

資料

資料 1 調査団員・氏名

資料1 調査団員・氏名

(1) 基本設計調査

氏名	担当	所属	期間(現地調査:平成15年)			
			第1次	第2次	第3次	第4次
大久保 久 俊	総括	国際協力事業団 アジア第一部 フォローアップ室 室長代理	03.02 ~ 03.12			
佐 藤 克 彦	業務主任/ 給水計画	(株)エヌジェーエス・ コンサルタンツ	03.02 ~ 04.10			
小豆畑 次 郎	施設/ 機材計画		03.02 ~ 04.10			
未 武 透	事業運営計画		03.12 ~ 04.10			
崎 山 信 勝	地下水開発計画		03.02 ~ 04.10		07.02 ~ 08.05	
高 柳 建 二	環境配慮		03.02 ~ 04.10	06.24 ~ 07.09		08.07 ~ 08.19
佐 藤 謙 太 郎	積算/ 調達管理計画		03.12 ~ 04.10			
小 林 正 幸	水位観測機器			06.27 ~ 07.04		
佐々木 貢	水位観測機器					08.08 ~ 08.18
岸 篤	水位観測機器					08.08 ~ 08.18

(2) 基本設計概要書説明調査

氏名	担当	所属	期間
福 田 義 夫	総括	独立行政法人国際協 力機構 無償資金協力部 業務第一課 課長代理	H.15.10.05 ~ H.15.10.09
佐 藤 克 彦	業務主任/ 給水計画	(株)エヌジェーエス・ コンサルタンツ	H.15.10.05 ~ H.15.10.12
小豆畑 次 郎	施設/ 機材計画		H.15.10.05 ~ H.15.10.12
未 武 透	事業運営計画		H.15.10.05 ~ H.15.10.12

資料 2 調査工程

資料2 調査工程

(1) 基本設計調査：第1次現地調査

日程			調査工程				調査団員								
日順	月日	曜日	宿泊	活動				総括	主任	施設	運営	水源	環境	調達	
1	3月2日	日	PNH	移動：NRT～BKK～PNH											
2	3日	月		表敬：EOJ/MIME，打合：JICA											
3	4日	火	SRP	IR説明：MIME/SRWSS，移動：PNH～SRP											
4	5日	水		協議：SRWSS（水道計画他）											
5	6日	木		サイト踏査											
6	7日	金		協議：SRWSSおよび州関連組織（MD案）											
7	8日	土		サイト踏査（現地再委託調査の準備）											
8	9日	日		同上											
9	10日	月	PNH	移動：SRP～PNH，MIMEとの事前協議，現地調査											
10	11日	火		MD署名：MIME，報告：JICA/EOJ，現地調査											
11	12日	水		資料収集：MIME，現地再委託											
12	13日	木	SRP	資料収集・協議，現地調査，移動：PNH～SRP											
13	14日	金		現地調査・測定											
14	15日	土		同上											
15	16日	日		再委託調査監理											
16	17日	月		資料収集・協議，再委託調査監理，現地調査											
17	18日	火		同上											
18	19日	水		同上											
19	20日	木		同上											
20	21日	金		同上											
21	22日	土		同上											
22	23日	日		同上											
23	24日	月		同上											
24	25日	火		同上											
25	26日	水		同上											
26	27日	木		同上											
27	28日	金		同上											
28	29日	土		資料まとめ											
29	30日	日		同上，移動（運営）：SRP～PNH											
30	31日	月		資料収集・協議，現地調査											
31	4月1日	火		同上											
32	2日	水		同上											
33	3日	木	PNH	移動：SRP～PNH，WB・UNESCO協議											
34	4日	金		協議：MIME（現地調査結果・水道計画他）											
35	5日	土		資料まとめ											
36	6日	日		同上，移動（調達）：SRP～PNH											
37	7日	月		協議：MIME（現地調査結果・水道計画他）											
38	8日	火		報告：JICA，積算資料収集											
39	9日	水	BKK	移動：PNH～BKK，積算資料収集											
40	10日	木		移動：BKK～NRT											

凡例 ：カンボジア国外， ：プノンペン市， ：シムリアップ市

(2) 基本設計調査：第2次～第4次現地調査

日程			調査工程				調査団員						
日順	月日	曜日	宿泊	活動				環境	水源	機	機	機	
1	6月24日	火	PNH	移動：NRT～BKK～PNH									
2	25日	水		打合：JICA，調査内容説明：MIME，現地再委託契約									
3	26日	木	SRP	移動：PNH～SRP，ICC参画									
4	27日	金		ICC参画，移動：NRT～BKK～PNH									
5	28日	土		移動：PNH～SRP，打合：SRWSS，現地調査									
6	29日	日		同上									
7	30日	月		同上									
8	7月1日	火		同上									
9	1	2日	水	PNH	観測機器調査，移動：NRT～BKK～PNH								
10	2	3日	木		観測機器調査，打合：JICA，調査内容説明：MIME								
11	3	4日	金	SRP	移動：SRP～PNH～BKK，移動：PNH～SRP，打合：SRW								
12	4	5日	土		打合：SRWSS，現地再委託調査監理（試験井建設）								
13	5	6日	日	PNH	移動：SRP～PNH，調査監理								
14	6	7日	月		現地調査報告書作成，調査監理								
15	7	8日	火	BKK	報告：JICA・MIME，移動：PNH～BKK，調査監理								
16	8	9日	水		移動：BKK～NRT，調査監理（試験井建設・改修）								
9	10日	木		調査監理（試験井建設・改修）									
10	11日	金		調査監理（試験井建設・改修，電気探査）									
11	12日	土		同上									
12	13日	日		同上									
13	14日	月		同上									
14	15日	火		同上									
15	16日	水		同上									
16	17日	木		調査監理（試験井建設・改修）									
17	18日	金		調査監理（試験井建設・改修・揚水試験）									
18	19日	土		同上									
19	20日	日		同上									
20	21日	月		同上									
21	22日	火		同上									
22	23日	水		同上									
23	24日	木		調査監理（試験井建設・揚水試験）									
24	25日	金		同上									
25	26日	土		同上									
26	27日	日		同上（国勢選挙）									
27	28日	月		同上									
28	29日	火		同上									
29	30日	水		同上									
30	31日	木		同上									
31	8月1日	金	PNH	移動：SRP～PNH，報告書作成									
32	2日	土		市場調査									
33	3日	日		報告書作成									
34	4日	月	BKK	報告：JICA・MIME，移動：PNH～BKK									
35	5日	火		市場調査									
36	6日	水		移動：BKK～NRT									
1	7日	木	PNH	移動：NRT～BKK～PNH									
2	8日	金		打合：JICA・MIME，機器類に係る入管手続き									
3	9日	土	SRP	移動：PNH～SRP，打合：SRWSS，機器据付									
4	10日	日		観測機器据付									
5	11日	月		同上									
6	12日	火		同上									
7	13日	水		同上									
8	14日	木		同上									
9	15日	金		同上									
10	16日	土		打合：SRWSS，移動：SRP～PNH～BKK									
11	17日	日		移動：SRP～PNH，報告書作成									
12	18日	月		報告：JICA・MIME，移動：PNH～BKK									
13	19日	火		移動：BKK～NRT									

