Chapter 3 Project Evaluation

Chapter 3 Project Evaluation

3-1 Preconditions

This project involves the removal of part of the existing facility on the premises of Sihanouk Province Referral Hospital and the reconstruction of a main consultation department, wards, and administration department which are aging and have become difficult to keep sterile. The project also necessarily involves the procurement of required medical equipment to replace the aging and inadequate existings. The hospital premises are owned by the Ministry of Health and the acquisition of a building site is not a prerequisite. However, a prerequisite of implementing this project is that the Cambodian side performs the following necessary procedures as stated in "Chapter 2: Obligations of recipient country" without delay so that no hindrances to the project arise: tax-exemption measures, provision of access to imported materials and equipment, land usage authorization, banking arrangements/issuance of authorization to pay, and the removal of obstructions from the planned construction site, land maintenance work, infrastructural improvement, and relocation of existing equipment and furniture.

3-2 Necessary Inputs by Recipient Country

In order for this project to be achieved overall, the Cambodian side is required to implement the following items or carry out preparations appropriately:

- Implement the abovementioned items that are the counterpart nation's responsibility in "Chapter 2: Obligations of recipient country."
- Secure the necessary personnel and budget for the equipment to be used and procured or maintained in the facilities that will be constructed.

3-3 Important Assumptions

This project will construct facilities and procure medical equipment required by Sihanouk Province Referral Hospital. It is hoped that these facilities and equipment will be utilized effectively by the hospital staff, and that the medical referral system will be strengthened and the medical services improved. Likewise, under this project, soft components for clinical skills guidance are planned in relation to: assistance in improving the operating framework of, and instruction in operating/maintenance skills for the CR system, and assistance in improving the technical guidance/operating framework and instruction in operating/maintenance skills for the central sterilization department, as well as in relation to emergency surgery (in the department of OB/GY, abdominal surgery, and orthopedic surgery). It is hoped that when this is complete, the hospital staff will be able to continually provide training at the hospital and within the National Hospitals in Phnom Penh.

3-4 Project Evaluation

In light of the following points, this project has recognized relevance as a focus project through Japan's Grant Aid.

3-4-1 Relevance

(1) Focus of the project's benefits

The focus region of the project is Preah Sihanouk Province in which the project site of Sihanouk Province Referral Hospital is located. The province has a population of 195,000 (2011), which will be the direct beneficiary. Also, the province is situated as a hub that forms part of the "growth corridor ," and not only are the Sihanouk-Ville Port and SEZ developing, but as a resort area the population is also expanding remarkably with the influx of visitors and tourists including foreign nationals from outside the region. Due to high annual population growth, deterioration of public health within the province is predicted.

The project will enhance the medical care referral system and improve medical care services in Preah Sihanouk Province. Therefore, this project is deemed to be highly necessary and relevant.

(2) From a Human Security standpoint

Human Security is defined as a vision that focuses on each individual person and that protects the public from wide-ranging, serious threats to their survival, lifestyle and dignity. It is also deemed to be a vision that promotes the independence of sustainable individuals and the creation of a society through strengthening safeguards and abilities in order to achieve the rich potential of each individual. Through the implementation of this project, Sihanouk Province Referral Hospital will have its facilities, equipment and system upgraded from which it delivers medical services as a top referral hospital. As such, the project can be said to be consistent with the standpoint of human security and linked to improving public life.

(3) Contribution to achieving Cambodia's targets for its mid- to long-term development plan

This project exists to help strengthen the health care system (which covers the five health strategies - health service delivery, health care financing, human resource for health, health information system, and health system governance) illustrated in HSP2, an implementation plan that is part of the NSDP of Cambodia. Scaling up provision of CPA at referral hospitals such as Sihanouk Province Referral Hospital, and strengthening of medical care services and referral systems are a part of the Health Service Delivery Strategy Components.

(4) Consistency with Japan's Assistance Policy

The Country Assistance Strategy for Cambodia (2011) established by the Ministry of Foreign Affairs of Japan posits "investigating maintaining and improving key regional hospitals through Grant Aid" within (2) Promotion of Social Development, (b) Enhancement of Health and Medical Care, as a priority area (central target). As a top referral hospital of Preah Sihanouk Province, Sihanouk Province Referral Hospital is applicable as a key regional hospital, and therefore this project is sufficiently

consistent with Japan's Assistance Strategy.

3-4-2 Effectiveness

Below are the expected target levels of implementing this project.

① Quantitative Effects

Table 3-1 Outcome Indicators for Quantitative Effects

Indicators	Unit	Current Value (2011)	Target Value (2018) 【3 years after project completion】
No. of Inpatients	persons	6,010	7,060
No. of Outpatient & Emergency Patients	persons	19,563	26,712
No. of Operations	cases	388	447.6
No. of Deliveries	cases	1,170	1,487
No. of Hematological Examinations	cases	2,144	2,927
No. of Biochemical Examinations	cases	760	1,038
No. of X-Ray Inspections	cases	482	658
No. of Inpatient Stays in Private Ward	persons	0	443.6
Bed Occupancy Rate of ER & ICU	%	135.70	82.45

② Qualitative Effects

1) Improving the medical services at Sihanouk Province Referral Hospital will allow the acceptance of patients with adequate diagnosis and treatment and prompt response to severely ill patients that the hospital would not previously have been able to handle, and will contribute to optimizing the referral system as a top referral hospital.
2) Sihanouk Province Referral Hospital is not protected against x-rays, and installing an x-ray room protected with reinforced concrete will improve safety.
3) Possibility of the recruitment of highly specialized medical practitioners will increase.

Appendices

1. Member List of the Study Team
2. Study Schedule
3. List of Parties Concerned in the Recipient Country
4. Minutes of Discussions
5. Soft Component (Technical Assistance) Plan
6. Other Relevant Data
7. References

1. Member List of the Study Team

1-1 Outline Design Study From 12th August to 8th September, 2012 (28 days)

Position	Name	Period (2012)	Organization
1.Leader	Mr. Koichiro KOROKI	21/Aug.-31/Aug	Senior Assistant Director, Human Development Department & Procurement Department, JICA
2.Technical Adviser	Dr. Yoichi HORIKOSHI, M.D.	14/Aug.-.31/Aug.	2nd Expert Service Div., Bureau of International Medical Cooperation, Japan (IMCJ), National Center for Global Health and Medicine
3.Program Coordinator	Ms. Yui TAKAYAMA	20/Aug.-1/Sep.	Health Division 3, Health Group 2 Human Development Department, JICA
4.Project Manager/ Architectural Planning	Mr. Hozumi OGAWA	12/Aug.-8/Sep.	Azusa Sekkei Co., Ltd.
5.Equipment Planning	Mr. Yasumichi DOI	12/Aug.-8/Sep.	INTEM Consulting, Inc.
6.Architectural Planning/ Environment Survey	Mr. Kazuyuki OTSUBO	19/Aug.-8/Sep.	Azusa Sekkei Co., Ltd.
7.Construction Planning/ Cost Estimation	Mr. Yasuhiro MATSUMOTO	19/Aug.-8/Sep.	Azusa Sekkei Co., Ltd.
8.Equipment Procurement/ Cost Estimation	Ms. Tomoko KORI	19/Aug.-8/Sep.	INTEM Consulting, Inc.
9.Health Planning	Mr. Naoki TAKE	19/Aug.-8/Sep.	Azusa Sekkei Co., Ltd.
10.Utilities Planning	Mr. Ryo TANADA	25/Aug.-3/Sep.	Azusa Sekkei Co., Ltd.

1-2 Explanation of the Draft Report From 6th to 17th January, 2013 (12 days)

Position	Name	Period (2013)	Organization
1.Leader	Mr. Koichiro KOROKI	6/Jan..-17/Jan..	Senior Assistant Director, Human Development Department & Procurement Department, JICA
2.Technical Adviser	Dr. Yoichi HORIKOSHI, M.D.	6/Jan..-17/Jan..	2nd Expert Service Div., Bureau of International Medical Cooperation, Japan (IMCJ), National Center for Global Health and Medicine
3.Program Coordinator	Ms. Yui TAKAYAMA	6/Jan..-17/Jan..	Health Division 3, Health Group 2 Human Development Department, JICA
4.Project Manager/ Architectural Planning	Mr. Hozumi OGAWA	6/Jan..-17/Jan..	Azusa Sekkei Co., Ltd.
5.Equipment Planning	Mr. Yasumichi DOI	6/Jan..-17/Jan..	INTEM Consulting, Inc.

2. Study Schedule

2-1 Outline Design Study　　From 12th August to 8th September, 2012 (28 days)

No.	Date	Time	Activity
01	12 Aug. (Sun.)	11:00	Lv. Tokyo by JL-717 (Mr. Ogawa & Mr. Doi)
		15:40	Ar. at Bangkok
		17:30	Lv. Bangkok by PQ-935
		18:40	Ar. at Phnom Penh
02	13 Aug. (Mon)	08:30	Courtesy call to JICA and submission and explanation of the Inception Report, Questionnaire and Construction Site, Confirmation of the Schedule (Mr. Suzuki, Mr. Hirata, Ms. Kanazawa and Mr. Fukuwaka)
		10:30	Courtesy call to MOH and submission and explanation of the Inception Report, Questionnaire and Construction Site, Confirmation of the Schedule (Dr. Chi and others)
		14:00	Courtesy call to MEDEM2 (Mr. Matsuo)
03	14 Aug. (Tue)	09:00	Meeting with MOH (Dr. Chi)
		14:00	Meeting with MEDEM2 (Mr. Matsuo)
			Observation of Japanese grant aid facilities in Phnom Penh
		11:00	Lv. Tokyo by TG-641 (Dr. Horikoshi)
		15:40	Ar. at Bangkok
		18:15	Lv. Bangkok by TG-584
		19:25	Ar. at Phnom Penh
04	15 Aug. (Wed.)	08:00	Lv. Phnom Penh (Dr. Chi, Dr. Horikoshi, Mr. Hukuwaka, Mr. Ogawa & Mr. Doi)
		12:00	Ar. at Sihanouk-Ville
		14:00	Courtesy call to PHD and submission and explanation of the Inception Report and Questionnaire (Ph. Lim and others)
		15:00	Courtesy call to Sihanouk Province Referral Hospital and submission and explanation of the Inception Report, Questionnaire and Construction Site, Confirmation of the Schedule and observation of hospital (Dr.Chan and others)
05	16 Aug. (Thu.)	09:00	Meeting with Sihanouk Province Referral Hospital and conclusion of the construction site
		14:00	Internal Meeting (Dr. Horikoshi, Mr. Hukuwaka, Mr. Ogawa & Mr. Doi)
		15:00	Observation of Sihanouk-Ville town and SEZ
06	17 Aug. (Fri.)	09:00	Meeting with Sihanouk Province Referral Hospital and observation of hospital
		14:00	Observation of CT Clinic (Dr. Lik)
07	18 Aug. (Sat.)	09:00	Internal Meeting (Dr. Horikoshi, Mr. Ogawa & Mr. Doi) and filing documents
		14:00	Observation of Sihanouk-Ville town
08	19 Aug. (Sun.)	All day	Internal Meeting (Dr. Horikoshi, Mr. Ogawa & Mr. Doi)
			Filing Documents
		11:00	Lv. Tokyo by JL-717 (Mr. Otsubo, Mr. Matsumoto, Ms. Kori & Mr. Take)
		15:40	Ar. at Bangkok
		17:30	Lv. Bangkok by PQ-935
		18:40	Ar. at Phnom Penh
09	20 Aug. (Mon.)	09:00	Meeting with Sihanouk Province Referral Hospital, Equipment (Dr. Horikoshi & Mr. Doi), Existing Building (Mr. Ogawa)
		09:00	Meeting with local contractors (Mr. Otsubo & Mr. Matsumoto)
			Meeting with local suppliers (Ms. Kori)
			Survey of health condition
		11:00	Lv. Tokyo by TG-641 (Ms. Takayama)
		15:40	Ar. at Bangkok
		18:15	Lv. Bangkok by TG-584
		19:25	Ar. at Phnom Penh
10	21 Aug. (Tue.)	08:00	Lv. Sihanouk-Ville (Dr. Horikoshi, Mr. Ogawa & Mr. Doi)
		12:00	Ar. at Phnom Penh
		14:00	Internal meeting (Mr. Ogawa, Mr. Doi, Mr. Otsubo, Mr. Matsumoto, Ms. Kori & Mr. Take)
		16:00	Meeting with MCH (Ms. Kawaguchi & Mr. Ishijima, Dr. Horikoshi, Ms. Takayama, Mr. Ogawa & Mr. Doi)
		09:00	Meeting with local contractors (Mr. Otsubo & Mr. Matsumoto)
			Meeting with local suppliers (Ms. Kori)

