

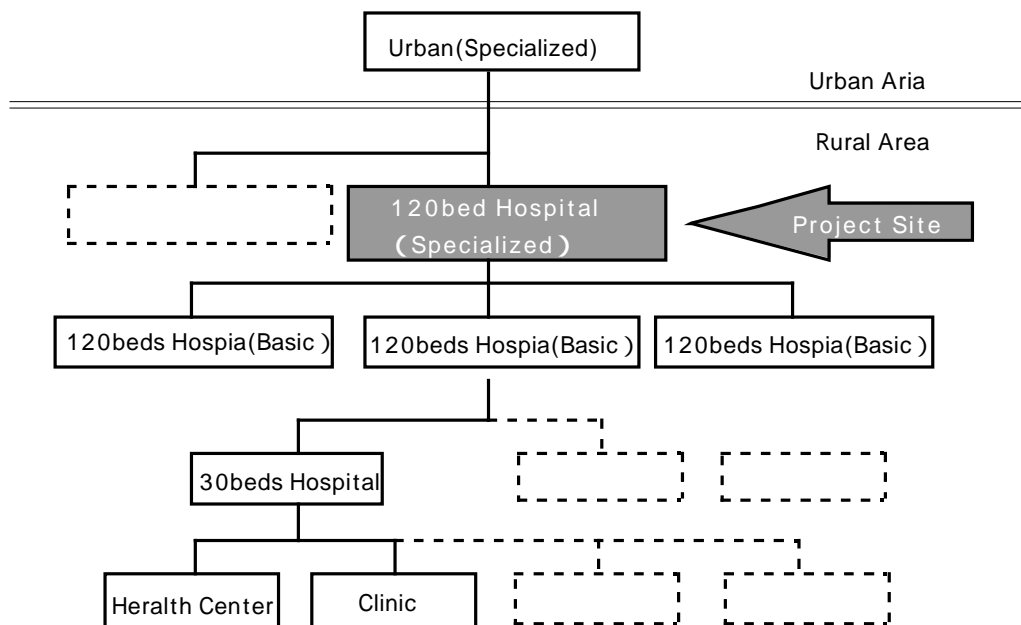
Chapter 1 Background of the Project

Approximately 360 thousand people formerly lived in the Quneitra Province on the Golan Heights, but most of them fled from the war to Damascus City or to the Daraa Province and are forced to live in refugee camps. The armistice agreement of the 4th Arab-Israeli War in May 1974 drew a cease-fire line in the Quneitra Province, and on this account, two thirds of the Quneitra Province is occupied by Israel.

Quneitra City, the capital of the province, was totally destroyed when the Israeli force withdrew, and Golan Hospital (with 420 beds) located there was also destroyed. After that moment on, the Quneitra Province remained without any hospitals. Patients who need tertiary care, surgical operation or hospitalization have to be transferred or go by themselves to hospitals in Damascus city or neighboring provinces, which are an hour or three hours away depending on locations. The population of the Quneitra province is over 112 thousand as of June 2003, including those living in the aforementioned buffer zone, and reconstruction of the Golan Hospital with accommodation facilities has been a long cherished wish of the residents for over a score of years.

Construction of the new Golan Hospital in Khan Arnabah that began some twenty years ago is near completion. However, as the governmental budget is insufficient to procure necessary medical equipment that had to be imported from other countries, the government of Syria requested the government of Japan to provide a grant aid.

Figure 1-1: Hierarchy of Syrian Hospitals and Project Site



Chapter 2 Contents of the Project

Chapter2 Contents of the Project

2-1 Basic Concept of the Project

2-1-1 Health Sector Development Plan

The government of Syria drew up the Ninth Five-Year Plan for National Economic and Social Development, 2001/2005. The Plan shows the objectives as to improve the basic infrastructure such as health care, education, culture, water supply/sewage, telephone and local road systems, and to rectify disparities in the country, so that all the population, in both rural and urban can have social services. The related health development included in the Ninth Plan is to improve the secondary and tertiary medical services, that is the improvement of service quality of medical care provided by general and special hospitals as secondary and tertiary facilities respectively. In concrete terms, the 120-bed and 30/60-bed hospitals will be improved, the constructed health centers will be equipped to commence their work, medical equipment of existing hospitals will be replaced, and completion of hospital construction will be promoted by year 2005. In line with the plan, the Ministry of Health has constructed 120-bed hospitals at 18 places in the country with Syrian own funds. However procurement of all necessary medical equipment for these hospitals is financially difficult. For that reason, the Syrian government has requested the assistance by Japan and other donors such as Spain, Italy and the European Investment Bank.