凡例 ：カンボジア国外， ：プノンペン市， ：シェムリアップ市

(3) 基本設計概要説明調査

日程			調査工程		調査団員			
日順	月日	曜日	宿泊	活動	総括	主任	施設	運営
1	10月5日	日	PNH	移動：NRT～BKK～PNH				○
2	6日	月		表敬：EOJ/MIME，打合：JICA，協議：MIME				○
3	7日	火		協議：MIME/Province/APSARA/AFD/MOE, ADB				○
4	8日	水		協議：MIME, UNESCO				○
5	9日	木		MD署名：MIME，協議：MOE, CDC，報告：EOJ, JICA				○
6	10日	金	SRP	移動：PNH～SRP，協議：SRWSS，観測データ収集				○
7	11日	土	BKK	移動：SRP～PNH，移動：PNH～BKK				△
8	12日	日		移動：BKK～NRT				

凡例 ：カンボジア国外， ：プノンペン市， ：シェムリアップ市

資料3 関係者（面会者）リスト

資料3 関係者（面会者）リスト

1. 基本設計調査

< 日本国政府関係者 >

1. 在カンボジア日本国大使館
篠原 勝弘 公使
後藤 文男 二等書記官
2. JICAカンボジア事務所
力石 寿郎 所長
小泉 幸弘 所員

< カンボジア国政府関係者 >

1. 中央政府機関
Suy Sem Minister, MIME (Ministry of Industry, Mines & Energy)
Nhep Bunchin Secretary of State, MIME
Phork Sovanrith Under Secretary of State, MIME
Peng Navuth Director, DPWS, MIME
Chhay Vanchhan Deputy Director, Council of Ministers
Mak Soeun Deputy Director, PSIC, Ministry of Agriculture, Forestry & Fishery
Ngwn Vesna Officer, Ministry of Water Resources & Meteorology
Sarom Sothoeun Officer, Ministry of Economic & Finance
Uk Someth Vice General Director, Urban Development Department, APSARA
2. 州政府機関
Suy San Deputy Governor, Siem Reap Province
Chan Seng La Director, Siem Reap Waterworks, PDIME, Siem Reap Province
Mim Horn Chief, Department of Administration, PDIME, Siem Reap Province
Phuong Lina Officer, Department of Environment, Siem Reap Province
Korngchan Tra Deputy, Department of Public Works, Siem Reap Province
Kim Chhay Heang Deputy, Department of Tourism, Siem Reap Province
Chhong Vira Officer, APSARA

< 他関連ドナー >

1. 国際機関
神内 Teruo Culture Program Specialist, UNESCO
Tamara Teneishvili Programme Specialist, World Heritage Unit, UNESCO
Anthony Jude Deputy Head, Cambodia Resident Mission, ADB
2. 他国援助機関
Francois Giovalucchi Director, AFD (Agence Francaise de Develoment)
Bertrand Boisselet AFD (Agence Francaise de Develoment)
3. NGO
David Cowled Management Advisor, ADRA

* 以上敬称略

2 . 基本設計概要説明

< 日本国政府関係者 >

- 1 . 在カンボジア日本国大使館
小川 郷太郎 公使
遠藤 和孝 二等書記官
- 2 . JICAカンボジア事務所
カ石 寿郎 所長
三次 啓都 次長
小泉 幸弘 所員
玉懸 光枝 在外専門調整員

< カンボジア国政府関係者 >

- 1 . 中央政府機関
Suy Sem Minister, MIME (Ministry of Industry, Mines & Energy)
Phork Sovanrith Under Secretary of State, MIME
Peng Navuth Director, DPWS, MIME
Uk Someth Vice General Director, Urban Development Department, APSARA
Ngoun Kong Deputy Director, Ministry of Environment
Heng Sokun Director, Bilateral Aid Coordination Department, CDC
大川 晴美 JICA Expert on Aid Coordination & Management, CDC
- 2 . 州政府機関
Suy San Deputy Governor, Siem Reap Province

< 他関連ドナー >

- 1 . 国際機関
神内 Teruo Culture Program Specialist, UNESCO
Tamara Teneishvili Programme Specialist, World Heritage Unit, UNESCO
Anthony Jude Deputy Head, Cambodia Resident Mission, ADB

* 以上敬称略

資料 4 当該国の社会経済状況
(国別基本情報抜粋)

カンボジア王国
Kingdom of Cambodia

一般指標	
政体	立憲君主制 *1
元首	国王/ノロドム・シアヌーク(Norodom SIHANOUK) *1,3
独立年月日	1953年11月9日 *3,4
主要民族/部族名	クメール人93%、中国人3%、ヴィエトナム人3% *1,3
主要言語	カンボディア語(クメール語) *1,3
宗教	仏教(小乗仏教)95%、イスラム教3% *1,3
国連加盟年	1955年12月14日 *12
世銀加盟年	1970年7月22日 *7
IMF加盟年	1969年12月31日 *7
国土面積	181.00 千km ² *1,6
総人口	12,021 千人 (2000年) *6
首都	プノンペン(Phnom Penh) *2
主要都市名	シアヌークビル、バタンバン、シエムレアブ *3
労働力総計	6,297 千人 (2000年) *6
義務教育年数	年間 (年) *13
初等教育就学率	119.3% (1998年) *6
中等教育就学率	22.3% (1998年) *6
成人非識字率	32.2% (2000年) *6
人口密度	68.10 人/km ² (2000年) *6
人口増加率	2.8% (1980-2000年) *6
平均寿命	平均 56.40 男 53.90 女 58.60 *10
5歳児未済死亡率	120/1000 (2000年) *6
カロリー供給量	2,069.9 cal/日/人 (2000年) *17