No.	Date	Time	Activity
		11:00	Lv. Tokyo by TG-641 (Mr. Koroki)
		15:40	Ar. at Bangkok
		18:15	Lv. Bangkok by TG-584
		19:25	Ar. at Phnom Penh
11	22 Aug. (Wed.)	09:00	Internal meeting at JICA, reporting of outcomes & remaining problems (all members)
		14:00	Courtesy call to JICA (Mr. Suzuki, Mr. Hirata, Ms. Kanazawa and Mr. Fukuwaka)
		16:30	Courtesy call to MOH (Prof. Eng Huot)
		13:00	Lv. Phnom Penh (Mr. Otsubo, Mr. Matsumoto & Mr. Take)
		17:00	Ar. at Sihanouk-Ville
12	23 Aug. (Thu.)	08:00	Lv. Phnom Penh (Dr. Chi, Mr. Koroki, Dr. Horikoshi, Ms. Takayama, Mr. Ogawa, Mr. Doi & Ms. Kori)
		12:00	Ar. at Sihanouk-Ville
		14:00	Courtesy call to PHD and explanation of project objection and confirmation of questionnaire (Ph. Lim and others)
		15:00	Courtesy call to Sihanouk Province Referral Hospital and explanation of project objection, confirmation of questionnaire, construction site & schedule and observation of hospital (Dr. Chan and others)
		09:00	Courtesy call to Sihanouk Province Referral Hospital (Mr. Otsubo, Mr. Matsumoto, & Mr. Take)
		10:00	Meeting with environment survey company
		14:00	Observation of hospital
13	24 Aug. (Fri.)	09:00	Meeting with Sihanouk Province Referral Hospital, confirmation and discussion of application items
		14:00	Meeting with Sihanouk Province Referral Hospital, facilities and equipment
		18:30	Complimentary dinner by Ph. Lim, PHD
14	25 Aug. (Sat.)	09:00	about Minutes, confirmation and discussion of application items
			Meeting with Dr.Chi about Minutes and Dr. Chi returning Phnom Penh
		14:00	Meeting with Sihanouk Province Referral Hospital, facilities and equipment
		11:00	Lv. Tokyo by JL-717 (Mr. Tanada)
		15:40	Ar. at Bangkok
		17:30	Lv. Bangkok by PQ-935
		18:40	Ar. at Phnom Penh
15	26 Aug. (Sun.)	All day	Filing documents and planning of facilities & equipment
		09:00	Lv. Phnom Penh (Mr. Tanada)
		12:00	Ar. at Sihanouk-Ville
16	27 Aug. (Mon.)	09:00	Meeting with Sihanouk Province Referral Hospital, facilities and equipment
		14:00	Continuing meeting with Sihanouk Province Referral Hospital, facilities and equipment
		15:00	Meeting with hospital & PHD about Minutes
		16:30	Meeting with the port project (Mr. Uenishi)
17	28 Aug. (Tue.)	08:00	Lv. Sihanouk-Ville (Mr. Koroki, Dr. Horikoshi, Ms. Takayama, Mr. Ogawa, Mr. Doi & Ms. Kori)
		12:00	Ar. at Phnom Penh
		14:00	Meeting with MEDEM2 (Mr. Matsuo)
		15:30	Meeting with MOH about Minutes
		09:00	Meeting with Sihanouk Province Referral Hospital, facilities and health conditions (Mr. Otsubo, Mr. Matsumoto, Mr. Tanada & Mr. Take)
			Observation of hospital
18	29 Aug. (Wed.)	09:00	Filing documents
		15;00	Meeting with MOH about Minutes
		09:00	Meeting with Sihanouk Province Referral Hospital, facilities and health conditions (Mr. Otsubo, Mr. Matsumoto, Mr. Tanada & Mr. Take)
			Meeting with Sihanouk Province Referral Hospital about facilities planning
19	30 Aug. (Thu.)	10:00	Signing on the Minutes of Meeting at MOH
		15:00	Report to the Embassy of Japan
		16:00	Report to JICA

No.	Date	Time	Activity
		09:00	Meeting with Sihanouk Province Referral Hospital, facilities and health conditions (Mr. Otsubo, Mr. Matsumoto, Mr. Tanada & Mr. Take) Meeting with Sihanouk Province Referral Hospital about facilities planning
		20:25	Lv. Phnom Penh by TG-585 (Mr. Koroki, Dr. Horikoshi & Ms. Takayama)
		21:30	Ar. at Bangkok
20	31 Aug. (Fri.)	09:00	Filing Documents Mr. Ogawa & Mr. Doi) & Ms. Kori)
		14:00	Meeting with MEDEM2 (Mr. Matsuo)
		15:00	Meeting with Dr. Chi, MOH (Confirmation of answer of questionnaire)
		09:00	Meeting with Sihanouk Province Referral Hospital, facilities and health conditions Filing documents Meeting with Sihanouk Province Referral Hospital about facilities planning
		09:00	Meeting with local suppliers (Ms. Kori)
21	1 Sep. (Sat.)	All day	Filing documents (Mr. Ogawa, Mr. Doi & Ms. Kori) Internal meeting
		08:00	Lv. Sihanouk-Ville (Mr. Otsubo, Mr. Matsumoto, Mr. Tanada & Mr. Take)
		12:00	Ar. at Phnom Penh
		14:00	Internal meeting
22	2 Sep. (Sun.)	13:00	Lv. Phnom Penh (Mr. Ogawa, Mr. Doi & Mr. Take)
		18:00	Ar. at Bat Dambang
		09:00	Filing documents (Mr. Otsubo, Mr. Matsumoto & Ms. Kori)
		10:00	Lv. Phnom Penh by Pg-932 (Mr. Tanada)
		11:10	Ar. at Bangkok
23	3 Sep. (Mon.)	08:00	Lv. Bat Dambang (Mr. Ogawa, Mr. Doi & Mr. Take)
		09:00	Ar. at Mongkol Borei Observation of Mongkol Borei Hospital
		12:30	Lv. Mongkol Borei
		18:45	Ar. at Phnom Penh
		09:00	Survey for construction (Mr. Otsubo & Mr. Matsumoto) Survey for medical equipment (Ms. Kori)
24	4 Sep. (Tue.)	09:00	Internal meeting (Mr. Ogawa, Mr. Doi, Mr. Otsubo, Ms. Kori, Mr. Matsumoto & Mr. Take)
		10:00	Survey for construction material (Mr. Ogawa, Mr. Otsubo & Mr. Matsumoto) Survey for medical equipment (Mr. Doi & Ms. Kori)
25	5 Sep. (Wed.)	09:00	Internal meeting (Mr. Ogawa, Mr. Doi, Mr. Otsubo, Ms. Kori, Mr. Matsumoto & Mr. Take)
		10:00	Confirmation of environment survey and survey for construction (Mr. Ogawa,Mr. Otsubo & Mr. Matsumoto) Survey for medical equipment (Mr. Doi & Ms. Kori) Survey for health condition (Mr. Take)
		15:00	Meeting with MOH about the Memorandum (Dr. Chi & Dr. Moeung)
26	6 Sep. (Thu.)	10:00	Signing on the Memorandum at MOH
		16:00	Report to JICA
27	7 Sep. (Fri.)	09:00	Supplementary survey and filing documents (Mr. Ogawa, Mr. Doi, Mr. Otsubo, Ms. Kori, Mr. Matsumoto & Mr. Take)
		19:30	Lv. Phnom Penh by PG-936
		20:40	Ar. at Bangkok
		23:10	Lv. Bangkok by JL-718
28	8 Sep. (Sat.)	07:25	Ar. at Narita

2-2 Explanation of the Draft Report　　From 6th to 17th January, 2013 (12days)

No	Date	Time	Activity
01	6 Jan. (Sun.)	11:00	Lv. Tokyo by TG-641 (Mr. Koroki, Dr. Horikoshi & Ms. Takayama)
		15:40	Ar. at Bangkok
		18:15	Lv. Bangkok by TG-584
		19:25	Ar. at Phnom Penh
		11:00	Lv. Tokyo by JL-717 (Mr. Ogawa & Mr. Doi)
		15:40	Ar. at Bangkok
		19:30	Lv. Bangkok by PQ-935
		20:40	Ar. at Phnom Penh
02	7 Jan. (Mon, Victory Day)	08:50	Lv. Phnom Penh (Dr. Chi, Mr. Koroki, Dr. Horikoshi, Ms. Takayama, Mr. Ogawa & Mr. Doi)
		12:00	Ar. at Sihanouk-Ville
		16:00	Internal meeting
03	8 Jan. (Tue)	09:00	Courtesy call to PHD and explanation of DOD Report
		11:00	Courtesy call to Sihanouk Province Referral Hospital and explanation and discussion of DOD Report to each departments
04	9 Jan. (Wed.)	09:00	Continuing explanation and discussion of DOD Report to each department of Sihanouk Province Referral Hospital PM Dr. Chi returned back to Phnom Penh
05	10 Jan. (Thu.)	08:00	Lv. Sihanouk-Ville
		12:00	Ar. at Phnom Penh
		14:00	Meeting with NMOHC on the soft component plan
06	11 Jan. (Fri.)	08:30	Meeting and observation with Preah Kosamak Hospital on the soft component plan
		10:00	Meeting and observation with Khmer-Soviet Friendship Hospital on the soft component plan
		13:30	Internal meeting for the soft component plan based on hospitals observation
		15:00	Meeting with MEDEM2 (Mr. Matsuo) on the soft component plan
		16:00	Meeting with MOH (Dr. Chi) on the soft component plan
07	12 Jan. (Sat.)	All day	Internal meeting for the soft component plan
08	13 Jan. (Sun.)	All day	Internal meeting for the draft of MM and the soft component plan
09	14 Jan. (Mon.)	07:00	Lv. Phnom Penh
		10:30	After ar. at Kampong Cham, Meeting and observation with Kampong Cham Hospital on the soft component plan
		13:00	Lv. Kampong Cham
		16:00	After ar. at Phnom Penh, internal meeting for the draft of MM and the soft component plan
10	15 Jan. (Tue.)	08:30	Meeting with MOH (Dr. Chi) on the draft of MM
		10:00	Meeting and observation with Calmette Hospital on the soft component plan
		14:30	Courtesy call to H.E. Prof. Eng Huot
11	16 Jan. (Wed.)	10:00	Signing on the Minutes of Meeting at MOH
		14:00	Report to JICA
		20:25	Lv. Phnom Penh by TG-585 (Mr. Koroki, Dr. Horikoshi & Ms. Takayama)
		21:30	Ar. at Bangkok
		22:35	Lv. Bangkok by TG-640
		19:30	Lv. Phnom Penh by PG-936 (Mr. Ogawa & Mr. Doi)
		20:40	Ar. at Bangkok
		23:10	Lv. Bangkok by JL-718
12	17 Jan. (Thu.)	06:15	Ar. at Narita (Mr. Koroki, Dr. Horikoshi & Ms. Takayama)
		06:00	Ar. at Haneda (Mr. Ogawa & Mr. Doi)

3. List of Parties Concerned in the Recipient Country

Organization	Position	Name
Ministry of Health (MOH)	Secretary of State	Prof. Eng Huot
	Deputy Director General for Health	Dr. Chi Mean Hea, M.D., MPA
	Deputy Director, Hospital Service Department	Dr. Sok Srun
	Deputy Director, Department of International Cooperation	Mr. Sung Vinntak, M.D., MBA, MPH
	Former Deputy Director, Department of International Cooperation	Dr. Moeung Vannarom
	Office Chief, Department of International Cooperation	Mr. Chea Sokhim, MD, CLMP
Sihanouk-Ville Provincial Health Department (PHD)	Director of PHD	Ph. Lim Samean
	Vice Director	Dr. Chhoub Vutha
	Vice Director	Dr. Ty Lyleng
	Vice Director	Dr. Min Sokubthea
Sihanouk Province Referral Hospital	Director (Retire on Sep., 2012)	Mr. Chan Vibol
	Director (from Oct., 2012)	Mr. Seng Nong
	Vice Director (Director of CT Clinic)	Dr. Lik Kim Hour, M.D.
	Vice Director	Dr. Hou Sothy
	Vice Director (Surgical)	Dr. Hem Vibol
	Chief of Operation Theater	Dr. Sik Bunna
	Chief of General Medicine	Dr. Thong Ra
	Chief of OB/GY	Dr. Ho Sithy
	Chief of Pediatric	Dr. Ouk Phearin
	Chief of Imagery Department	Dr. Mao Senghak
	Manager of Pharmacy	Ms. Prum Sokunthea
	Chief of Laboratory	Mr. Khiew Saw
	ORL Medical Doctor	Dr. Ung Phala
	Chief of Dental & ENT	Dr. Prey Kim San
	Chief of Surgical Department	Dr. Meas Sithy
	Chief of ICU	Dr. Yum Seng
	Worker (Mechanical Maintenance)	Mr. Phem Touch
	Worker (Mechanical Maintenance)	Mr. Seum Rim
CT Clinic (Private Clinic)	Director	Dr. Lik Kim Hour, M.D.
Chak Angre Kampong Som Polyclinic (Private Clinic)	Director	Dr. Thanh Vinh
Kleang Leu Clinic (Private)	Nurse	Ms. Som Sophala
Sensok Clinic (Private)	Doctor	Dr. Long Lundy
Reproductive Health Association of Cambodia (RHAC) Clinic, NGO	Officer	Ms. Net Sarem
	Midwife	Ms. Sorn Nen
Preah Sihanouk Province, Buddhism for Health NGO	Project Manager	Mr. Ou Sarith
Clamette Hospital	Deputy Director	Dr. Kong Sonya
Preah Kosamak Hospital	Director	Dr. Sek Sokoeun
Khmer-Soviet Friendship Hospital	Director	Dr. Ngy Meng
NMCHC	Deputy Director	Dr. Ket Ly Sotha
Kampong Cham Hospital	Chief of Surgery Ward	Dr. Chay Rithy
Mong Kul Borey Hospital	Director	Dr. Chan Vithinavuth
SOM Construction	Managing Director	Mr. SOM Sangkhar