2-1-2 Object of the Project

This project helps one of the facilities, the Golan Hospital, built under the eighteen 120-bed hospital project to fully open, and improves medical services for residents of Quneitra province that does not have a hospital and even simple surgical treatment is not available. The project supplies medical equipment for the Golan Hospital built by Syria.

2-2 Basic design of the Requested Japanese Assistance

2-2-1 Design Policy

2-2-1-1 Basic Concept

Contents of the request were a standard equipment list prepared by the Ministry of Health for the eighteen hospitals, which did not reflect the regional characteristics. In addition, because the equipment list was prepared separately from facilities design, the equipment components were not appropriate for the function of the facilities. Moreover, there was poor compatibility with intended medical staff. In consideration of them, at first hospital functions should be identified, and the project should be designed according to the following basic policies.

1) Geographical range of medical care

As there are residents also in the UNDOF deployment zone, the population was proved not 50 to 60 thousand as was shown in the initially obtained data of the Ministry of Health, but as much as 112,097 people as of June 2003. The geographic coverage of medical care shall be set within Quneitra province and the current population of 112,097 people.

2) Number of beds

At the beginning, 120 beds were considered excessive for a hospital that serves 50 to 60 thousands of population. However, a field study found that the population of Quneitra province was 112,097 people. Judging from the national average of Syria - one bed to 845 people, the corresponding number of beds in the province comes up to 132.6 beds, and so accomplishment of a 120-bed hospital is considered appropriate. Consequently, the size shall be maintained as requested.

3) Hospital functions

Construction of the Golan Hospital was started twenty years ago. The building is based on the exactly same drawings as other seventeen hospitals constructed by Syria, and therefore, it does not reflect the current demand of medical services in the region and local medical-care program. Also, as comparable in the following tables, there are certain discrepancies in staffing and equipment plans between the 18-Hospital Project prepared by the Ministry of Health and the Golan Hospital project.

Table 2-1 Comparison of the 18-Hospital Project and the Golan Hospital Project

18 Hospital Project		Golan Hospital project	
Construction Plan	Staffing Plan	Staffing Plan	Equipment Plan
Outpatient treatment dept.	General surgical dept.	General surgical dept., Orthopedic dept.	Surgery (Kidney, Orthopedics Gynecology, Urology, Respiratory, Cerebra-neurology)
Surgical dept., CCU dept.	Anesthesiology dept.	Anesthesiology dept.	Anesthesiology dept., ICU
Internal medicine		Internal medicine	
	Gastro endoscope dept	Gastrointestinal dept.	
Hemodialysis room	Urology	Urology, Kidney dept.	
	Dermatology dept.	Dermatology dept.	
	Otolaryngology dept.	Otolaryngology dept.	Otolaryngology dept.
			Neurology dept. (cerebral)
Pediatric dept.	Pediatric dept.	Pediatric dept.	
Gynecology and obstetric dept., Operating room, Nursery room	Gynecology dept.	Gynecology and obstetric dept.	
Radiology dept.	Radiology dept.	Radiology dept.	Radiology / ultrasonic diagnosis
Clinical Laboratory dept.	Clinical Laboratory dept.	Clinical Laboratory dept.	Clinical Laboratory dept.
Pharmacy	Pharmacy		
Sterilization dept.			Central sterilization dept.
Emergency dept.			
Emergency ICU			
Ambulance garage			
Mortuary			
	Dentistry dept.		
		Ophthalmology dept.	Ophthalmology dept.
		Physical therapy dept.	