経済指標	
通貨単位	リエル(Riel) *3
為替レート	1 US \$ = 3,815.80 (2002年12月) *8
会計年度	Dec. 31 *6
国家予算	(年) *9
歳入総額	*9
歳出総額	*9
総合収支	85.9 百万ドル (2000年) *15
ODA受取額	398.5 百万ドル (2000年) *19
国内総生産(GDP)	3,182.85 百万ドル (2000年) *6
一人当たりのGNI	260.0 ドル (2000年) *6
分野別GDP	農業 37.1% (2000年) *6
	鉱工業 20.5% (2000年) *6
	サービス業 42.4% (2000年) *6
産業別雇用	農業 男 % 女 % (1998-2000年) *6
	鉱工業 % % (1998-2000年) *6
	サービス業 % % (1998-2000年) *6
実質GDP成長率	4.8% (1990-2000年) *6
貿易量	(2000年) *15
商品輸出	1,327.1 百万ドル *15
商品輸入	-1,525.1 百万ドル *15
輸入カバー率	3.3(月) (2000年) *14
主要輸出品目	縫製品、木材、ゴム、魚介類、農作物 *1
主要輸入品目	石油製品、タバコ、金、建設資材、自動車 *1
日本への輸出	66.3 百万ドル (2001年) *16
日本からの輸入	50.7 百万ドル (2001年) *16
総国際準備	501.7 百万ドル (2000年) *6
対外債務残高	2,357.0 百万ドル (2000年) *6
対外債務返済率(DSR)	2.0% (2000年) *6
インフレ率 (消費者物価物価上昇率)	6.3% (1990-2000年) *6
国家開発計画	第2次社会経済開発計画:2001-2005 *11

気象	(年~年平均)												観測地:プノンペン(北緯11度35分、東経104度55分)	*4.5
月	1	2	3	4	5	6	7	8	9	10	11	12	平均/計	
降水量	9.0	8.0	28.0	73.0	146.0	129.0	129.0	147.0	231.0	250.0	134.0	36.0	1320.0 mm	
平均気温	26.1	27.5	28.9	29.4	28.8	28.1	27.5	27.7	27.3	27.2	26.7	25.4	27.6 °C	

- *1 各国概況(外務省)
- *2 世界の国々一覽表(外務省)
- *3 世界年鑑2002(共同通信社)
- *4 最新世界各國要覽10訂版(東京書籍)
- *5 理科年表2000(国立天文台編)
- *6 World Development Indicators2002(WB)
- *7 BRD Membership List(WB)
- IMF Members' Financial Data by Country(IMF)
- *8 Universal Currency Converter
- *9 Government Finance Statistics Yearbook 2001 (IMF)

- *10 Human Development Report2002(UNDP)
 - *11 Country Profile(EIU),外務省資料等
 - *12 United Nations Member States
 - *13 Statistical Yearbook 1999(UNESCO)
 - *14 Global Development Finance2002(WB)
 - *15 International Financial Statistics Yearbook 2002(IMF)
 - *16 世界各國經濟情報ファイル2002(世界經濟情報サービス)
 - *17 FAO Food Balance Sheets 2002年6月 FAO Homepage
- 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

カンボジア王国
Kingdom of Cambodia

項目	年度	1996	1997	1998	1999	2000
技術協力		23.66	27.08	18.50	23.31	30.61
無償資金協力		71.78	41.84	78.23	86.03	79.14
有償資金協力		8.03			41.42	
総額		103.47	68.92	96.73	150.76	109.75

項目	暦年	1996	1997	1998	1999	2000
技術協力		20.12	25.52	23.05	23.25	32.35
無償資金協力		55.40	36.11	58.35	27.62	65.32
有償資金協力		-4.18				1.53
総額		71.33	61.63	81.40	50.87	99.21

	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)	248.2	-0.2	248.0	4.8	252.8
1. Japan	97.7	1.5	99.2	0.7	99.9
2. Australia	25.7	0.0	25.7	0.2	25.9
3. France	21.5	0.0	21.5	4.1	25.6
3. United States	23.7	-2.2	21.5	0.0	21.5
多機関援助 (主要援助機関)	54.2	95.6	149.8	0.0	149.8
1. AsDB			50.8	0.0	50.8
2. IDA			36.6	0.0	36.6
その他	0.8	0.0	0.8	3.3	4.1
合計	303.1	95.4	398.5	8.1	406.6

技術協力:カンボディア開発評議会(C.D.C)
無償 :カンボディア開発評議会(C.D.C)
協力隊 :カンボディア開発評議会(C.D.C)

*18 政府開発援助(OA) 国別データブック 2001 (国際協力推進協会)

*19 International Development Statistics (CD-ROM) 2002 OECD

*20 JICA資料

資料 5 討議議事録(M/D)

- 5 - 1 討議議事録 (第 1 次現地調査時)
- 5 - 2 討議議事録 (概要説明時)
- 5 - 3 技術協議書 (第 1 次現地調査時)

**MINUTES OF DISCUSSIONS
ON THE BASIC DESIGN STUDY
ON THE PROJECT FOR
IMPROVEMENT OF WATER SUPPLY SYSTEM IN SIEM REAP TOWN
IN THE KINGDOM OF CAMBODIA**

In response to the request from the Royal Government of Cambodia (hereinafter referred to as "RGC"), the Government of Japan has decided to conduct a basic design study on the Project for Improvement of Water Supply System in Siem Reap Town (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").