Organization	Position	Name
(Contractor)	General Director	Mr. Som Monorak
	Manager for Quality Control Eng.	Mr. Soun Nimol
PISNOKA INT'L CORP. (Contractor)	Managing Director	Mr. Sok Sothyra
	General Director	Mr. Khou Soklay
Union Concrete Factory Co., Ltd. (Concrete Plant at Sihanouk-Ville)	Chief	Mr. Chuob Ny
HEXXON INT'L CORP. (Aggregate pit)	Chief	Ms. Hav Hang
Y CHHE STEEL & CERAMIC (Supplier of steel and steel bar)	Sales Manager	Mr. Thong Heng
SCG TRADING CO., LTD. (Construction material)	Director	Mr. Saran Im
Electricite du Cambodge (EDC)	Vice Director	Mr. Thuon Socheath
Department of Industry Mines and Energy Preah Shianouk Province	Director of Water Supply	Mr. Prak Prakat
Department of Public Works and Transport Sihanouk-Ville	Director	Mr. Nop Heng
	Chief Engineer	Mr. Lim Sran
Dynamic Pharma Co., Ltd. (Local Agent for Medical Equipment)	Manager for Business Department	Mr. Chong Hok
	Manager for Goods	Mr. Hor. Thearith
MET GROUP CO., LTD. (Local Agent for Medical Equipment)	Managing Director	Mr. Keo Vibol
europ continents (Local Agent for Medical Equipment)	CEO	Mr. Thibaud Sournia,
Medicom Co., Ltd. (Local Agent for Medical Equipment)	CEO	Mr. Jean-Yves Catry
Kuang Hsien Medical Instrument Co., Ltd. (Local Agent for Medical Equipment)	Sales Officer	Mr. Mao Bonnarith
Medical Equipment & Electro -technical Services (Local Agent for Medical Equipment)	CEO	Mr. Jason Kong
	Sales Officer	Mr. Sam Tetra
Long Term Development Co., Ltd. (Local Agent for Medical Equipment)	Vice Manager for Medical Equipment	Mr. Saosaut Sopheak
AEA International SOS (Private Clinic at Phnom Penh)	Imagery Engineer	Mr. Keo Sovan
Water Distribution Project	Chief Resident Engineer	Mr. Yukio KEMI
Embassy of Japan	First Secretary	Mr. Shinichi TAMAMITSU
	Second Secretary	Mr. Toshiaki ITO
JICA Cambodia Office	Chief Representative	Mr. Yasujiro SUZUKI
	Senior Representative	Mr. Hitoshi HIRATA
	Representative	Ms. Shoko KANAZAWA
	Representative	Mr. Shinichi YOSHIHARA
	Program Officer	Mr. Soun Veasna
	Technical Advisor	Mr. Masakazu FUKUWAKA
	MEDEM2, Chief Advisor	Mr. Takeshi MATSUO
	MCH, Expert	Ms. Midori KAWAGUCHI
	MCH, Project Coordinator	Mr. Tadayuki ISHIJIMA
	Port Management, Advisor	Mr. Takahiro JONISHI
	SEZ Marketing & Operation Advisor	Mr. Hiroshi HATTORI

MINUTES OF DISCUSSIONS
ON THE PREPARATORY SURVEY
ON THE PROJECT FOR REHABILITATION OF SIHANOUK-VILLE REFERRAL HOSPITAL IN THE KINGDOM OF CAMBODIA

In response to the request from the Royal Government of Cambodia, the Government of Japan decided to conduct a Preparatory Survey on the Project for Rehabilitation of Sihanouk-Ville Referral Hospital (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 Kingdom of Cambodia (hereinafter referred to as "Cambodia") the Preparatory Survey Team (hereinafter referred to as "the Team"), which is headed by Mr. Koichiro KOROKI, Senior Assistant Director, Human Development Department, JICA, and is scheduled to stay in the country from 12th August to 7th September, 2012.

The Team held discussions with the officials concerned of the Royal Government of Cambodia and conducted a field survey.

In the course of the discussions and the field survey, the Ministry of Health, the Kingdom of Cambodia and the Team (hereinafter referred to as "both sides) have confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Preparatory Survey Report.

Phnom Penh, 30th August, 2012

Mr. Koichiro Koroki
Team Leader,
Preparatory Survey Team
Japan International Cooperation Agency
Japan

Professor Eng Huot
Secretary of State
Ministry of Health
Kingdom of Cambodia

ATTACHMENT

1. Objective of the Project

The objective of the Project is to improve the quality of health services in Sihanouk-Ville Referral Hospital, which is the top referral hospital in Preah Sihanouk Province, by constructing facilities and procuring medical equipment.

2. Project Site

Both sides confirmed that the project site is Sihanouk-Ville Referral Hospital in Preah Sihanouk Province shown in Annex-1.

3. Items Requested by the Cambodian Side

3-1. Both sides confirmed the final requested facilities and priorities described in Annex-2.

3-2. Both sides confirmed the final requested medical equipment (including the additional requested items) and the priorities described in Annex-3.

3-3. JICA will assess the appropriateness of the request and will recommend to the Government of Japan for approval.

4. Responsible and Implementing Organizations

The responsible and implementing organization of the Project is the Ministry of Health, Preah Sihanouk Provincial Health Department, and Sihanouk-Ville Referral Hospital.

5. Japan's Grant Aid Scheme

5-1. The Cambodian side understands the Japan's Grant Aid Scheme which was explained by the Team as described in Annex-4.

5-2. The Cambodian side will take necessary measures, described in Annex-5, for smooth implementation of the Project, as a condition for the Japanese Grant Aid to be implemented.

6. Schedule of the Survey

6-1.The consultant members of the team will proceed further studies in the Kingdom of Cambodia until 7th September, 2012.

6-2. The Team will prepare a draft report in English and dispatch a mission team in order to explain its contents to the Cambodian side and make the Minutes of Discussions between both sides.

6-3. The Team will complete the final Preparatory Survey Report and send it to the Ministry of Health, the Kingdom of Cambodia. These timings will be decided hereafter.

7. Other Relevant Issues

7-1. The Cambodian side agreed to secure and allocate enough staff and budgets to properly operate and maintain the facilities constructed and medical equipment provided by the Project. The Cambodian side will make a contract with the local agent regarding periodical maintenance for medical equipment after 1 year warranty.

7-2. The Cambodian side agreed to clear the sites (including demolition of the existing building E, G, and the trees) before the Project begins. The time of clearance will be reported by the Team in the Draft Preparatory Survey Report.

7-3. Both sides agreed that there is a necessity of soft component, which will be provided by the Japanese side, for operation and maintenance of the medical equipment.

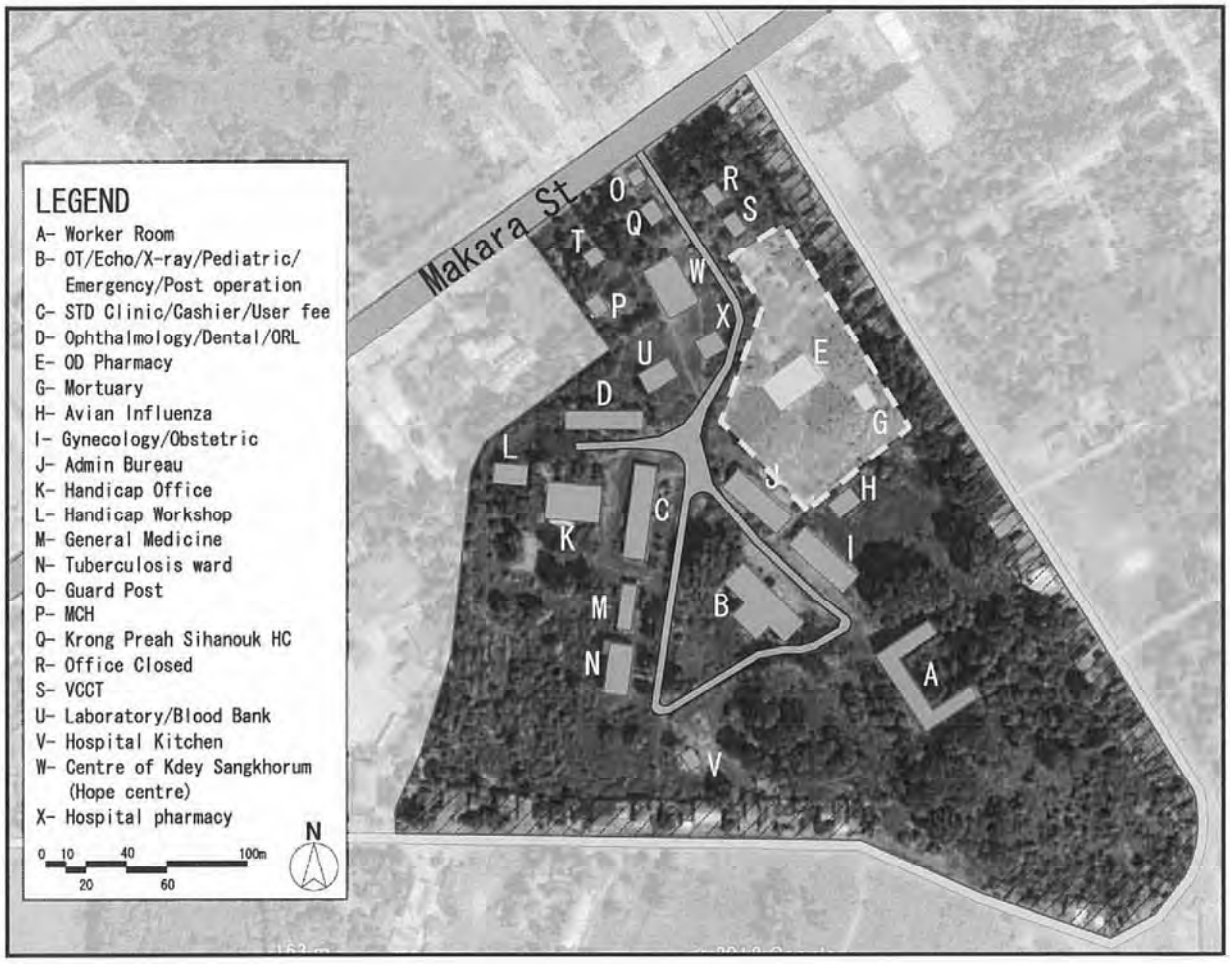
7-4. The Sihanouk-Ville Referral Hospital agreed to cooperate with the National Workshop Team in the Ministry of Health, and the ongoing Technical Cooperation Project "the Project for Strengthening Medical Equipment Management in Referral Hospitals" to strengthen the maintenance system.

7-5. The Cambodian side agreed to prepare an isolation unit for future epidemic outbreak after the implementation of the Project has been decided by Japanese Grant Aid.

7-6. The Team agreed to design the building for future expansion of the buildings by the Cambodian side.

Annex-1: Location of the Project Site
Annex-2: The Final Request and Priority List of Facilities
Annex-3: The Final Request and Priority List of Medical Equipment
Annex-4: Japan's Grant Aid Scheme
Annex-5: Major Undertakings by each Government

Location of the Project Site



=Construction site for the Project

Annex-2

The Final Request and Priority List of Facilities

	Section		Component	Remarks	Priority
1	Clinical Services	1.1	Outpatient Consultations	Triage	1
		1.2	Emergency Services Department		1
		1.3	Surgical Services Department		1
		1.4	Operation Theater		1
		1.5	General Medicine Department		1
		1.6	Obstetrics		1
		1.7	Gynecology		1
		1.8	Pediatric Department		1
2	Para clinical	2.1	Imagery		1
		2.2	Pharmacy	For Hospital	1
3	Administration	3.1	Hospital Administration		2
		3.2	Training/ meeting		2
4	Technical Support	4.1	Laundry and Sterilization		1
		4.2	Warehouse storage and Maintenance		3
5	Infrastructure	5.1	Electricity reception and Generator & Sewage water treatment		1
6	Others	6.1	Corridor and common space		1

Priority 1: Highest Priority 2: Lower Priority 3: Lowest Priority

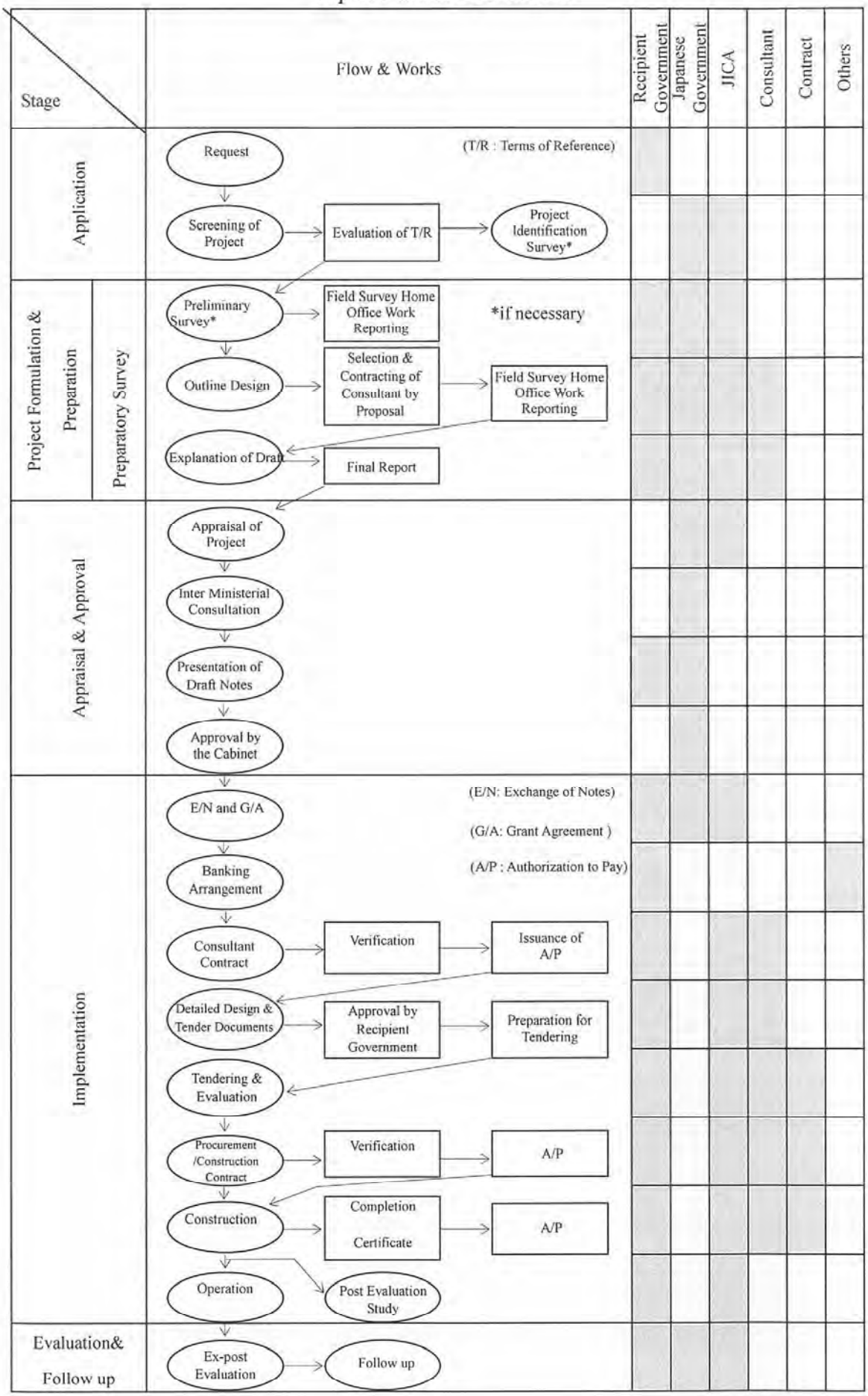
The Final Request and Priority List of Medical Equipment