In consequence, the functions of the Golan Hospital shall be primarily based on the objectives of the Ministry of Health for improvement of secondary medical facilities, which shall be modified in consideration of the position of the Golan Hospital in the regional medical care of Quneitra province. In concrete terms, they can be summarized as follows:

Table 2-2 Arranged Golan Hospital Function

Section	Service	Remarks
Inpatient	Outpatient / Inpatient	Special treatment will refer to upper hospital
Surgery	Outpatient / Inpatient / Operation	Chest Operation does not perform in hospital. Refer to upper level hospital.
Pediatrics	Outpatient / Inpatient	Pediatric Surgery does not perform in hospital. Refer to upper level hospital.
Obstetric/Gynecology	Outpatient / Inpatient / Operation	Gynecological surgery is limited to Caesarian.
Ophthalmology	Outpatient / Inpatient	Only emergency and simple treatment. Surgery and Special treatment will refer to upper specialized hospital
E.N.T.	Outpatient / Inpatient	Only emergency and simple treatment. Surgery and Special treatment will refer to upper specialized hospital.
Radiology	Emergency / Outpatient / Inpatient	
Emergency	Emergency	Only emergency and simple treatment. Surgery and Special treatment will refer to upper specialized hospital
Laboratory	Emergency /Outpatient / Inpatient	Diagnose by CT will apply for emergency case
I.C.U.	Emergency / Inpatient	Special treatment will refer to upper hospital.
Burn Unit	Emergency / Inpatient	Special treatment will refer to upper hospital.
Hemodialysis Unit	Emergency /Outpatient/ Inpatient	Mainly treat chronic patients
C.S.S.D.	Emergency /Outpatient/ Inpatient	Design and service shall regards to the range of the above mentioned departments.
Kitchen	Patient / staff	
Laundry	Emergency /Outpatient/ Inpatient / Operation	
Administration	Hospital Management	

4) Expected activities

As the Golan Hospital, the intended facilities, is a newly constructed hospital and there does not exist any other hospital in Quneitra province, a forecast of the numbers of patients and examinations in the Golan Hospital can be made only with reference to data of hospitals etc. in other provinces. In making the forecast, average values per capita against the whole population of Syria (17,130,000) were calculated from the following data provided by the Ministry of Health regarding the numbers of patients and examinations shown in Table 2-3 and 2-4. On that basis and on account of the population of Quneitra province (112,000), the numbers of patients and examinations per day in the Golan Hospital were estimated.

Table 2-3 Annual No. of Medical Treatment by Category in each Region of Syria (2002)

Region	Emergency	Operation	Outpatient	Laboratory	Hemodialysis	Rehabilitation	Endoscopy	Total
Damascus City	425,695	55,694	573,888	1,549,850	20,725	70,594	48,410	2,744,856
Damascus Suburb	228,335	22,869	153,782	305,561	4,590	148	14,151	729,436
Aleppo	430,086	27,031	193,366	681,043	8,006	2,330	69,337	1,411,199
Edlib	90,367	13,602		289,478	3,648		13,177	410,272
Ratakia	124,818	16,686	209,750	539,050	7,030	498	22,139	919,971
Tartus	112,235	47,819	266,985	936,296	9,320	17	35,505	1,408,177
HOMs	259,779	27,049	197,822	1,158,420	13,750	2,297	53,429	1,712,546
Hama	139,939	28,010	60,469	1,770,744	6,877	920	25,445	2,032,404
Hassake	290,817	17,834	222,249	294,563	3,639		17,501	846,603
Dir-el zour	225,339	19,975	124,524	470,653	6,418	377	23,545	870,831
Rakka	195,568	15,334	52,473	254,089	5,897	1,530		524,891
Daraa	166,767	21,060	93,242	330,625	7,090		10,533	629,317
Sweida	65,923	13,967	30,193	465,440	3,264	1,290		580,077
Quneitra								
Total	2,755,668	326,930	2,178,743	9,045,812	100,254	80,001	333,172	14,820,580

Source: MOH's Answers to Questionnaire in the study

Table 2-4 Annual No. of Examination by Category in each Region of Syria (2002)