JICA sent to RGC the Basic Design Study Team (herein after referred to as "the Team"), headed by Mr. Hisatoshi Okubo, Deputy Director, Follow Up Division, Regional Department I, JICA, from March 2 to April 9, 2003. The Team held discussions with the concerned officials of RGC and conducted field surveys in the project site. In the course of the discussions and the field surveys, both sides confirmed the main items described on the attached sheets.

The Team will proceed to further studies and prepare the Basic Design Study Report.

Phnom Penh, March 11, 2003 *h*

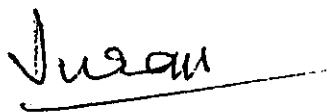


Mr. Hisatoshi Okubo
Leader
Basic Design Study Team
JICA
Japan



H.E. Mr. Phork Sovanrith
Undersecretary of State
Ministry of Industry, Mines and Energy (MIME)
RGC

Witnessed by:



H.E. Mr. Suy San
Deputy Governnor
Siem Reap Province
RGC



H.E. Mr. Uk Someth
Vice General Director
Authority for the Protection and Management
of Angkor and the Region of Siem Reap (APSARA)
RGC

ATTACHMENT

1. Title of the Project

The title of the Project is "The Project for Improvement of Water Supply System in Siem Reap Town."

2. Objective of the Project

The objective of the Project is to improve the water supply services in Siem Reap Town through construction and rehabilitation of water supply facilities in the Town and organization of trainings for the staff engaged in the services.

3. Project Site

The Project site is located in Siem Reap Town as shown in Annex1.

4. Organizations and Coordination

(1) The responsible and implementing organization of the Project is the Ministry of Industry, Mines and Energy (MIME).

(2) In consultation with MIME, the Office of Siem Reap Province and APSARA play direct and pivotal roles in planning and implementation of the Project. Other organizations, ministries and departments at both national and provincial levels administering tourism, environment, water resources, health, public works, planning, and foreign aid/investment are also required to closely coordinate and cooperate with MIME.

(3) International organizations engaged in social, cultural, environmental or economic development projects in Siem Reap Province such as UNESCO, ADB, AFD and NGOs must be consulted with on a regular basis for the successful planning and implementation of the Project. *u*

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(4) MIME is responsible for such coordination and dissemination of information among the organizations concerned regarding the Project necessary for the coordination.

5. Components Requested by the Cambodian Side

(1) After discussions with the Team, the items described in Annex 2 were finally requested by the Cambodian side. JICA will assess the appropriateness of the request and will report the findings to the Government of Japan.

(2) However, the final items to be included in the Project and their specifications, quantity, scale or volume will be determined after further studies in Cambodia and Japan.

(3) Both sides have understood that such criteria as listed below would be applied for determination of the final components of the Project:

- Managerial, administrative and technical competence of the responsible and implementing organization
- Economic, social and environmental viability of the Project
- Policy and financial commitment of the Cambodian side
- Non-existence of any social dispute
- Budgetary allocation by the Japanese side for the Project

6. Project Scope

(1) The scope (i.e. target year, service area, beneficiaries, etc.) of the Project has not yet been fixed at the time of signing of the Minutes of Discussions. Both sides, however, have understood and agreed upon the following points regarding finalization of the scope:

- the target year should be at between 2006 and 2008
- the most essential beneficiaries are residents, with a particular focus on the poorer population

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- the criteria described in 5 (3) are also applied
- the scope should not be far beyond a reasonable range of the scope set by the Feasibility Study (F/S) "the Study on Water Supply System for Siem Reap Region"

(2) The F/S by JICA completed in 2000 "the Study on Water Supply System for Siem Reap Region" and the application for Japan's Grant Aid prepared by the Cambodian side also in 2000 are somewhat "dated."

The increase of number of tourists visiting Siem Reap for the past 2 years has been so dramatic. More hotels and guesthouses have been into operation and many more are currently under construction. The influx of population and quick development of commercial activities are all contributing to a rapid change of the socio-economic situation in the Project site.

They all have a massive impact on potential, supply and demand of water in Siem Reap. All these factors have to be carefully reviewed in order to update and to finalize the Project scope and to have a reasonable prospect for any future water development plan.

(3) The Cambodian side in a well-coordinated and harmonized manner will provide the Team with necessary information to determine the scope, such as the latest inventory of hotels (i.e. hotels in business, under construction and being planned), tourists and demographic statistics and existing town development plans (or zoning plans) by March 15, 2003. The targeted scope will then be proposed and recorded in a Technical Note prepared in April 2003 (see 10(1)).

7. Comprehensive Development Plan and Environmental Issues

(1) Unrestrained groundwater development by tourism and commercial sectors may not only lead to shortage of water supply but also might cause more serious environmental problems. Rapid and uncontrolled expansion of residential areas without well-planned infrastructure development plan may as well create the similar consequences.

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The Project is expected to contribute to the improvement of living standards of residents of the Town as described in the above 2. However, as in the above 6, Siem Reap Town has been developing so rapidly, the Project is meant to satisfy only a limited part of water demand of the Town in the nearest future.

(2) Therefore, both sides have totally understood that a comprehensive and thorough development plan covering multi-sectors is now essential for the Town to be studied and prepared as soon as possible. Each individual infrastructure project in the future including new water supply projects must be implemented based on such a comprehensive development plan.

(3) The Team will conduct necessary studies in the Basic Design Study in order to avoid any possible negative environmental impact through the implementation of the Project. As the results of the Study, the Team will make observations and recommendations in the Report. Those environmental issues may include the following, for example:

- possibility of land subsidence, particularly that of Angkor Heritage Sites
- waste water generation
- relocation of residents
- water quality degradation

(4) The Cambodian side has agreed that careful monitoring of these environmental issues are their responsibilities. The Cambodian side also has understood that Japanese side shall renounce implementation of the Project in case that any serious incidence (or findings) regarding negative environmental issues related to the Project occurs. The Cambodian side will make their utmost efforts to take counter-measures to mitigate negative environmental impact and to continue close coordination among the organizations concerned.

(5) The Cambodian side will provide the Team with information on legislations, regulations and procedures regarding application and clearance of EIA in Cambodia.