S. No.	Department	Priority	Equipment	Q'ty	Additional Item	Remarks
1	Pediatric	1	Infant Incubator	1		
2		2	Syring Pump	2	○	
3		3	Infusion pump	3		
4		4	Resuscitator Set foe Pediatric	1		Composition : for Child x 1, for Infant x 1
5		5	Suction Machine	3		Electric, Mobile Type
6		6	Diagnostic Instrument Set	2		
7		7	Patient Bed (Adult)	20	○	
8		8	Patient Bed (Pediatric)	5	○	
9		9	Baby Bed	3	○	
10		10	Examination Bed	1	○	
11		11	Examination Lamp	1	○	
12		12	Intubation Set	2		Composition : Laryngoscope (Adult & Infant) x 1 each, Intubation Forceps (Adult & Infant) x 1 each, Endtracheal Tube Set x 1, Air Way Set x 1, Stylet x 1
13		13	Oxygen Cylinder Set	2		
14		14	Examination Desk & Chair Set	1	○	
15		15	Nebulizer	2		
16		16	Sphygmomanometer Set	1		Composition : for Child x 1, for Infant x 1, for Adult x 1
17		17	Stethoscope	2		for Infant
18		18	Dressing Cart Set	3		Composition : Cart x 1, Basin Kidney x 1, Sponge Holding Forceps x 1, Bandage Scissors x 1
19		19	Scale Set for Pediatric	1		Composition : Weighing and Height Scale for Adult x 1, Weighing Scale for Infant x 1, Hanging Type Weighing Scale x 1
20		20	Irrigator Stand set	1		Composition : Irrigator Stand x 2, Irrigator hanging pole x 10
21		21	Negatoscope	1		
22		22	Sterilizing Drum	3		Cylindrical, Small
23	General Medicine	1	ECG	1	○	
24		2	Resuscitator (Adult)	1		
25		3	Suction Machine	2		Electric, Mobile Type
26		4	Diagnostic Instrument Set	1		
27		5	Oxygen Cylinder Set	5		
28		6	Examination Bed	1	○	
29		7	Patient Bed	22	○	
30		8	Dressing Cart Set	2		Composition : Cart x 1, Basin Kidney x 1, Sponge Holding Forceps x 1, Bandage Scissors x 1
31		9	Stretcher	2		
32		10	Irrigator Stand set	1		Composition : Irrigator Stand x 2, Irrigator hanging pole x 10
33		11	Sphygmomanometer (Aneroid)	2		
34		12	Scale (Adult, weight and height)	1		
35		13	Negatoscope	1		
36		14	Sterilizing Drum	2		Cylindrical, Small
37	Surgery	1	Minor surgery Instrument set	2		
38		2	Suction Machine	1		Electric, Mobile Type
39		3	Examination Bed	1	○	
40		4	Patient Bed	22	○	
41		5	Oxygen Cylinder Set	2		
42		6	Dressing Cart Set	2		Composition : Cart x 1, Basin Kidney x 1, Sponge Holding Forceps x 1, Bandage Scissors x 1
43		7	Examination Lamp	1		
44		8	Extension continue traction set	2		
45		9	Stretcher	2		
46		10	Irrigator Stand set	2		Composition : Irrigator Stand x 2, Irrigator hanging pole x 10
47		11	Wheelchair	2	○	
48		12	Retractor (Plaster)	1		
49		13	Scissors (Plaster)	1		
50		14	Negatoscope	1		
51		15	Sterilizing Drum	2		Cylindrical, Small

S. No.	Department	Priority	Equipment	Q'ty	Additional Item	Remarks
52	OB&GY	1	Caesarean & Hysterectomy set	1		
53		2	Caesarian section set	1		
54		3	CTG	1	○	
55		4	Delivery Bed	3		
56		5	Examination Table (Gynecological)	1		Composition : Table x 1, Examination Unit x 1
57		6	Operating Light (Mobile Type)	3		
58		7	Resuscitation set	1		Composition : Adult x 1, Infant x 1)
59		8	Delivery set	4		
60		9	Examination Bed	1	○	
61		10	Patient Bed	25	○	
62		11	Examination Desk & Chair Set	1	○	
63		12	Suction Machine	1		Electric, Mobile Type
64		13	Oxygen Cylinder Set	3		
65		14	Hand scrub unit	1		
66		15	Consultation Gynecology set	1		
67		16	Consultation Obstetric set	1		
68		17	Irrigator Stand set	2		Composition : Irrigator Stand x 2, Irrigator hanging pole x 10
69		18	Cervic reparation set	1		
70		19	Episiotomy and Perino repair set	1		
71		20	Tubal Legation set, Abdominal	1		
72		21	Vacuum extractor	1		
73		22	Scale (Infant)	1		metric 15 kg x 10 g
74		23	Scale (Adult)	1		
75		24	Sphygmomanometer (Aneroid)	3		
76		25	Dressing Cart Set	3		Composition : Cart x 1, Basin Kidney x 1, Sponge Holding Forceps x 1, Dressing Forceps x 1, Artery Forceps x 1, Bandage Scissors x 1
77		26	Negatoscope	1		
78		27	Denudating set	1		
79		28	Dilation & Curetting set	1		
80		29	Wash Basin Set	1		Composition : Wash Basin x 2, Stand x 1
81		30	Sterilizing Drum	4		Cylindrical, Small, Priority : A x 2, B x 2
82	Out-Patient	1	Diagnostic Instrument Set	1		
83		2	Examination Bed	1	○	
84		3	Examination Desk & Chair Set	1	○	Composition : Doctor's Desk & Chair x 1 each, Patient Stool x1
85		4	Scale (Adult)	1		
86		5	Negatoscope	1		
87		6	Sterilizing Drum	2		Cylindrical, Small
88	Operation Theater	1	Operating Table	2		with Orthopedic Accessories, Doctor's Stool x 2, Steps x 1
89		2	Operating Light (Ceiling mount Type)	2		
90		3	Anesthesia Machine	1		with Halothane Vaporizer
91		4	Patient Monitor	1		
92		5	Suction Machine	2		Electric, Mobile Type
93		6	Resuscitator set	1		Composition : for Adult x 1, for Infant x 1
94		7	Electro surgical unit	1		
95		8	Intubation Set	1		Composition : Laryngoscope (Adult & Infant) x 1 each, Intubation Forceps (Adult & Infant) x 1 each, Endtracheal Tube Set x 1, Air Way Set x 1, Stylet x 1
96		9	Operation Theater Cart Set	2		Composition : Dressing Cart x 1, Instrument Cart (3 Try Type) x 1, Instrument Try x 3
97		10	Anesthesia Table	2		without tray
98		11	Hand scrub unit	2		
99		12	Defibrillator	1		
100		13	Laparotomy set	2		
101		14	Amputation set	1		
102		15	Oxygen Cylinder Set	2		
103		16	Stretcher	2		
104		17	Irrigator Stand	2		double hook type
105		18	Sterilizing Drum	4		Cylindrical, Small
106		19	Negatoscope	2		
107		20	Orthopedic Instrument Set	1	○	Include materials (Plate, Bolt, and others) for at least 10 patients.
108		21	Urology set	1		
109		22	Blood Wormer	2	○	
110		23	Wash Basin Set	2		Composition : Wash Basin x 2, Stand x 1
111		24	Air Tourniquet	1	○	
112		25	Ultraviolet Sterilizing Apparatus	1	○	
113		26	Nerve Stimulator	1	○	

S. No.	Department	Priority	Equipment	Q'ty	Additional Item	Remarks
114	Emergency Department	1	Respirator Set	1		Composition: Adult x 1, Infant x 1
115		2	Resuscitator Set	1		Composition : for Adult x 1, for Infant x 1
116		3	Intubation Set	2		Composition : Laryngoscope (Adult & Infant) x 1 each, Intubation Forceps (Adult & Infant) x 1 each, Endtracheal Tube Set x 1, Air Way Set x 1, Stylet x 1
117		4	Defibrillator	1		
118		5	Syring Pump	2	○	
119		6	Infusion Pump	2	○	
120		7	ECG	1		
121		8	Emergency Bed	4	○	
122		9	ICU Bed	6		
123		10	Patient monitor	2		
124		11	Operating lamp (Mobile Type)	1		
125		12	Suction Machine	2		Electric, Mobile Type
126		13	Dressing Cart Set	3		Composition : Cart x 1, Basin Kidney x 1, Sponge Holding Forceps x 1, Bandage Scissors x 1
127		14	Minor surgery Instrument set	3	○	
128		15	Wheelchair	2	○	
129		16	Denudating set	1		
130		17	Sphygmomanometer (Aneroid)	2		
131		18	Irrigator Stand	5		double hook type
132		19	Negatoscope	2		
133	Imagery	1	X-ray diagnostic system	1		
134		2	C-arm	1	○	
135		3	X-ray Accessories Set	1		Composition: Alphabet and number lead x 1, Cassette Set (18 x 24, 18 x 43, 24 x 30, 30 x 40, 35 x 35, 35 x 43) x 2 each,
136		4	Dark Room Equipment Set	1		Composition : Dryer x 1, Filmed Hanger (18 x 24, 18 x 43, 24 x 30, 30 x 40, 35 x 35, 35 x 43) x 5 each, Developer Tank x 1, Dark Room Lamp x 1
137		5	X-ray Protection Apparatus	1		Composition : Dosimeter x 1, Protective Apron x 1
138		6	Dental X-ray	1	○	Composition : X-ray Unit x 1, Automatic Film Processor x 1
139		7	Negatoscope	1		
140		8	Stretcher, combination wheel and carry	1		
141	Sterilization	1	Sterilizer, dressing, pressure type	2		
142		2	Dry Sterilizer	1	○	
143		3	Working Table	1	○	
144		4	Shelves	1	○	
145		5	Washing Machine	1	○	
146		6	Dryer Machine	1	○	
147	Pharmacy	1	Refrigerator (Pharmaceutical)	1	○	
148		2	Shelves	1	○	
149	ENT	1	FESS	1	○	
150	Dental	1	Autoclave (Table Top Type)	1	○	
151	Laboratory	1	Spectrophotometer	1	○	
152		2	Hematology Analyzer	1	○	
153		3	Incubator	1	○	
154		4	Hematocrit centrifuge	1	○	

Japan's Grant Aid Scheme



Major Undertaking to be taken by Each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	To secure land		●
2	To clear, level and reclaim the site when needed		●
3	To construct the parking lot	●	
4	To construct roads		
	1) Within the site	●	
	2) Outside the site		●
5	To construct the buildings	●	
6	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 elevated tanks)	●	
	3) Drainage		
	a. The city drainage main (for storm, sewer and others) to the site		●
	b. The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	●	
	4) Gas Supply (if any)		
	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	●	
7	To bear the following commissions to the Japanese bank for banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
8	To ensure unloading and customs clearance at port of disembarkation in recipient country		
	1) Marine (Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and customs clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	●	
9	To accord Japanese nationals, whose services may be required in connection with the supply of the products and the services under the verified contact, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.		●
10	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts.		●
11	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant		●
12	To bear all the expenses, other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and installation of the equipment		●

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

MINUTES OF DISCUSSIONS
ON THE EXPLANATION OF THE DRAFT REPORT OF THE PREPARATORY SURVEY FOR THE PROJECT FOR REHABILITATION OF SIHANOUK-VILLE REFERRAL HOSPITAL IN THE KINGDOM OF CAMBODIA

In August 2012, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Survey Team on the Project for Rehabilitation of Sihanouk-Ville Referral Hospital (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 the draft report of the preparatory survey.

In order to explain and to consult the contents of the draft report with the Royal Government of Cambodia, JICA sent to Cambodia the Draft Report Explanation Team (hereinafter referred to as "the Team"), headed by Mr. Koichiro Koroki, Senior Assistant Director, Human Development Department, JICA from 6th to 17th January 2013.

As a result of the series of discussions, the Ministry of Health, the Kingdom of Cambodia, and the Team (hereinafter referred to as "both sides") have confirmed the main items described in the attached sheets.

Phnom Penh, 16th January 2013

Mr. Koichiro Koroki
Team Leader,
Draft Report Explanation Team
Japan International Cooperation Agency
Japan

Professor Eng Huot
Secretary of State
Ministry of Health
The Kingdom of Cambodia

ATTACHMENT

1. Components of the Draft Report:

The Cambodian side agreed and accepted in principle the contents of the draft report explained by the Team.

2. Schedule of the Study:

JICA will complete the final report in accordance with the confirmed items and send it to the Cambodian side by April 2013.

3. Japan's Grant Aid scheme:

The Cambodian side understands Japan's Grant Aid scheme and necessary measures to be taken by the Cambodian side which was explained by the Team and described in Annex-4 and Annex-5 of the Minutes of Discussions signed by both sides on 30th August, 2012.

4. Measures to be taken by the Cambodian side:

4-1 In case the Project will be implemented, the Cambodian side agreed to take necessary measures listed in Annex-1 for the smooth implementation of the Project. These measures will be completed by the Cambodian side before the construction of the Project begins.