Region	Laboratory					X-ray		Ultrasound		CT		MRI	
	Urine	Stool	Blood	Pathology	Total	Patient	Film	Patient	Film	Patient	Film	Patient	Film
Damascus C.	65,894	4,232	1,380,899	98,825	1,549,850	164,297	202,186	69,728	83,772	10,055	13,154	5,647	10,021
Damascus Sub.	50,272	5,574	249,711	4	305,561	68,587	91,068	16,716	14,921	4,735	5,067		
Aleppo	23,826	11,865	636,231	9,121	681,043	94,120	119,560	32,257	27,855	4,374	17,718	4,137	12,310
Edlib	20,422	1,958	264,941	2,157	289,478	37,324	54,570	12,278	2,634	7,595	8,029		
Ratakia	38,917	704	498,619	810	539,050	79,004	102,613	11,575	24,621	6,058	7,347		
Tartus	51,326	882	879,910	4,178	936,296	103,122	132,193	20,593	37,445	6,735	4,389		
HOMs	69,935	5,227	1,076,992	6,266	1,158,420	120,422	199,379	33,173	78,095	3,771	4,187		
Hama	69,019	8,038	1,489,967	203,720	1,770,744	79,200	117,770	16,625	16,941	6,107	7,220		
Hassake	38,829	6,573	248,822	339	294,563	93,574	86,046	9,694	9,694	8,720	77,626		
Dir-el zour	48,302	1,675	420,113	563	470,653	66,462	91,836	22,308	27,038	4,686	2,678		
Rakka	13,634	565	145,096	94,794	254,089	29,720	37,538	6,988	7,082	2,476	3,001		
Daraa	31,200	2,300	297,125		330,625	50,690	89,700	7,281		6,051	4,450		
Sweida	24,128	2,004	439,308		465,440	40,553	72,522	7,396	5,025	4,976	32,063		
Quneitra													
Total	545,704	51,597	8,027,734	420,777	9,045,812	1,027,075	1,396,981	266,612	335,123	76,339	186,929	9,784	22,331

Source: MOH's Answers to Questionnaire in the study

From these data, the numbers of patients and examinations per day in the Golan Hospital can be estimated as follows.

Table 2-5 Estimated No. of Daily Patients in Quneitra (Golan Hospital),

Emergency*	Operation	Outpatient	Laboratory	Hemodialysis	Rehabilitation	Endoscopy	Total
50	8	48	198	3	2	8	317

*Emergency: estimated by 365 days

Table 2-6 Estimated No. of Daily Examinations in Quneitra (Golan Hospital)

Laboratory					X-ray		Ultrasound		CT	
Urine	Stool	Blood	Pathology	Total	Patient	Film	Patient	Film	Patient	Film
12	2	175	10	199	23	31	6	8	2	5

The Golan Hospital started outpatient treatment in May 2002, and the daily average number of patients to each department can be derived from the medical records up to May 2003, as shown in the following table.

Table 2-7 No. of Out Patient per day

Internal Medicine	Obstetric & Gynecology	Pediatrics	E.N.T.	Surgery	Urology	Orthopedics	Ophthalmology	Total
8	9	4	4	1	4	4	7	41

Source: MOH

The actual daily average number of outpatients to all the ambulant medical services comes up to 41 persons, which is close to the estimated number of 48 persons, and therefore, the estimate can be recognized as adequate. Moreover, the daily average number of clinical examinations derived from actual examination data amounted 199, which is quite close to the estimated number of 198 based on the estimated number of patients, and accordingly, the estimated number of examinations can also be recognized as appropriate. Consequently, around 50 outpatients and 50 emergency patients are expected daily in Quneitra province which currently does not have any hospital, and the completion of a secondary level hospital serving these patients with medical care is considered necessary.

2-2-1-2 Natural Conditions

Though temperature in the intended areas drops down to minus 3-4 degrees in winter, special specifications of equipment are not necessary. Water used in the hospital is pumped from the underground of the hospital compound. As for water quality, hardness is 140-160 mg/l (calcium carbonate concentration), making it relatively hard water. Therefore, equipment that makes use of water shall be accompanied with water treatment appliances etc.

2-2-1-3 Social and Economic Conditions

In view of cultural traditions, segregation of facilities for men and women at the place of medical services shall be considered.