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8. Site Preparation

(1) The Cambodian side will take measures required for acquisition of necessary land for the Project. Those measures include the following:

- To provide the Team with information on land laws and regulations related to land acquisition, relocation of inhabitants and compensation for private premises, etc. by March 15, 2003
- To prepare a relocation plan including detailed procedural steps within 10 days after the land boundaries are determined and to submit the plan to the Team
- To monitor the progress of relocation plan and report to JICA on a biweekly basis starting from April 2003
- To obtain written consent of all households to be affected by the planned relocation prior to the deadline to be set during the next JICA's mission in July 2003
- To complete the all the relocation and compensation procedures prior to the implementation of the Project

(2) The Cambodian side is responsible for completion of removal of all UXOs and mines prior to the implementation of the Project.

9. Japan's Grant Aid System

(1) The Cambodian side has understood Japan's Grant Aid system explained by the Team as described in Annex 3.

(2) The Cambodian side will take necessary measures, as described in Annex 4-1 and 2, for smooth implementation of the Project.

10. Schedule of the Study

(1) The Team will proceed to carry out further studies in Cambodia until April 9, 2003. Around the beginning of April, a Technical Note will be prepared by the Team and signed by both sides, confirming further findings and important issues.

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(2) Based on the Minutes of Discussions, the Technical Note and technical examination of the study results, JICA will prepare a draft report in English and dispatch a mission to Cambodia in order to explain its contents around July 2003.

11. Other Issues

(1) Individual House connections

Although water meters and pipes used for individual house connections will be supplied under the Project, actual cost and work needed for the internal house connections must be borne by the Cambodian side.

(2) Operation and Maintenance

The water supply facilities must be properly operated and maintained by the Office of Siem Reap Waterworks. The Cambodian side with its strong political and administrative commitment will prepare an adequate institutional setup for the Office including employment of new staff, budgetary allocation and necessary legislation. In this regard, Phnom Penh Water Supply Authority (PPWSA) is also expected to play a supportive role.

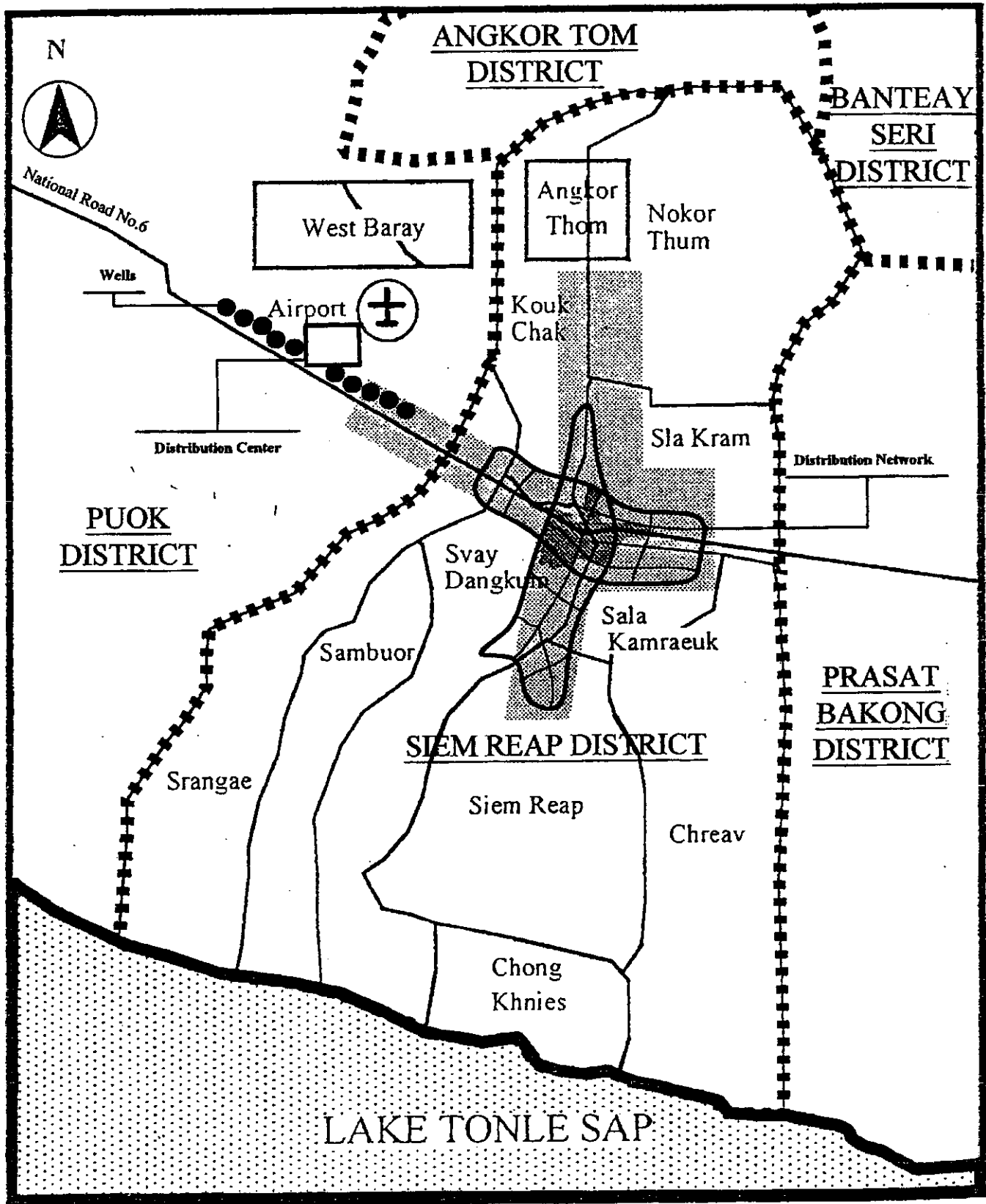
(3) Monitoring Wells

The 6 monitoring well installed during the Feasibility Study have ceased to function because of malfunction of equipment attached to the wells. Essential data that could have been accumulated for the past years are simply not available. Both sides have agreed that measures must be taken as soon as possible to revive those monitoring wells in order to obtain reliable data on groundwater levels and possible land subsidence. The Cambodian side has strongly requested the Japanese side to procure monitoring equipment during the Basic Design Study stage. The Team has promised to convey the request to the Japanese authority for its consideration.