4-2 To assure effectiveness and sustainability of the Project, the Ministry of Health, Provincial Health Department of Preah Sihanouk Province and Sihanouk-Ville Referral Hospital agreed to allocate necessary staff and cover the costs for operation and maintenance shown in Annex-2. In addition, the Cambodian side will make a contract with the local agent regarding periodical maintenance for medical equipment after 1 year warranty.

5. Modification of the name of the Project

Both sides agreed to modify the name of the Project since the building will be newly constructed instead of rehabilitating the existing building. Also, the Cambodian side explained to the Team that the name of Sihanouk-Ville Referral Hospital will be changed to Sihanouk Province Referral Hospital. Therefore, the name of the Project will be modified to ''the Project for Improvement of Sihanouk Province Referral Hospital''.

6. Other Relevant Issues:

6-1. Confidentiality of the Project Cost Estimation

The Team explained the cost estimation of the Project described in Annex-3. Both sides agreed that the Project Cost Estimation should never be duplicated or released to any outside parties before signing of all the Contract(s) for the Project. The Cambodian side understands that the Project Cost Estimation is not final and is subject to change.

6-2. Soft Component

The Team and the Cambodian side agreed that there is a necessity of Soft Component. Both sides agreed the outline of the soft component described in Annex-4. The Cambodian side agreed to coordinate and make necessary arrangements with the relevant hospitals for the smooth implementation of the training.

6-3. Modification of the name of the medical equipment

Both sides agreed to change the name of the medical equipment for "Dilation and Curetting Set" to "Abortion Set" to better understand the purpose of the equipment.

6-4. Modification of the name of the layout

Both sides agreed to change the name of the layout for "Neonatal Intensive Care Unit (NICU)" to "Neonatal Care Unit (NCU)".

Annex-1 Estimated costs and necessary measures to be taken by the Cambodian side before construction

Annex-2 Estimated costs to be borne by the Cambodian side for staff allocation and maintenance

Annex-3 Estimated costs to be borne by the Japanese side

Annex-4 Soft Component Plan

Estimated costs and necessary measures to be taken by the Cambodian side before construction

Items	Draft Cost Estimation	
	(US$)	Converted amount (thousand JPY)
1) Demolition of Existing Buildings	10,406.00	844
2) Removal of Existing Trees	13,300.00	1,078
3) Backfilling of Soil	63,412,50	5,142
4) Land Preparation	7,500.00	608
5) Relocation of Existing Electricity Line	1,800.00	146
6) Electricity Receiving Fee	4,299.00	349
7) City tap water incoming line to the site	1,450.00	118
8) Sewage line connection fee and connection works	2,713.00	220
8) Relocation and Procurement of Furniture & curtains	72,180.00	5,853
9) Planting of Trees	18,500.00	1,500
10) Banking Commissions	16,105.56	1,306
Total	211,666.06	17,164

Estimated costs to be borne by the Cambodian side for staff allocation and maintenance

(thousand riel)

	2011 result or average from 2008 to 2011	2012	2013	2014	2015	2016	2017	2018
Salary	896,853	968,601	1,046,089	1,129,776	1,220,159	1,638,347	1,818,014	1,963,455
Medicine Expense	177,205	194,926	214,418	235,860	259,446	293,174	331,286	374,354
Food Stuff Expense	*24,151	25,890	27,754	29,752	31,894	34,861	38,103	41,646
Medical Equipment Expenses	*75,153	80,564	86,365	92,583	99,249	108,476	118,568	129,595
Maintenance Expense for ME	10,000	10,000	10,000	10,000	10,000	20,000	20,000	20,000
Maintenance Service Contract	---	---	---	---	---	44,000	44,000	44,000
Maintenance Expense for Building	*32,193	34,511	36,996	39,659	42,515	948,000	45,576	48,857
Utility Charge	*110,314	112,851	115,447	118,102	120,818	240,737	246,274	251,938
Hospital Management Expense	*632,127	677,640	726,430	778,733	834,801	912,438	997.925	1,090,043
Total	1,957,996	2,104,983	2,263,499	2,434,465	2,618,882	4,240,033	2,662,819	3,963,888

**average from 2008 to 2011*

Annex-3

Estimated costs to be borne by the Japanese side

This page is closed due to the confidentiality

Soft Component Plan

(1) Background and purpose

The equipment planned for the Project is mostly basic level, which is selected based on the "Medical Equipment Standard-list for CPA3 Referral Hospital". As for the soft component, training for utilizing the CR (Computed Radiography) system, building the foundation for operation and maintenance for CSD (Central Sterilization Department), and clinical refreshment training for the doctors, nurses and paramedical staff will be included. The backgrounds for considering these trainings are stated below.

1) CR (Computed Radiography) system will be introduced to the Sihanouk-Ville Hospital for the first time. Operating and managing methods for image data by CR system will be different from the traditional system.. Therefore, technical assistance to improve the operating skills as hardware side and enforce the operating and managing system of the equipment will be effective.
2) CSD(Central Sterilization Department) system will be introduced. However, the concept of central control system is not firmly established in Sihanouk-Ville Hospital. Therefore, technical assistance to build the foundation for operating and managing the central sterilization system is necessary.
3) The doctors in Sihanouk-Ville have had the experience to use most of the equipment which will be procured by the Project. However, the necessity to brush up the clinical skills to effectively utilize some of the equipment planned for Emergency surgical care has been pointed out. Therefore, training to provide practical experience through experiencing actual cases of operation and treatment with the guidance by the appropriate trainers will be conducted in the soft component.

(2) Contents of the soft component

1) Training for effective operation and management technique of the CR system
   - maintenance technics for CR system
   - handling of digital X-ray image data
   - image processing of digital X-ray image data
2) Training for CSD system for execution of adequate sterilization management
   - Assistance to build the foundation of Centralization system of sterilization
   - handling materials for sterilization
   - maintenance technics for autoclave
3) Refresh Training for providing high-quality clinical services

- emergency services/operation in OB/GY department
- emergency services/operation in Orthopedic department
- emergency services/operation in Abdominal surgery department

(3) Target person and number of training

1) CR system: several persons of X-ray doctor, X-ray technician, doctors in charge of Clinical services

2) CSD system : several persons of Nurse and related staff in the sterilization department

3) Refresh Training for emergency services/operation

- Doctors of OB/GY : 2 persons
- Doctors of Orthopedic Surgery : 2 person
- Doctors of Abdominal Surgery : 1 person
- Doctors of Anesthesia : 1 person
- Nurses and other paramedical Staff of relational department : 8 persons

(4) Trainer

1) CR system : Japanese Engineer

2) CSD system : Japanese Engineer

3) Refresh training : Specialists from each department in central level hospital

(5) Place of Training

- CR system/CSD system : at Sihanouk hospital
- Refresh training : Central level hospital

PREPARATORY SURVEY
ON
THE PROJECT FOR IMPROVEMENT OF SIHANOUK PROVINCE REFERRAL HOSPITAL
IN
THE KINGDOM OF CAMBODIA

Plan of Technical Assistance (Soft Component)

January 2013

Consortium of
Azusa Sekkei Co., Ltd.
and INTEM Consulting, Inc.

Contents

1. Background of Soft Component

The Project for Improvement of Sihanouk Province Referral Hospital (hereinafter referred to as the Project) in the Kingdom of Cambodia (hereinafter referred to as Cambodia) involves constructing some facilities and improving equipment to improve the current situation of the Sihanouk Province Referral Hospital, the only public hospital in Preah Sihanouk Province in Cambodia, where, due to aging and lack of facilities and equipment, adequate medical service cannot be provided.

Facility construction and equipment improvement will be conducted in the Clinical Division, including the Operation Department, the Radiologic Image Diagnosis Division, the Central Sterilization Department, etc. For items urgently requiring improvement, equipment of the Clinical Laboratory, ENT (Eye, Nose and Throat) Department and the Dental Department will also be improved, where facility development will not be conducted.

The equipment plan of the Project is based on the "Medical Equipment Standard List for Referral Hospital CPA3" [1] ("Standard Equipment List" for hospitals at CPA3 level[2]), as defined by the Ministry of Health (hereinafter referred to as MOH). It covers highly relevant equipment from various perspectives such as the need for and sustainability of the operation and basically has no issues in terms of the operation and maintenance of the equipment to be procured.

However, the equipment list includes some items that will be introduced to the Sihanouk Province Referral Hospital for the first time although the staff members have some experience in using them, and some of the target areas of the Project require the operational systems to be improved. For such items and target areas, the introduction of the following components will facilitate more effective utilization.

1-1. Technical Training in the Computed Radiography (CR) System - Assistance to Improve the Operational System and Training in Operation and Maintenance Techniques -

Concerning the general X-ray equipment included in the requested equipment list, the recipient has requested a digital type. After we considered the appropriateness of the request, we decided to adopt a digital CR system, because digital equipment does not produce waste liquids such as developing solution and therefore has the advantage of reducing environmental burdens. Moreover, the local agent has well-established after-sales service and procuring the necessary consumables for digital X-ray equipment, which is already widely used in Cambodia, is not a problem. Moreover, it was also confirmed that the equipment does not require any particularly difficult operations and existing staff members can tackle the system with the current level of techniques. The CR system is basically a combination of a reader used to digitize X-ray images and a computer. Operating instructions provided by an engineer from the manufacturer or procurement agency at the time of installation will suffice for the operation of this very user-friendly system.

However, a new operational system will have to be established because, unlike the traditional system where image information is distributed as X-ray films, the image information collected as digital data stored in the X-ray room will be shared by all clinical departments through LAN and more effective image information can be obtained by digitally processing the original image data. For these reasons, it is expected that the equipment will be effectively utilized through soft components such as the hospital-wide establishment of operation procedures and an operation structure for digital image information and training in digital processing techniques, in addition

[1] "Medical Equipment Standard List for Referral Hospital CPA3" 1st edition (January 2004)
[2] 3rd leveled hospital among the 1st, 2nd, 3rd leveled hospitals targeted by the guideline, Complementary Package Activity

to operation training provided by the agency, through which sufficient skills for operation procedures and daily inspection and maintenance of the procured equipment will be transferred. It is also expected that, as well as establishing such operational system, re-education on troubleshooting and daily inspection and maintenance, citing examples of issues occurring during actual operation, will ensure that the system will display sufficient capabilities after delivery and be utilized over an extended period.

1-2. Technical Training in the Central Sterilization Department (CSD) – Support to Establish Operational System and Technical Guidance for the Operation and Maintenance Techniques -

Currently in Sihanouk Province Referral Hospital, each division has a compact sterilizer to sterilize medical apparatus. The Cambodian side requested assistance to develop CSD in time with the improvement of the Operation Department and the Emergency Department. Considering these needs, we decided to include a large high-pressure steam sterilizer in the plan. The current Sterilization Department, attached to the Operation Department, has wide experience of using a high-pressure steam sterilizer and does not require training in basic instructions for use. However, as the concept of central control by CSD has not been firmly established hospital-wide, the state of CSD to improve the hospital system must be clarified when implementing the Project to operate the equipment optimally.

1-3.Training in Clinical Techniques (Emergency Operation; Fields of Obstetrics and Gynecology (OB/GY), Abdominal Surgery and Orthopedic Surgery)

Although the healthcare professionals of the hospital received adequate training at school and have basic experience in using the equipment to be provided by the Project, the hospital does not fully function as a CPA3 hospital due to lack of standard equipment, etc. Therefore, it has been decided to introduce new equipment that is listed as standard equipment but has never been introduced so that the hospital will fulfill the expected functions.

Emergency operation is one of the important roles of the top-level referral hospital in the province. It is expected that reinforcing training in healthcare workers, particularly in the fields of obstetrics and gynecology, abdominal surgery and orthopedic surgery, will help healthcare professionals build up their experience, enhance their knowledge and skills and improve the quality of emergency operations, whereupon the hospital will fulfill the functions expected of it as a top-level referral hospital in the province and the equipment in the fields will be utilized more appropriately.

There was no request for soft components at an early stage of the Project. However, for the reasons above, the both Cambodia and Japan sides confirmed the need for a Soft Component, at the time of local survey.

The purpose of the Project has been defined as, "Sihanouk Province Referral Hospital is provided with necessary facility and medical equipment so as to serve as a top referral hospital in the province." It is expected that the improvement of medical infrastructures, such as facilities and equipment made by the Project and the technical training provided as a soft component will improve the medical skills and maintenance and management abilities of the target hospital, which will then contribute to the overall goal,"The quality of the medical services in Preah Sihanouk Province is improved."

2. Objective of Soft Component

2-1. Objective of Soft Component

In addition to the output of soft component, the objective to be achieved through continuous activities of the implementing agencies of the recipient country is as stated below. (To be achieved in three years)

"The service system will be improved to serve as a top referral hospital in the province"

3. Output of Soft Component

The outputs to be achieved at the completion of the soft components are as follows:

I. Technical Training in the CR System

The following will be achieved by discussing with the administrative department and the departments involved with the CR system and by providing technical training to X-ray technicians, medical doctors and MEM-WG[3] of the clinical departments.

I-① Basic knowledge of the procured equipment will be acquired and an adequate operational system for the CR system will be established.

I-② The quality of the X-ray diagnostic images will be improved if the image processing techniques are learned.

II. Technical Training in CSD

The following will be achieved by discussing with administrative departments, those related to CSD and providing technical training to healthcare professionals related to CSD and MEM-WG at the target hospital:

II-① A CSD operational system will be established.

II-② Operation and maintenance techniques for the procured equipment will be established.

III. Training in Clinical Techniques (Emergency Operation; the fields of OB/GY, Abdominal surgery and Orthopedic Surgery)

The following will be achieved by providing refresher training in clinical technique to relevant staff in the fields of Emergency Operation.