2-2-1-4 Policy for procurement plan

Those medical equipment and instruments, which are planned to procure for this project, are not produced in Syria. Therefore, according to the grant aid scheme, the product of Japan and third countries shall be applied. Regarding the equipment which requires maintenance

services and constant supply of consumables by the manufacturer's agent, equipment of the manufacturer whose agent is located in Syria needs to be selected.

2-2-1-5 Grades and Specifications of Equipment

The specifications of the equipment procured by the intended Project shall conform to the technical level corresponding to the hospital functions as stated in 2-2-1-1 Basic concept, paragraph 3) and to the grades of equipment that have already been in use in other hospitals in Syria. In addition, from the viewpoint of maintenance, such equipment and materials shall be selected that consumables and spare parts for them can be procured in Syria. In the meantime, consumables and reagents for their initial operation after delivery shall be included in the equipment for approximately three months' use.

2-2-1-6 Overall work schedule

For implementation of the project, overall work schedule shall be prepared within a Japanese single fiscal year system, but in any event, construction work by the Syrian side, including the ongoing work shall be completed before arrival of equipment and materials. And, as new staff will be employed, the schedule shall be in consideration of the Syrian fiscal 2004 budget, timing for starting recruitment activities, organization, orientation and in-house work rehearsals.

2-2-2 Basic Plan

2-2-2-1 Total Plan

The Project site is the Golan Hospital constructed by Syria. First of all, it is necessary to identify hospital functions and, on that basis, to examine the appropriateness of the requested equipment, and if they are found to be excessive or redundant, or not corresponding to the hospital functions, such equipment shall be omitted. On the other hand, if equipment necessary for the hospital functions is not included in the requested equipment list, such equipment shall be added.

(1) Hospital functions

1) Emergency department

Emergency department will provide medical services 24 hours a day. The Syrian side intended completely independent operation of the emergency department from other medical facilities, which required additional establishment of an emergency operating room, emergency ICUs, an emergency examination room and an emergency radiology room. However, the building has such a structure that the general radiology department, examination room and operating room, etc. are adjacent to the emergency department, and it is easy to

transfer emergency patients to these rooms for diagnosing and treatment. Looking from the standpoint of shared use and effective utilization of facilities, equipment and staff of all the hospital, the overlapping establishment of radiology, examination and operating rooms in the emergency department makes both functions and staff redundant. These functions in the emergency department shall be modified as follows, or shall be excluded from the project.

- Emergency operating room: Since it is located near the entrance and much congestion by comings and goings of people is expected, cleanness may not be maintained. Therefore, the purpose of the room shall be changed to first-aid treatment, and one of operating rooms in the main building shall be used as an emergency operating room.
- Emergency radiology room: The function shall be put together into the radiology department of the main building, and a separate radiology room for the emergency department shall be omitted. (Details are described in the paragraph "Radiology department".)
- Emergency examination room: Installation of blood gas analyzing apparatus was intended. However, this shall be excluded, because one of operating rooms in the main building will be used as an emergency operating room, and the examination room in the main building will run 24 hours a day.

Table 2-8 Arranged Design Concept for Emergency Department

Original Plan	Arranged Design Concept	Note
Emergency Operation Room	Emergency Treatment Room	Operation which need Anesthetist support is not done here. Emergency operation will be done at one of operation rooms in the main building. This operation room arranged as Emergency operation room.
Emergency I.C.U.	Observation Room	Patient who needs Intensive care shall be sent to I.C.U in main building.
Emergency Lab.	Delete	Laboratory in main building will operate 24 hours.
Emergency X-ray Room	Mammography Room	Emergency use X-ray is not planned. In addition, this Room will be used as mammography room because no room is prepared for Mammography.

2) Operating rooms

Five operating rooms altogether were constructed in the hospital (one for the emergency department, another for the obstetric and gynecologic department and the other three for the central operation department). Out of them, the ones for the emergency and obstetric-gynecologic departments were intended to provide services 24 hours a day, while the three rooms for the central operation department only in normal working hours for scheduled operations.