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Annex-1: Project Site



Note: Administrative levels of Cambodia are province, district and commune in order to area.

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Annex 2 Components Requested by the Cambodian Side

1. Construction

- (1) Wells
- (2) Water Treatment Plant
- (3) Elevated Water Tank
- (4) Pumping Stations
- (5) Power Generating Units
- (6) Transmission Mains
- (7) Distribution Pipes
- (8) Workshop

2. Rehabilitation

- (1) Existing Distribution Pipes
- (2) Monitoring Wells (with necessary equipment)

3. Procurement of Equipment

- (1) Tools and spare parts for Equipment/Facilities attached to the above 1 and 2
- (2) Water meters and house connection materials

4. "Soft Components"

Technical trainings in the following areas will be included as "soft components" of the Project:

- (1) Operation and management of the new water supply system
- (2) Management of water supply services
- (3) Operation and maintenance of equipment and facilities

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1. Grant Aid Procedures

1) Japan's Grant Aid Program is executed through the following procedures.

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

2) 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 Program, 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 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 (hereinafter referred to as "the Project") is to provide a basic document necessary for the appraisal of the Project by the Japanese Government. The contents of the Study are as follows:

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

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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 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 consultant 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 Exchanges of Notes, in order to maintain technical consistency.

3. Japan's Grant Aid Scheme

1) Grant Aid

The Grant Aid Program provides a recipient country with non-reimbursable funds to procure 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. Grant Aid is not supplied through the donation of materials as such.

2) Exchange of Notes (E/N)

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

3) "The period of the Grant Aid" means the one fiscal year in 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 a final payment to them must be completed.

However in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year by mutual agreement between the two Governments.

4) 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, contracting and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means

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persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

5) Necessity of the "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.

6) 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 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 execution 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.
- (7) Proper Use

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

(8) Re-export

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

(9) Banking Arrangement (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 issued by the Government of the recipient country or its designated authority.

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Annex-4.1: 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 clears, 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		
	Electricity		
1)	a. The distributing line to the site		●
	b. The drop wiring and internal wiring within the site	●	
	c. The main circuit breaker and transformer	●	
	Water Supply		
2)	a. The city water distribution main to the site		●
	b. The supply system within the site (receiving and elevated tanks)	●	
	Drainage		
3)	a. The city drainage main (for storm sewer and others to the site)		●
7	b. The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	●	
	Gas Supply		
4)	a. The city gas main to the site		●
	b. The gas supply system within the site	●	
	Telephone System		
5)	a. The telephone trunk line to the main distribution frame/panel (MDF) for the building		●
	b. The MDF and the extension after the frame/panel	●	
	Furniture and Equipment		
6)	a. General furniture		●
	b. Project equipment	●	
8	To bear the following commissions to the Japanese bank for banking service based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
9	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	●	
	2) Tax exemption and custom clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	(●)	(●)
10	To accord Japanese nationals, whose service 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 contacts		●
12	To maintain and use properly and effectively the facilities contracted and equipment provided under the Grant		●
13	To bear all the expenses, other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and installation of the equipment		●

Remarks B/A: Banking Arrangement, A/P: Authorization to Pay

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Annex-4.2: Flow Chart of Japan's Grant Aid Procedures

Stage	Flow and Works	Recipient Government	Japanese Government	JICA	Consultant	Contractor	Others
Application	Request	●					
	Screening of Project → Evaluation of Terms of Reference → Project Identification Survey		●	●			
Project Formulation and Preparation	Preliminary Survey → Field Survey, Home Office Work Reporting	●	●	●			
	Basic Design Study → Selection and Contracting of Consultant by Proposal → Field Survey, Home Office Work Reporting	●	●	●	●		
	Explanation of Draft Final Report → Final Report	●	●	●	●		
Appraisal and Approval	Appraisal of Project		●				
	Inter-Ministerial Consultation		●				
	Presentation of Draft Notes	●	●				
	Approval by the Cabinet		●				
Implementation	Exchange of Notes	●	●				
	Banking Arrangement	●					●
	Consultant Contract → Verification → Issuance of Authorization to Pay	●	●	●	●		
	Detailed Design and Tender Documents → Approval by Recipient Government → Preparation for Tender	●	●	●	●		
	Tendering and Evaluation	●	●	●	●	●	
	Procurement/Construction Contract → Verification → Authorization to Pay	●	●	●	●	●	
	Procurement and/or Construction → Completion Certificate by Recipient Government → Authorization to Pay	●	●	●	●	●	
	Operation → Post Evaluation Study	●	●	●			
Evaluation and Follow-up	Ex-post Evaluation → Follow-up	●	●	●			

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**MINUTES OF DISCUSSIONS
ON THE BASIC DESIGN STUDY
ON THE PROJECT FOR
IMPROVEMENT OF WATER SUPPLY SYSTEM IN SIEM REAP TOWN
IN THE KINGDOM OF CAMBODIA
(EXPLANATION ON DRAFT REPORT)**

From March to August 2003, Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched Basic Design Study Team on THE PROJECT FOR IMPROVEMENT OF WATER SUPPLY SYSTEM IN SIEM REAP TOWN (hereinafter referred to as "the Project") to the Kingdom of Cambodia (hereinafter referred to as "Cambodia"), and through discussions, field surveys, and technical examination of the results in Japan, JICA prepared a draft report of the study.

In order to explain and to consult with the Cambodian side on the components of the draft report, JICA sent to Cambodia the Draft Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Mr. Yoshio Fukuda, Deputy Director, First Project Management Division, Grant Aid Management Department, JICA, from 5 October to 11 October 2003.