III-① The knowledge and skills in Emergency Operation (Fields of OBGY, Abdominal Surgery and Orthopedic Surgery) will be consolidated at the target hospital

4. Method for Confirming the Degrees of Achievement of Outputs

Achievement of the soft components will be confirmed as follows:

[3] The Working Group that is in charge of Medical Equipment Maintenance and Management: MEM-WG)

Table Method of Confirming Achievements

Output		Method of Confirming Achievements
I Technical Training for the CR System	① Basic knowledge of the procured equipment will be understood and the operational system for the CR system will be established.	Documents such as an operational system chart and operation manual will be created. The server access status in each department will be checked.
	② Accurate X-ray diagnostic images will be available through image processing.	Skills will be evaluated before and after technical training is provided and the level of understanding will be checked.
	③ Methods of operating, maintaining and managing the procured equipment will be established	Manuals for the procured equipment will be added to the existing maintenance system. Skills will be evaluated before and after the technical training is implemented to check the level of understanding.
II Technical Training in CSD	① The CSD operational system will be established.	Opinions of hospital workers will be collected and documents such as an operational system chart and operation manual will be created. Establishment of the flow of sterilization materials will be confirmed (by checking actual condition, questionnaire, etc.).
	② Operation and maintenance techniques for the procured equipment will be improved.	Manuals for the procured equipment will be added to the existing maintenance system. Skills will be evaluated before and after the technical training is implemented to check the level of understanding.
III Training in Clinical Techniques (Fields of OB/GY, Abdominal Surgery and Orthopedic Surgery)	Experience in Emergency Operation will be accumulated in the target fields and clinical technique will be improved.	The actual number of Emergency Operation cases that the participants attend during the clinical training will be checked.

5. Activities of Soft Component (Input Plan)

Activities to achieve each output (Input Plan) are as follows:

(1) Lecturers

- Consultant for the CR system technical training(Japanese): 1 person
- Consultant for the CSD technical training(Japanese): 1 person
- Consultant for training in Clinical Techniques (Japanese medical doctor): 1 person
- Consultant for training in Clinical Techniques for OB/GY (Cambodian medical doctor):3 person
- Consultant for training in Clinical Techniques for Abdominal Surgery (Cambodian medical doctor):2 persons
- Consultant for training in Clinical Techniques for the Orthopedic Surgery (Cambodian medical doctor): 2 persons
- Consultant for training in Clinical Techniques for Anesthetist (Cambodian medical doctor): 1 person
- Consultant for training in Clinical Techniques for paramedical (Cambodian medical doctor): 5 persons

- Consultant for technical training planning　1 (Japanese)*1:　1 person
- Consultant for technical training planning　2 (Cambodian)*1:　1 person

*1 As providing the training efficiently will require elaborate preparations such as development of a technical training plan, meetings with MOH, the target hospital, other related organizations etc., arrangement of venues, arrangement of transportation and scheduling, a Consultant for "Technical Training Planning (Japanese and Cambodian)" shall be assigned to conduct such operations.

(2) Plan of Operation

The details of the operations (① Preparation in Japan, ② Discussion in Cambodia, ③ Training in Cambodia and ④ Work in Japan) are as follows:

① Preparation in Japan

Create the draft materials necessary for each technical guidance. The number of days required for this preparatory work in Japan shall be 5 days for Consultant for training in Clinical Techniques (Japanese medical doctor), 3 days for Consultant for the CR system technical training (Japanese), 3 days for Consultant for CSD technical training (Japanese) and 10 days for a Consultant for technical training planning 1 respectively.

② Discussion in Cambodia

To provide training efficiently and maintain its effect, it is crucial to engage in multiple discussions with MOH, the Sihanouk Province Referral Hospital and other relevant parties for joint development of training materials and joint provision of training. We must also consider the time required for translation because the training materials will have to be translated into Khmer. Therefore, a total of 2 persons, 1 Consultant for training in Clinical Techniques (Japanese medical doctor) and 1 Consultant for Technical training planning (Japanese) 1, shall be dispatched to Cambodia to meet with MOH, the Sihanouk Province Referral Hospital, Provincial Health Department and the Cambodian lecturers before providing the technical guidance. The venue will be the MOH office, located in Phnom Penh and the Sihanouk Province Referral Hospital. The period will be a total of 8 days (4 days for travel,4 for discussion) for the Consultant for training in Clinical Techniques (Japanese medical doctor) and 10 days (4 days for travel, 8 for discussion) for Consultant for technical training planning 1 (Japanese), as he/she will continuously discuss Technical Training for the CR System and Technical Training.

③ Training in Cambodia

Table Plan of Operation

Output		Plan of Operation		
		Lecturer	Outline of Training	Trainee
I Technical Training for the CR System	① The basic knowledge of procured equipment will be understood and the CR system operation structure will be established.	Consultant for the CR system technical training	· Operation principles · Confirmation of intended uses etc. · Support to establish the CR operation system · Others	Radiologic technicians, medical doctors conducting diagnostic readings of X-ray films, MEM-WG etc.
	② Accurate X-ray diagnostic images will be available through image processing.		· Image processing practice for each dept., etc.	
	③ Methods of maintaining procured equipment will be learned		· Methods of inspecting and maintaining procured equipment · Development of a maintenance and management plan, detection of faulty parts, how to tackle failures, troubleshooting techniques etc.	
II Technical Training in CSD	① The CSD operation system will be improved.	Consultant for the CSD technical training	· Support to establish the CSD operational system etc.	Healthcare professionals of CSD, MEM-WG etc.
	② Operation and management techniques for procured equipment will be improved.		· Technical guidance on operation, management using procured equipment etc. · Development of a maintenance and management plan, detection of faulty parts, how to tackle failures, troubleshooting techniques etc.	
III Training in Clinical Techniques (Fields of OB/GY, Abdominal Surgery and Orthopedic Surgery)	Experience in Emergency Operations will be accumulated in the target fields and the clinical knowledge and skill regarding the procured equipment will be reinforced	Clinical Technical Consultant for the each fields	· Practical training in Emergency Operation at a central level hospital or else a. OBGY. b. Obstetric Surgery c. Orthopedic Surgery d. Anesthesia e. Paramedical	Medical doctors, nurses, paramedical etc. in the target fields

Technical training for the CR system and Technical training in CSD shall be conducted at a meeting room of the Sihanouk Province Referral Hospital and at the equipment locations. Practical training will be provided using the procured equipment immediately after the equipment has been procured with a grant aid. The trainees shall include radiologic technicians, medical doctors conducting diagnostic readings of X-ray films, and medical equipment maintenance technicians in charge of maintaining and managing the equipment. Trainees of the technical training for the CR system shall be radiology technicians and those who read X-ray films such as medical doctors and MEM-WG members. The number of trainees is expected to be around 15, including 2-3 staff members of the radiology department, staff members of the departments where the CR system clients will be installed (2-3 members from each of the department of obstetrics and gynecology, the pediatric department and the department of surgery) and 2-3 members of the MEM-WG. Trainees of the technical training in CSD shall be 2-3 healthcare professionals of the CSD department and 2-3 members of the MEM-WG, a total of around 5. The consultant for technical training

planning shall be a Cambodian sent from Phnom Penh.

Regarding "Clinical Technique Training (Emergency Operation, OB/GY, Fields of Abdominal Surgery and Orthopedic Surgery)", there are plans to have trainees participate in the clinical service, such as actual operations at a central level hospital, to gain experience. The detailed content, such as targeted persons, duration and so on is shown on the following chart. However, the actual content and schedule will be fixed at the time of implementation.

It is expected to be difficult to coordinate the schedule of the lecturers of all areas and hold all training courses consecutively. The number of days of training should be finalized according to the result of the first dispatch, "prior consultation, and joint development of curricula and training materials".

The consultant for technical training planning will travel to Cambodia for each training course, because it is expected to be difficult to coordinate the schedule of the lecturers in all areas and hold all training courses consecutively.

The basic plan is to allocate a Consultant for technical training planning 2 (Cambodian) to each training management session.

Table Targeted person, duration and number of trainees

Training in Clinical Technique		Duration	Number of Trainees	Number of Trainers
OBGY doctor		1 month	2	3
Abdominal Surgeon		2 month	1	2
Orthopedic Surgeon		2 month	2	2
Anesthetist		15 days	1	1
Paramedical	Anesthesia nurse	15 days	1	1
	Operation Theater nurse	15 days	3	1
	ICU nurse	15 days	2	1
	Radiology doctor	15 days	1	1
	Radiology technician	15 days	1	1

The expected period of dispatch for each training session is as below. The number of days of training should be finalized according to the result of the discussion with MOH during ②"Discussion in Cambodia".

I. Technical training for the CR system

- Consultant for the CR system technical training 1 person
  A total of 10 days (4 for travel and 6 for training)
- Consultant for technical training planning 2 (Cambodian) 1 person
  A total of 8 days (2 for travel and 6 for training)

II. Technical training for the CSD system

- Consultant for the CSD technical training 1 person
  A total of 10 days (4 for travel and 6 for training)
- Consultant for technical training planning 2 (Cambodian) 1 person
  A total of 8 days (2 for travel and 6 for training)

III. Clinical Technique Training (at Central leveled hospital, etc)

Pre-training discussion

- Consultant for technical training planning 1 (Japanese) 1 person

  A total of 6 days (3 for travel and 3 days of discussion in Phnom Penh)

Clinical Technique Training

a. OBGY

- Consultant for training in Clinical Techniques for OBGY (Cambodian) 3 persons

  A total of 150 days (3 persons x 1 month (25 days/month) x 2 courses)

- Consultant for technical training planning 2 (Cambodian) 1 person

  A total of 20 days

b. Department of Abdominal Surgery

- Consultant for training in Clinical Techniques for Abdominal Surgery (Cambodian) 2 persons

  A total of 100 days (2 persons x 2 months (25 days/month) x 1 course)

- Consultant for technical training planning 2 (Cambodian) 2 persons

  A total of 42 days

c. Orthopedic Surgery

- Consultant for training in Clinical Techniques for the Orthopedic Surgery

  A total of 200 days (2 persons x 2 months (25 days/month) x 2 courses) 2 persons

- Consultant for technical training planning 2 (Cambodian) 1 person

  A total of 40 days

d. Anesthesia

- Consultant for training in Clinical Techniques for Anesthesia (Cambodian) 1 persons

  A total of 15 days (1 person x 15 days)

- Consultant for technical training planning2 (Cambodian) 1 persons

  A total of 15 days

e. Paramedical

- Consultant for training in paramedical (Cambodian nurse, etc.) 5 persons

  A total of 120 days (15 days x 8 courses)

- Consultant for technical training planning 2 (Cambodian) 1 persons

  A total of 120 days

Final report in Cambodia

- Consultant for technical training planning 1 (Japanese) 1 person

  A total of 7 days (3 for travel and 4 days for final report)

As a basic rule, the Consultant for Technical Training Planning 2 (Cambodian) shall be used to implement the training. However, as final coordination with hospitals that will accept trainees, the Ministry of Health, Sihanouk Province Referral Hospital, etc. will be required for training in clinical techniques, a Consultant for Technical Training Planning 1 (Japanese) shall be dispatched immediately before the training is implemented to carry out coordination to ensure training is conducted properly at each hospital and achievement of the planned output is ensured. As the training in clinical techniques is expected to be provided in Khmer, the Consultant for Technical Training Planning 2 (Cambodian) shall normally attend the trainees and Technical Training Planning 1 (Japanese) shall return to Japan as soon as the coordination is completed. As a completion report to the Ministry of Health has to be made when training is completed, Technical Training Planning 1 (Japanese) shall be dispatched again, immediately prior to the completion of the technical training, to collect reporting materials from the technical training instructors and compile the completion report.

④ Work in Japan:

Summarize the results of technical training etc., and the Interim Report, Implementation Report and Completion Report created. The number of days required for the work in Japan shall be 3 for one Japanese consultant engaged in technical training planning.

6. Method for Procuring Implementation Resources of Soft Component

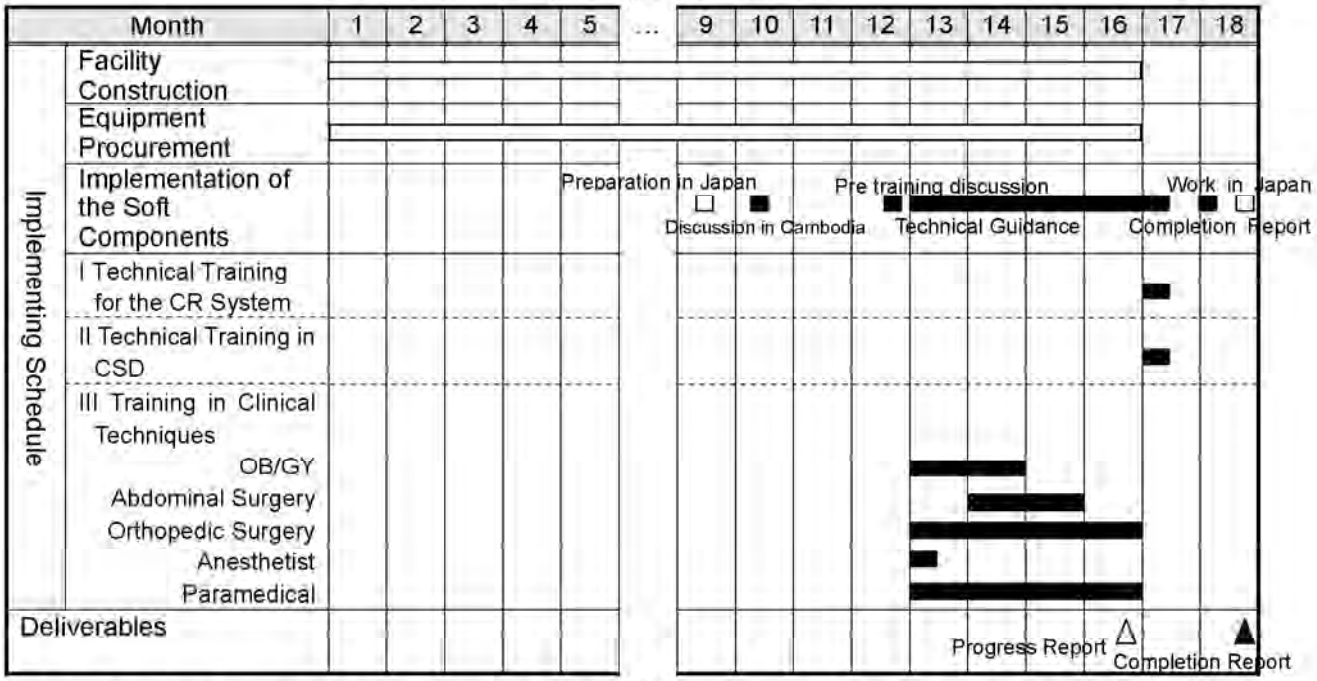
To implement the soft component, Japanese consultants with specific professional knowledge of the equipment procured in the Project shall oversee "CR System Technical Training" and "CSD Technical Training".

