Department of Irrigation  
Study Survey Design Centre  
Lab. of Water Quality Analysis

No: 011/1/WQA  
Vientiane: 19/03/02

**Result of Water Quality Analysis**

Location: Kume Sekkei.Co.Ltd

Parameters	Unit	City Water
Arrival Date		13-Mar-02
pH		7.60
Conductivity	mS/m	26.3
TDS	mg/l	130
DO	mg/l	7.03
BOD <sub>5</sub>	mg/l	0.39
COD <sub>Mn</sub>	mg/l	1.11
PO <sub>4</sub> -P	mg/l	0.020
NO <sub>3</sub> -N	mg/l	0.140
NH <sub>4</sub> -N	mg/l	0.040
Calcium (Ca)	mg/l	71.8
Magnesium (Mg)	mg/l	3.62
Chloride (Cl)	mg/l	7.77
Sulphate (SO <sub>4</sub> )	mg/l	34.1
Alkalinity (as CaCO <sub>3</sub> )	mg/l	103
Turbidity	NTU	0.3
KMnO <sub>4</sub> Consumed	mg/l	4.38
Lead (Pb)	mg/l	0.023
Iron (Fe)	mg/l	0.027
Manganese (Mn)	mg/l	0.079
Copper (Cu)	mg/l	0.012
Total Coliform	Colonies/ 100ml sample	1

Head of Water Quality Laboratory



Lao People's Democratic Republic  
Peace Independence Democracy Unity Prosperity

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Department of Irrigation  
Study Survey Design Centre  
Lab. of Water Quality Analysis

No: 011/2/WQA  
Vientiane:19/03/02

**Result of Water Quality Analysis**

Location: Kume Sekkei Co.Ltd

Parameters	Unit	Well Water
Arrival Date		13-Mar-02
pH		6.19
Conductivity	mS/m	30.3
TDS	mg/l	150
DO	mg/l	6.89
BOD <sub>5</sub>	mg/l	0.35
COD <sub>Mn</sub>	mg/l	1.05
PO <sub>4</sub> -P	mg/l	0.085
NO <sub>3</sub> -N	mg/l	0.048
NH <sub>4</sub> -N	mg/l	0.024
Calcium (Ca)	mg/l	50.9
Magnesium (Mg)	mg/l	7.39
Chloride (Cl)	mg/l	23.8
Sulphate (SO <sub>4</sub> )	mg/l	32.8
Alkalinity (as CaCO <sub>3</sub> )	mg/l	92.0
Turbidity	NTU	1.2
KMnO <sub>4</sub> Consumed	mg/l	4.15
Lead (Pb)	mg/l	0.031
Iron (Fe)	mg/l	0.026
Manganese (Mn)	mg/l	0.053
Copper (Cu)	mg/l	0.010
Total Coliform	Colonies/ 100ml sample	6

Head of Water Quality Laboratory