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

Phnom Penh, 9 October 2003

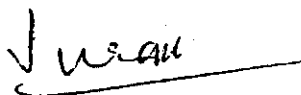


Mr. Yoshio Fukuda
Leader
Basic Design Study Team
Japan International Cooperation Agency
Japan



H. E. Mr. Phork Sovanrith
Undersecretary of State
Ministry of Industry, Mines and Energy
Royal Government of Cambodia

Witnessed by:



H. E. Mr. Suy San
Deputy Governor
Siem Reap Province
Royal Government of Cambodia



H. E. Mr. Uk Someth
Vice General Director
Authority for the Protection and Management of
Angkor and the Region of Siem Reap
Royal Government of Cambodia

ATTACHMENT

1. Components of the Draft Report

The Government of Cambodia agreed and accepted in principle the components of the draft report explained by the Team.

2. Minutes of Discussions (11 March, 2003)

Both sides read and confirmed again all the contents of the previous Minutes of Discussions, on the first field survey of 11 March 2003.

3. Japan's Grant Aid Scheme

The Cambodian side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Cambodia as explained by the Team as described in Annex-3 and Annex-4 of the Minutes of Discussions signed by both parties on 11 March, 2003.

4. Schedule of the Study

JICA will complete the final report in accordance with the items confirmed and send it to Cambodia around December 2003.

5. Other Relevant Issues

The following issues were discussed and confirmed by both sides.

(1) Components of the Project

Both sides agreed that the Project would be composed of the following components (shown in Annex-1) when the Japanese Government finally decides to implement the Project.

- Construction of water supply system including intake facilities, a water treatment plant, an elevated water tank, transmission and distribution pipelines
- Procurement of equipment and materials for operation and maintenance of the water supply system
- Support on engineering training, organizational strengthening and public education program ("Soft Component")

(2) Monitoring of groundwater level and land settlement

The Cambodian side fully understood the necessity and importance of monitoring groundwater levels and land settlement, and agreed to be responsible for continued monitoring.

MIME assured the Team for careful and permanent maintenance of the monitoring facilities, which have been restored by JICA through the study, and monitoring groundwater level and land settlement at the Siem Reap Area.

And to avoid negative impact for Angkor Heritage, the Team will provide MIME the final report compiled all technical data, recommendation and necessary measure to be got in the Basic Design Study.

MIME agreed that they will take necessary measures in order to avoid negative impacts to Angkor heritage during and after the completion of the Project.

The Team recommended the Cambodian side to take necessary measures against over-development of groundwater that might be caused by private wells such as hotels, restaurants, and so on in order for proper management of groundwater resources in the Project area in related to the Water Law to be enacted in the National Assembly.

As for the monitoring facility Lta-1&2, since it is situated in the site of an orphanage, MoSALVY agreed to keep them at least until the completion of the Project and to relocate them by MoSALVY in case relocation is necessary after the completion.

(3) Site preparation

The Cambodian side promised to obtain entire consent of land acquisition for the water treatment plant from person concerned by January 2004 in accordance with necessary procedure regulated by the Government of Cambodia, and complete land transfer before the commencement of the construction work under the Project. Also, the Cambodian side assured to conduct survey on mines, UXOs and unknown buried ruins and remove in case these are found prior to the implementation of the Project. The implementation schedule of site preparation including works of outer fence of WTP and provision of electrical distribution line to WTP by the Cambodian side is shown in Annex-2.

(4) Environmental Impact Assessment

The Cambodian side explained the permission on EIA was got on condition of provision of further information on the Project to Ministry of Environment and promised to follow this matter.

(5) Installation of individual house connections

The Cambodian side promised to install and facilitate individual house connection using the flow meters and appurtenances procured under the Project in accordance with the schedule shown in Annex-2.

(6) Countermeasure for dug wells near the proposed intake facilities

Water level of existing dug wells may lower by pumping groundwater at the proposed intake facilities for the Project, therefore countermeasure should be taken for users of the existing dug wells by the Cambodian side.

In this regard the Japanese side agreed to install distribution line (Approx. 4.0km) from WTP for the said users.

The Cambodian side promised to implement individual house connections using the flow meter and appurtenances to be procured in the Project, and to make thorough explanation about the plan of the Project and the countermeasures to users of the existing dug wells and receive full understanding from

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them in accordance with the schedule in Annex-2. For this purpose, the Cambodian side expressed to hold meeting for the inhabitants in the affected area.

(7) Recruitment of necessary personnel

For proper management of the water supply system constructed under the Project, assignment of necessary personnel is required for completing the proposed organizational structure. The Team expressed that assignment of 33 staff is necessary by May 2005 and 40 is required in 2008.

The Cambodian side promised to recruit necessary number of personnel with qualification suitable for the Project in due time.

(8) Obligation and budgetary arrangement of the Cambodian side

The Cambodian side agreed to be responsible for the items and make necessary budgetary arrangement to cover the required items as shown in Annex-3.

(9) Organizational modification to public corporations

Both sides agreed that the Cambodian side would report all progress of organizational modification of water supply systems under MIME to JICA Cambodia Office timely.

(10) Number of consumer meters

The Cambodian side strongly requested additional 550 consumer meters to be procured because existing meters are easily broken and difficult to keep accuracy.

The Japanese side stated it was difficult, but took a note of this request.