Regarding the "Training in Clinical Techniques", as the training will be provided at central leveled hospitals etc., we have agreed with the Ministry of Health of Cambodia that the training will be provided by Cambodian medical doctors, nurses, etc. with sufficient experience in emergency operations, etc., and sufficient technical capabilities to provide training while the consultant for training in Clinical Techniques (Japanese medical doctor) will oversee development of the training implementation plan, discussion with local organizations, curriculum development, etc.

7. Implementing Schedule of Soft Component

The (proposed) implementing schedule at this stage is as follows. The final implementing schedule will be determined after considering the schedule of the Cambodian side and each consultant for technical training.

Table (Proposed) Overall Schedule



* As there are plans to provide training in clinical techniques at central leveled hospitals, etc. in Phnom Penh, this need not start after the equipment is delivered. As it is desirable for the system to be already established in the hospital at the time of delivery, training in clinical techniques shall be started before the delivery of the equipment.

8. Deliverable of Soft Component

Other than the completion report to the client and the Japanese side, the following documents will be deliverables of the soft components:

Table Deliverable of Soft Component

Training Contents		Deliverables
I Technical Training for the CR System	① Confirmation of basic knowledge of the CR system and support for establishing an operational system	Implementation Report of the Training in Equipment Techniques ・ Teaching materials ・ Operation manual ・ Instructor's report ・ Result of questionnaire conducted on participants, etc.
	② Training in image processing techniques	
	③ Training in techniques to operate and manage the procured equipment	
II Technical Training in CSD	① Support to develop an operational system for CSD	
	② Training in techniques to operate and manage the procured equipment	
III Training in Clinical Techniques	Practical training in emergency operations in target fields a. Department of obstetrics and gynecology b. Department of abdominal surgery c. Department of orthopedic surgery d. Anesthesia e. Paramedical	Report on Training in Clinical Techniques ・ Teaching materials ・ Operation record ・ Instructor's report ・ Result of questionnaire conducted on participants, etc.

9. Responsibility of the Implementing Agencies of the Recipient Country

Those involved in this plan in MOH, the Sihanouk Province Referral Hospital and the provincial health department must select consultants for technical training (Cambodian medical doctors) and trainees and ensure they participate in the technical training, as well as coordinating the schedule of the technical training and providing the receiving hospital. Those in charge of the national workshop team, which is responsible for maintaining and managing medical equipment in MOH, must also encourage participation in the training and strive to develop an operational system based on the acquired techniques, continue to provide similar training and retain the effect and improve techniques so that the procured equipment will be properly operated for an extended period.

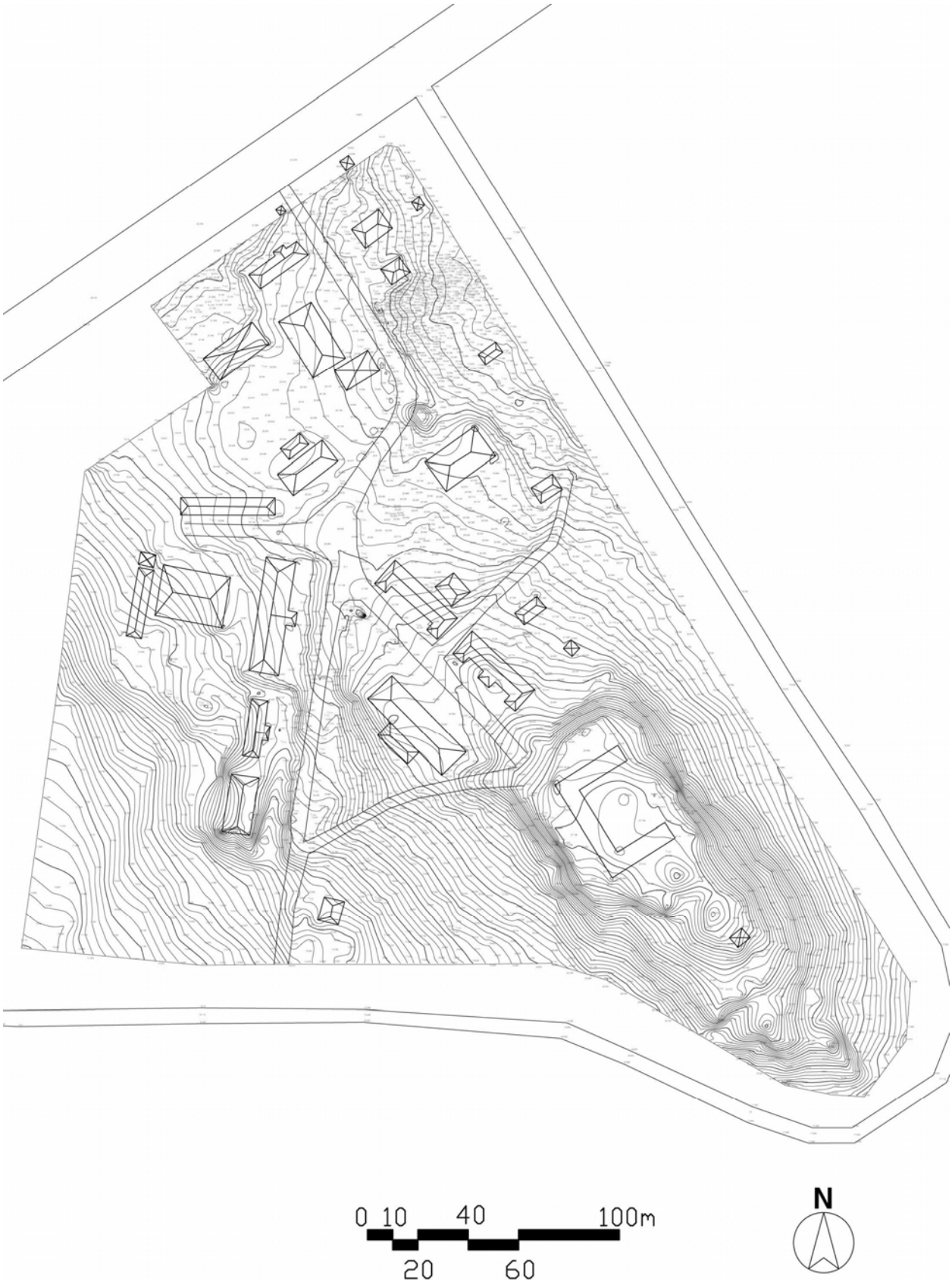
6. Other Relevant Data

Project Title : THE PROJECT FOR IMPROVEMENT OF SHIHANOUK PROVINCE REFERRAL HOSPITAL IN THE KINGDOM OF CAMBODIA

No.	Title	Issuing Institution	Issued year
1	Health Strategic Plan 2008-2015 Accounting Efficiency Quality Equity	Ministry of Health	2008
2	Health Sector Progress in 2010	Ministry of Health	2011
3	Health Sector Progress in 2011	Ministry of Health	2012
4	Health Sector Progress in 2011 (Khmer)	Ministry of Health	2012
5	Technical Guidelines on Healthcare Waste Management	Ministry of Health	2011
6			
7	General Population Census of Cambodia 2008 Provisional Population Totals	UNFPA, JICA, Government of Japan, Government of Germany	2008
8	Budget Management 2012 for the Referral Hospital (Khmer)	PHD, Ministry of Health	2011
9	Cost of Fee for Referral Hospital Treatment Sihanouk-Ville Referral Hospital	PHD, Ministry of Health	2011
10	Yearly Statistics of Sihanouk-Ville Referral Hospital 2009, 2010, 2011, 2012(6 months) (Khmer)	PHD	---
11	Statistics 2010-2012 Sihanouk-Ville Provincial Health Department (Khmer)	PHD	2012
12	Health Strategic Plan Health Strategic Plan 2008-2015	PHD	2012

7. References

7-1 Topographic Map of the Site



7-2 Boring Data of the Site

(1) Bore Hole Point BH-1

Figure 2.1 : BORING LOG AND STANDARD PENETRATION TEST RESULT

BOREHOLE: **BH1**

Project Name: SIHANOUK PROVINCE REFERRAL HOSPITAL

Project Location: PHUM 1, SANGKAT 4, KHAN MITTAPHEAP, SIHANOUK VILLE

Coordinate:
X = 1173582.813
Y = 339064.413

Elevation: 18.373 m
- Assumed: ☐
- Measured: ☑

Ground water:
- Dynamic level ▽ :
- Static level ▼ : 6.6 m

Depth of borehole: 10.0 m

Weather: Sunny and rainy

Start date: 01/09/2012

End date: 01/09/2012

Depth (m)	LAYER: Bottom elevation (m) / Bottom depth (m)	LAYER: Thickness of layer (m)	LAYER: Layer No.	Soil sample symbol	Soil description and classification	SAMPLE TYPE	N value	SPT Graph
0	18.37				Ground surface			
0	0.00	2.0	1a		**(GC)s** Clayey LATERITE GRAVEL with sand, reddish brown, dense	UD1 (1.0 - 1.45m)		
1						SPT1 (1.45 - 1.9m)	14/17/19 (36)	36
2	16.37					SPT2 (2.0 - 2.45m)	13/15/18 (33)	33
2	2.00					UD2 (2.5 - 2.9m)		
3						SPT3 (3.0 - 3.45m)	11/15/15 (30)	30
3						UD3 (3.5 - 3.8m)		
4						SPT4 (4.0 - 4.45m)	07/12/14 (26)	26
4						UD4 (4.5 - 4.9m)		
5						SPT5 (5.0 - 5.45m)	07/07/08 (15)	15
5						UD5 (5.5 - 5.9m)		
6		>8.0	2		**s(CH)-s(CL)** Sandy lean CLAY - Sandy fat CLAY, reddish brown, stiff to hard	SPT6 (6.0 - 6.45m)	06/06/08 (14)	14
6						UD6 (6.5 - 6.9m)		
7						SPT7 (7.0 - 7.45m)	08/10/12 (22)	22
7						UD7 (7.5 - 7.9m)		
8						SPT8 (8.0 - 8.45m)	09/12/14 (26)	26
8						UD8 (8.5 - 8.9m)		
9						SPT9 (9.0 - 9.45m)	08/11/13 (24)	24
9						UD9 (9.6 - 10.0m)		
10	8.37							
10	10.00				Bottom of borehole at 10.0m			
11								
12								

STL PHNOM PENH-CAMBODIA

Equipment: XY-1

Borehole diameter: D = 110 BH1

Drilling method: Rotary drilling with bentonite flushing

Logged by: Chan Choul

Compiled by:

Sheet: 1 of 1

(2) Bore Hole Point BH-2

Figure 2.2 : BORING LOG AND STANDARD PENETRATION TEST RESULT

BOREHOLE: **BH2**

Project Name: SIHANOUK PROVINCE REFERRAL HOSPITAL
Project Location: PHUM 1, SANGKAT 4, KHAN MITTAPHEAP, SIHANOUK VILLE
Coordinate:
X = 1173521.967
Y = 339046.737
Elevation: 20.427 m
- Assumed: ☐
- Measured: ☑
Ground water:
- Dynamic level ▽ :
- Static level ▼ : 7.8 m
Depth of borehole: 10.0 m
Weather: Sunny and rainy
Start date: 30/08/2012
End date: 30/08/2012

Depth (m)	LAYER: Bottom elevation (m) / Bottom depth (m)	LAYER: Thickness of layer (m)	LAYER: Layer No.	Soil sample symbol	Soil description and classification	SAMPLE TYPE	SPT: N value	SPT: SPT Graph
0	20.43 / 0.00				Ground surface			
1		2.0	1a		**(GC)s** Clayey LATERITE GRAVEL with sand, reddish brown, medium dense	SPT1 (1.0 - 1.45m)	04/06/12 (18)	18
2	18.23 / 2.20					UD1 (1.5 - 1.9m)		
						SPT2 (2.0 - 2.45m)	08/11/13 (24)	24
						UD2 (2.5 - 2.9m)		
3						SPT3 (3.0 - 3.45m)	06/07/10 (17)	17
						UD3 (3.5 - 3.9m)		
4						SPT4 (4.0 - 4.45m)	06/08/11 (19)	19
						UD4 (4.5 - 4.9m)		
5		5.6	2		**s(CH)-s(CL)** Sandy lean CLAY - Sandy fat CLAY, reddish brown, very stiff to hard	SPT5 (5.0 - 5.45m)	07/10/13 (23)	23
						UD5 (5.5 - 5.9m)		
6						SPT6 (6.0 - 6.45m)	11/17/19 (36)	36
						UD6 (6.5 - 6.9m)		
7	12.73					SPT7 (7.0 - 7.45m)	14/17/21 (38)	38
						UD7 (7.5 - 7.8m)		
8	11.73	0.9	3b		**SILTY SAND** Silty SAND, yellowish brown, very dense	SPT8 (8.0 - 8.30m)	50/(30cm) (>50)	>50
						UD8 (8.3 - 8.6m)		
9	8.70	>1.3	4		**SANDSTONE** SANDSTONE, yellowish brown, very dense TCR = 34% RQD = 0%			
10	10.43 / 10.00				Bottom of borehole at 10.0m	UD9 (9.7 - 10.0m)		
11								
12								

Equipment: XY-1
Borehole diameter: D = 110 BH2
Drilling method: Rotary drilling with bentonite flushing