Judging from Japan's standard design size for number of operating rooms and data as to

similar facilities in Syria, etc., the number of operations per day is expected as eight, and thus, it is evaluated that the number of operating rooms is excessive. Therefore, the plan for operating rooms should be revised as follows.

- Emergency operations shall be done in one of the central operating rooms, as described in the above paragraph 1).
- The other two rooms of the central operation department will be used for scheduled operations.
- Regarding the operating room of the obstetric and gynecologic department, taking into consideration of below factor, the obstetric and gynecologic department shall have a separate operating room.
 - : It is located on the second floor as well as the obstetric and gynecologic department ward.
 - : It was designed as an obstetric and gynecologic operating room with labor, delivery and nursing rooms adjoining.
 - : The staff and materials are rationally allocated for caesarian section operation.
 - : In the light of the local situation to segregate men and women.

As a consequence of the above considerations, there shall be four operating rooms.

3) Level of operations

The Department of Health of Quneitra province is aspiring after medical services of a middle level between tertiary and secondary medical facilities, as the key hospital of the province. However, from the viewpoints of finance, staff securement and improvement of reference system and hospital management, the Golan Hospital took a realistic approach and formulated a plan to put forward phased expansion of operation level (See the tables 2-9 and 2-10).

Tables 2-9 Operation level upgrading plan (Emergency department)

Category	Organ	Operation	Stage 1	Stage 2	
			3 years	2 years	1 year
Head		Acute epidural hemmorage		*	**
		Acute subdural hemmorage			*
Chest		Tension Pneumothorax	*	**	***
		Hemo-thorax	*	**	***
Abdomen		Peritonitis Laparatomy	*	**	***
		Peptic Ulcer	*	**	***
		Intestinal Obstruction	*	**	***
		Trauma of all an Organ	*	**	***
		Appendicitis	*	**	***
Extremities	Trauma	Closed Fractures	*	**	***
		:Kirschner wire	*	**	***
		: Pinning	*	**	***
		: Screw , plate	*	**	***
		: External fixation	*	**	***
		Open Fracture			
		: Debridement	*	**	***
		: Fixation	*	**	***
		Amputation	*	**	***

Category	Organ	Operation	Stage 1	Stage 2	
			3 years	2 years	1 year
Genitourinary		Ovarian cyst torsion	*	**	***
		Ectopic Pregnancy	*	**	***
		Bleeding of Ovary	*	**	***

(* future plan; The more the number of (*) marks, the higher is operation level.)

Table 2-10 Operation level upgrading plan

Category	Organ	Operation	Stage 1	Stage2	
			3years	2years	1year
Neuro	Spinal cord	Disc		*	**
		Nerve	Nerve compress delivery	*	**
ENT	Ear	Otitis mediatympanotomy	*	**	***
		External Ear Mass	*	**	***
	Nose	Sinusitis	*	**	***
		Nasal Polyp	*	**	***
	Tonsil	Tonsillectomy	*	**	***
	Salivary G	Stone Remove		*	**
		Tumors			*
	Throat	Node in Voice cord		*	**
Neck	Thyroid	Hyperthyroidism Total-subtotal Thyroidectomy	*	**	***
		Tumors	*	**	***
		Radical-modification Neck dissection		*	**
	Parathyroid	Tumors		*	**
Chest	Lung	Pneumothorax	*	**	***
	Thoracic wall	Soft tissue Mass	*	**	***
	Breast	Benign & Malignant Tumors & Cyst	*	**	***
Radical-modification Mastectomy		*	**	***	
Abdomen	Esophagus	Hernia(Nissen open & lap)		*	**
	Stomach	Tumors	*	**	***
		Ulcer		*	**
	Small intestine	Chorn's disease			*
		Tumors	*	**	***
	Colon	Tumors	*	**	***
		Diverticulitis	*	**	***
		U.C.Chorn's Disease			*
	Rectum	Tumors			*
		Hemorrhoids	*	**	***
		Anal Fistula	*	**	***
	Liver	Stones	*	**	***
	Gall Bladder	Tumors	*	**	***
		Stones(Laprosopic)	*	**	***
	Pancreas	Psedocyst	*	**	***
	Abdominal wall	Inguinal, Femoral Hernia	*	**	***
Urology	Kidney, Urethra	Tumors		*	**
	Bladder	Tumors			*
	Prostate	Tumors			*
Hypertrophyendoscope		*	**	***	
Gynecology	Uterus	Body Tumors	*	**	***
		Neck Tumors		*	**
		Myoma	*	**	***
	Ovary	Tumors	*	**	***
		Cyst.	*	**	***
Obstetric		Cesarean	*	**	***
Plastic Surgery		Kiloied	*	**	***

(*) marks, the higher is operation level.)