(11) Number of Hydrant

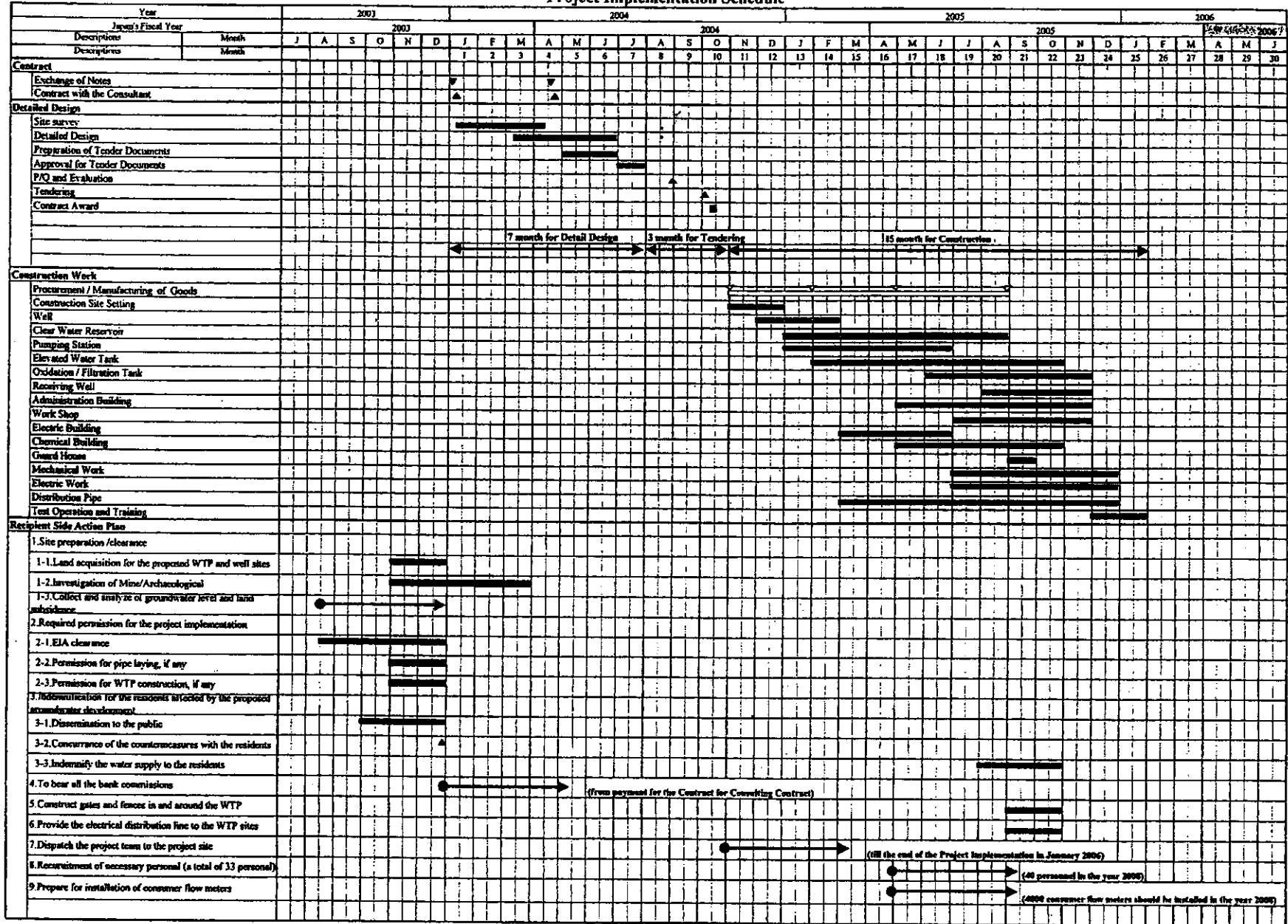
The Cambodian side strongly requested additional 8 hydrants to be installed under the Project, taking into consideration of the role of public water supply system and contribution to the safety of residents in the Project area.

The Japanese side stated it was difficult, but took a note of this request.

The Proposed Components of the Project

Descriptions	Proposed Components of the Project
1. Construction	
(1) Raw water intake facilities	1,100m ³ /d x 8 wells, including raw water conveyance pipes.
(2) Water treatment plant	Oxidation tanks, filter units, and chemical facilities are added to the request due to iron removal process is required.
(3) Elevated water tank	One elevated water tank is employed to improve the system to gravity system.
(4) Pumping station	Clear water pumping station to the proposed elevated water tank.
(5) Power generation facilities	Combined system of the EdC and generation systems.
(6) Transmission pipelines	Pipe materials is the same as Original Request, a total pipe length will be 25,893m.
(7) Distribution network	
(8) workshop	Added to secure proper O&M for the procured items.
2. Rehabilitation	
(1) existing distribution network	Existing pipe from dia. 75mm to 450mm with a total length of 6,060m.
3. Equipment procurement	
(1) Tools for O&M	Same as Original Request.
(2) Water meters with appurtenances	4,000, procurement only (installation shall be done by GOC side.)
(3) Office management equipment	7 sets of computer units and appurtenances required for accounting and customer management improvement
4. Soft component	
(1) Assistance for management	Supporting for improvement of capacity building of the SRWSS.
(2) Assistance for engineering	Same as Original Request.

Project Implementation Schedule



Obligation and Budgetary Arrangement of the Cambodian Side

To achieve the objectives of the Project and on the basis of the scope of works covered by GOJ, the costs for the following items shall be undertaken by RGC within the due date as shown hereunder.

Before Project Implementation

	Descriptions	Due Date
1.	To clear all the requirements for EIA.	Not later than the end of Dec. 2003
2.	To secure the proposed project sites for well construction and WTP without mines and archeological problems.	ditto
3.	To obtain all the required permissions for construction of Project facilities.	ditto
4.	To obtain all the permissions for laying the pipes under the public road and acceptance for laying pipes under the private land, if any.	ditto
5.	To collect and analyze the recording data from the rehabilitated observation facilities for groundwater level and land subsidence.	Continuously after Aug. 2003
6.	To obtain all the concurrence with the residents who will be affected by the proposed groundwater development to proceed the Project.	Not later than the end of Dec. 2003

During and After Project Implementation

	Descriptions	Due Date
1.	To investigate and treat mines, if found.	Not later than the end of March 2004
2.	To investigate and treat buried ruins in the proposed Project sites, if necessary.	ditto
3.	To bear all the commissions (0.05% for the Project cost) to the Japanese bank for banking service based on the Banking Arrangement.	From Jan. 2004
4.	To ensure all taxes and custom clearance of the products for the Project..	From Nov. 2004
5.	To dispatch the Project Team to the Project site.	From Nov. 2004
6.	To organize a proper institution/organization for management of the proposed water supply system	Not later than the end of Apr. 2005
7.	To take necessary actions for the water supply to the residents who will be affected by the proposed groundwater development.	Not later than the end of Oct. 2005
8.	To construct gates and fences in and around the proposed Project sites.	Not later than the end of Oct. 2005
9.	To provide the electrical distribution line to the proposed WTP site.	Not later than the end of Oct. 2005
10.	To prepare for installation of the consumer flow meters procured under the Project.	From May 2005 through 2008