Logged by: Chan Choul
Compiled by:
Sheet: 1 of 1

(3) Bore Hole Point BH-3

Figure 2.3 : BORING LOG AND STANDARD PENETRATION TEST RESULT

BOREHOLE: **BH3**

Project Name: SIHANOUK PROVINCE REFERRAL HOSPITAL

Project Location: PHUM 1, SANGKAT 4, KHAN MITTAPHEAP, SIHANOUK VILLE

Coordinate:
X = 1173491.989
Y = 339080.064

Elevation: 21.598 m
- Assumed: ☐
- Measured: ☑

Ground water:
- Dynamic level ▽ :
- Static level ▼ : 7.8 m

Depth of borehole: 10.0 m

Weather: Sunny and rainy

Start date: 31/08/2012

End date: 31/08/2012

Depth (m)	Bottom elevation (m) / Bottom depth (m)	Thickness of layer (m)	Layer No.	Soil description and classification	SAMPLE TYPE	N value	SPT Graph
0	21.60 / 0.00			Ground surface			
		1.4	1a	**(GC)s** Clayey LATERITE GRAVEL with sand, reddish brown, dense	SPT1 (1.0 - 1.2m)	50/(20cm) (>50)	>50
1	20.20 / 1.40				UD1 (1.5 - 1.9m)		
		1.0	1b	**SC** Clayey SAND, reddish brown, medium dense	SPT2 (2.0 - 2.45m)	09/12/16 (28)	28
2	19.20 / 2.40				UD2 (2.5 - 2.8m)		
					SPT3 (3.0 - 3.45m)	06/10/12 (22)	22
3					UD3 (3.5 - 3.9m)		
				s(CH)-s(CL) Sandy lean CLAY - Sandy fat CLAY, reddish brown, very stiff to hard	SPT4 (4.0 - 4.45m)	06/11/14 (25)	25
4					UD4 (4.5 - 4.9m)		
		5.2	2		SPT5 (5.0 - 5.45m)	07/11/16 (27)	27
5					UD5 (5.5 - 5.8m)		
	15.70 / 5.90						
6	15.40 / 6.20			Laterite GRAVEL	SPT6 (6.0 - 6.45m)	50/(41cm) (>50)	>50
				s(CH)-s(CL) Sandy lean CLAY - Sandy fat CLAY, reddish brown, hard	UD6 (6.5 - 6.9m)		
7	14.00 / 7.60				SPT7 (7.0 - 7.45m)	50/(35cm) (>50)	>50
					UD7 (7.5 - 7.9m)		
8					SPT8 (8.0 - 8.45m)	50/(30cm) (>50)	>50
					UD8 (8.5 - 8.9m)		
9		>2.4	3a	**CLAY** CLAY, grey, hard	SPT9 (9.0 - 9.45m)	50/(37cm) (>50)	>50
					UD9 (9.6 - 10.0m)		
10	11.60 / 10.00			Bottom of borehole at 10.0m			
11							
12							

Undisturbed ▮ Disturbed ▮ SPT ⊠

STL

Equipment: XY-1

Borehole diameter: D = 110 BH3

Drilling method: Rotary drilling with bentonite flushing

Logged by: Chan Choul

Compiled by:

Sheet: 1 of 1

(4) Bore Hole Point BH-4

Figure 2.4 : BORING LOG AND STANDARD PENETRATION TEST RESULT

BOREHOLE: **BH4**

Project Name: SIHANOUK PROVINCE REFERRAL HOSPITAL

Project Location: PHUM 1, SANGKAT 4, KHAN MITTAPHEAP, SIHANOUK VILLE

Coordinate:
X = 1173521.576
Y = 339103.398

Elevation: 19.664 m
- Assumed: ☐
- Measured: ☑

Ground water:
- Dynamic level ▽ :
- Static level ▼ : 6.9 m

Depth of borehole: 10.0 m

Weather: Sunny and rainy

Start date: 31/08/2012

End date: 31/08/2012

Depth (m)	LAYER: Bottom elevation (m) / Bottom depth (m)	LAYER: Thickness of layer (m)	LAYER: Layer No.	Soil sample symbol	Soil description and classification	SAMPLE TYPE	SPT: N value	SPT: SPT Graph
0	19.66 / 0.00				Ground surface			
1					**s(CH)-s(CL)** Sandy lean CLAY - Sandy fat CLAY, yellowish brown - reddish brown - light yellow, stiff to hard	UD1 (1.0 - 1.45m)		
2						SPT1 (1.45 - 1.9m)	05/07/08 (15)	15
3						SPT2 (2.0 - 2.45m)	06/08/09 (17)	17
4						UD2 (2.5 - 2.9m)		
5		>10.0	2			SPT3 (3.0 - 3.45m)	05/07/07 (14)	14
6						UD3 (3.5 - 3.9m)		
7	▼					SPT4 (4.0 - 4.45m)	06/06/07 (13)	13
8						UD4 (4.5 - 4.9m)		
9						SPT5 (5.0 - 5.45m)	07/11/13 (24)	24
10	9.66 / 10.00				Bottom of borehole at 10.0m	UD5 (5.5 - 5.9m)		
11						SPT6 (6.0 - 6.45m)	06/10/12 (22)	22
12						UD6 (6.5 - 6.9m)		
						SPT7 (7.0 - 7.45m)	13/16/20 (36)	36
						UD7 (7.5 - 7.9m)		
						SPT8 (8.0 - 8.45m)	14/17/22 (39)	39
						UD8 (8.5 - 8.9m)		
						SPT9 (9.0 - 9.45m)	50/(33cm) (>50)	>50
						UD9 (9.6 - 10.0m)		

STL PHNOM PENH-CAMBODIA

Equipment: XY-1

Borehole diameter: D = 110 BH4

Drilling method: Rotary drilling with bentonite flushing

Logged by: Chan Choul

Compiled by:

Sheet: 1 of 1

7-3 Water Quality Survey Result

(1) Well Water

ព្រះរាជាណាចក្រកម្ពុជា
ជាតិ សាសនា ព្រះមហាក្សត្រ
Kingdom of Cambodia
Nation Religion King

ក្រសួងបរិស្ថាន
នាយកដ្ឋានត្រួតពិនិត្យការបំពុលបរិស្ថាន
ការិយាល័យពិសោធន៍ និង វិភាគ
Ministry of Environment
Department of Pollution Control
Laboratory Office

លេខ /N°:......៤៥....ពសវ.វភ..

ព្រឹត្តិបត្រលទ្ធផលវិភាគ
Analysis Report

ប្រភពសំណាក/Sample Source: ក្រុមហ៊ុន S.O.M Corporation
ថ្ងៃ ខែ ឆ្នាំទទួលសំណាក/ Date: 27/08/2012
ប្រភេទសំណាក/Sample Type: Ground Water (Well Water) ,The Construction for Sihanouk Ville Hospital.

ល.រ No	ប៉ារ៉ាម៉ែត្រ Parameter	ខ្នាត Unit	លទ្ធផល Result	ស្តង់ដារ MIME.DWQS	វិធីសាស្ត្រវិភាគ/ឧបករណ៍ Method/Equipment
1	pH	-	6.90	6.5 – 8.5	MAJI Meter
2	Temperature (Water)	°C	22.00	-	Thermometer
3	Electric Conductivity (EC)	μs/cm	109.00	-	MAJI Meter
4	Turbidity	NTU	0.00	5.0	Digital Turbidimeter
5	Color	mg/l Pt	0.00	5.0	Photometer
6	Total Hardness	mg/l	9.89	300	Method Titration
7	Nitrite (NO2)	mg/l	ND< 0.10	3.0	ICS-90 Ion Chromatography
8	Nitrate (NO3)	mg/l	24.81	50.0	ICS-90 Ion Chromatography
9	Sulphate (SO4)	mg/l	ND< 0.10	250	ICS-90 Ion Chromatography
10	Fluoride (F)	mg/l	0.19	1.5	ICS-90 Ion Chromatography
11	Chloride (Cl)	mg/l	25.30	250.0	ICS-90 Ion Chromatography
12	Phosphate (PO_4^{3-})	mg/l	ND< 0.10		ICS-90 Ion Chromatography
13	Ammonium (NH_4^+)	mg/l	0.08	-	Photometer
14	Sulphide (S)	mg/l	0.07	-	Photometer
15	Chemical Oxygen Demand (COD)Mn	mg/l	1.17	-	Method JIS K0102
16	Total Phosphorus (TP)	mg/l	0.00	-	Method JIS K 0102 46
17	Arsenic (As)	mg/l	ND< 0.0001	0.05	Method 3500-As D
18	Chromium (Cr^{6+})	mg/l	ND< 0.005	-	Method 3500-Cr C
19	Copper (Cu)	mg/l	ND< 0.0003	1.0	Method 3500-Cu C
20	Iron (Fe)	mg/l	0.08	0.3	Method 3500-Fe C
21	Manganese (Mn)	mg/l	0.003	0.1	Method 3500-Mn C
22	Zinc (Zn)	mg/l	0.004	3.0	Method 3500-Zn C
23	Coliform group	CFU/100 ml	0	0	Method NF T90-413
24	Total Colony	CFU/100 ml	95	0	Method NF T 90-421

Note: 1- ការយកសំណាក ការរក្សាទុក និងការដឹកជញ្ជូនសំណាកទឹកមកមន្ទីរពិសោធន៍(គំរោង)ក្រុមហ៊ុនអនុវត្តដោយខ្លួនឯង.

ចេញអោយនៅ ថ្ងៃទី ០៤ ខែ កញ្ញា ឆ្នាំ២០១២
ប្រធានការិយាល័យ
Date of Issue:
Laboratory Chief

សេក_វឌ្ឍ

បានឃើញនៅ ថ្ងៃទី ០៤ ខែ កញ្ញា ឆ្នាំ២០១២
ប្រធាននាយកដ្ឋាន
Was seen on date:
Director Department

សោម-ណារ៉េត

លេខ ៤៨ ព្រះសីហនុ ខណ្ឌចំការមន ភ្នំពេញ ទូរស័ព្ទលេខ: ០២៣ ២១០ ៤៩២

(2) Tap Water

ព្រះរាជាណាចក្រកម្ពុជា
ជាតិ សាសនា ព្រះមហាក្សត្រ

Kingdom of Cambodia
Nation Religion King

ក្រសួងបរិស្ថាន
នាយកដ្ឋានត្រួតពិនិត្យការបំពុលបរិស្ថាន
ការិយាល័យពិសោធន៍ និង និតាគ

Ministry of Environment
Department of Pollution Control
Laboratory Office

លេខ /N°/.....

ព្រឹត្តិបត្រលទ្ធផលវិភាគ

Analysis Report

ប្រភពសំណាក/Sample Source: ក្រុមហ៊ុន S.O.M Corporation
ថ្ងៃ ខែ ឆ្នាំទទួលសំណាក/ Date: 27/08/2012
ប្រភេទសំណាក/Sample Type: Tap Water (From Water Supply) ,The Construction for Sihanouk Ville Hospital.

លេខ No	ប៉ារ៉ាម៉ែត្រ Parameter	ខ្នាត Unit	លទ្ធផល Result	ស្តង់ដារ MIME.DWQS	វិធីសាស្ត្រ/ឧបករណ៍ Method/Equipment
1	pH	-	7.00	6.5 – 8.5	MAJI Meter
2	Temperature (Water)	°C	21.90	-	Thermometer
3	Electric Conductivity (EC)	µS/cm	44.00	-	MAJI Meter
4	Turbidity	NTU	0.00	5.0	Digital Turbidimeter
5	Color	mg/l Pt	20.00	5.0	Photometer
6	Total Hardness	mg/l	19.75	300	Method Titration
7	Nitrite (NO2)	mg/l	ND< 0.10	3.0	ICS-90 Ion Chromatography
8	Nitrate (NO3)	mg/l	3.26	50.0	ICS-90 Ion Chromatography
9	Sulphate (SO4)	mg/l	ND< 0.10	250	ICS-90 Ion Chromatography
10	Fluoride (F)	mg/l	0.11	1.5	ICS-90 Ion Chromatography
11	Chloride (Cl)	mg/l	10.80	250.0	ICS-90 Ion Chromatography
12	Phosphate (PO_4^{3-})	mg/l	ND< 0.10	-	ICS-90 Ion Chromatography
13	Ammonium (NH_3^-)	mg/l	0.00	-	Photometer
14	Sulphide (S)	mg/l	0.04	-	Photometer
15	Chemical Oxygen Demand (COD)Mn	mg/l	1.56	-	Method JIS K0102
16	Total Phosphorus (TP)	mg/l	0.16	-	Method JIS K 0102 46
17	Arsenic (As)	mg/l	ND< 0.0001	0.05	Method 3500-As D
18	Chromium (Cr^{6+})	mg/l	ND< 0.005	-	Method 3500-Cr C
19	Copper (Cu)	mg/l	ND< 0.0003	1.0	Method 3500-Cu C
20	Iron (Fe)	mg/l	0.28	0.3	Method 3500-Fe C
21	Manganese (Mn)	mg/l	0.02	0.1	Method 3500-Mn C
22	Zinc (Zn)	mg/l	0.01	3.0	Method 3500-Zn C
23	Coliform group	CFU/100 ml	0	0	Method NF T90-413
24	Total Colony	CFU/100 ml	60	0	Method NF T 90-421

Note: I- ការយកសំណាក ការរក្សាទុក និងការដឹកជញ្ជូនសំណាកទឹកមកមន្ទីពិសោធន៍(តំរោង)ក្រុមហ៊ុនអនុវត្តដោយខ្លួនឯង.

ចេញអោយនៅ ថ្ងៃទី ០៤ ខែ ឆ្នាំ២០១២

ប្រធានការិយាល័យ

Date of Issue:
Laboratory Chief

ឈេក-រដ្ឋ

បានឃើញនៅ ថ្ងៃទី ០៤ ខែ ឆ្នាំ២០១២

ប្រធាននាយកដ្ឋាន

Was seen on date:
Director Department

អេខ-ណារ៉ាត