In collaboration with the Ministry of Health and that of Finance, the plan divided levels of operations in three phases; the 1st phase (from 2004 to 2006), 2nd phase (from 2007 to 2008), and 3rd phase (from 2009 and after), and medical services will be gradually enhanced with necessary staff reinforced. This project provides the equipment with respect to the operation levels and categories included in the 1st phase from the aspect of finance and staff securement. In the meantime, chest (cardiac), brain and pediatric surgeries do not match the level of the hospital, so the hospital side agreed that equipment initially requested for those purposes should be omitted.

4) Intensive care

The hospital is planning to have 5 units of general-purpose ICU, 5 units for cardiovascular disease, 2 units exclusively for burn injury and 3 units for emergency department, and requesting equipment and materials of an identical grade and quantity. However, in consideration of the following, only 5 units of ICUs with respiratory care function are advisable to the whole hospital.

- It is inefficient for the hospital management to have dispersed ICUs that have functions of up to respiratory care.
- Regarding the emergency department ICUs, taking into consideration of below factors, this area shall be used as observation rooms for emergency patients who are given with first-aid treatment and not in need of respiratory care.

: It is decided to carry out emergency operations in the central operating department of the main building.

: The patients in need of respiratory care shall immediately be accommodated in general-purpose ICUs.

- Regarding the burn injury ICUs, because patients with severe burn injury will be transferred to special hospitals, and because patients in immediate need of respiratory care will be accommodated in the general-purpose ICUs, the area will not be used for ICUs. Instead, as treatment and care of patients with moderate or milder burn injury is necessary, the area intended for ICUs exclusively for burn injury shall be used as burn injury units.
- The area for the CCUs will not be used for intensive care, because this hospital will not cope with cardiac surgery. However, there exists patients with cardiovascular disease, and in order to deal with patients who complain about heart and blood pressure problems, the requested ICUs for cardiovascular disease shall be planned as highcare rooms with a medium degree of care between general hospital ward and ICU level.

5) Clinical laboratory department

As a way to run the clinical laboratory department, the hospital intended to establish a satellite laboratory room responding 24 hours a day specially for hematological tests at the emergency department other than the central clinical laboratory department at the main building. However, in view of easy access between the emergency department and the central clinical laboratory department and that emergency operation will be done at the central operation department, plus in consideration of laboratory services for inpatient, it is more effective to run the central clinical laboratory department 24 hours a day than to have a satellite at the emergency department. Consequently, the satellite laboratory room at the emergency department shall not be included in the project. Kinds of examinations are biochemical, hematological, microbial and pathological. Regarding the pathological examination, it will be restricted to emergency purpose on operations (histological examination of frozen sections), and general pathological diagnosis shall be handled by upper level medical facilities. 198 examinations per day is expected, so the large size automatic analyzer with high processing capacity as requested shall be replaced with simple analyzer.

6) Central sterilization department

Regarding surgical instruments and operating gowns, the Syrian management plan intends to sterilize the former at a cleaning room next to operating rooms. However, this method requires a lot of equipment and is ineffective personnel-wise, so all the instruments and linen shall be sterilized at the central material sterilization department. The only exception is to have a small sized sterilizer in operation rooms for emergency use.

7) Pediatric department

Premature babies below 1,500 grams and pediatric patients in need of respiratory care require specialists, which the Golan Hospital as secondary medical facilities shall not handle. Therefore, premature babies treated here shall be of 1,500 grams and more, and patients in need of respiratory care shall be transferred to upper level medical facilities. Also, pediatric surgery cases, other than emergency treatments, shall be referred to upper level facilities.

8) Hemodialysis treatment

The chronic patients in need of dialysis are treated in Ibn Nafis Hospital, Damascus. About 20 patients from Quneitra have hemodialysis monthly, and the expected number of patients to be dialyzed at the hospital is about three patients per day. Accordingly, three sets of hemodialyzer is thought appropriate for the hospital, although six sets were requested.

Table 2-11 Number of patients in need of dialysis in Quneitra, 2003

January	February	March	April	May	Total
28	16	23	18	21	106

Source: Quneitra Health Department

9) Laundry and kitchen

These are important facilities to support the hospital's medical activities and shall be included by the project considering the fact that outsourcing of them is not available in Quneitra, where no such services exist. The project procures the equipment for them adequately for 120 beds hospital.

10) Vehicles

Although the request includes vehicles for transportation of staff and materials, only ambulances shall be included in the project. Regarding the ambulances, now that the Ministry of Health is considering review of a nationwide emergency system including Quneitra province, only one ambulance transfer of patients to upper level medical facilities fulfilling a hospital function shall be provided in the project.

11) Radiology department

There are X-ray rooms in the main building and the emergency department, and a CT scanner, a fluoroscopy system, general photographic apparatus, dental panoramic radiographic apparatus etc. were requested. However, a dental panoramic radiographic apparatus is excluded due to no existence of a dental department, while a breast radiography apparatus shall be included.

As for the CT scanner, there are 500 patients expected per year, and the Golan Hospital will be the only hospital to deal with emergency patients in view of the geographical situation, and taking into consideration that ;

- It helps to early diagnose emergency patients with suspected injury of internal organs and head by accidents, and
- There is a difficulty to transfer patients to upper level medical facilities in winter season due to icy roads and snowfalls.

There is a necessity to install CT scanners to the hospital. In addition, all the provincial hospitals of Syria has been equipped with CT scanners since some 5 years ago, and if including private hospitals, there are more than 100 CT scanners, and the maintenance system proves to be well functioning in the country. Based on these standpoints, furnishing with CT scanners is regarded as appropriate. As for the remaining fluoroscopy system, general

photographic apparatus etc., there are 6,715 patients expected per year and hence their placement is also regarded as appropriate. Regarding the X-ray room in the emergency department, the hospital intended to furnish it with general radiographic apparatus, but as the emergency department and the radiology department of the main building are located close and the latter is planning to install a CT scanner. Then, emergency patients will also be transferred to radiology department and function shall be brought together to the radiology department of the main building and the X-ray room in the emergency department shall be omitted. In the meantime, a breast radiographic apparatus shall be planned, but there are no rooms as it was not included in the original design, and therefore, this initially intended X-ray room in the emergency department with radiation protection shall be utilized as a breast X-ray diagnosis room.

(2) Review of Requested Equipment

In regard to the requested equipment, the functions of the Golan Hospital are identified as above, and the equipment plan is formulated in keeping with the following considerations. In addition, because some equipment will be newly procured by Syrian side, which became clear from the letter of the Ministry of Health dated June 1, 2003, so such the equipment shall be omitted from the project. Based on the above, each piece of requested equipment was reviewed according to the following items. The result of review is shown on the next table 2-12 "Review of requested equipment".

Review from medical care functions

:Equipment to be included in the project.

× :Equipment not included in the medical care functions of the Golan Hospital, or equipment falling under principles for exclusion.

Principles for exclusion:

1. Equipment for academic studies or for personal use
2. Equipment without evident clinical efficacy
3. Equipment beyond the technology level
4. Equipment with low cost-effectiveness
5. Equipment with consumables, spare parts for maintenance, after-sale services, and etc, which are unavailable in Syria.

Review of specifications

:Equipment specifications are regarded as appropriate.

:Equipment specifications were modified to more simple ones.

Quantity

:Requested quantity is regarded as appropriate in comparison with the activity forecast.

: Quantity is regarded as excessive or deficient in comparison with the activity forecast, and duly adjusted.

× :Equipment that the Syrian side intends to procure.

Determination

:Equipment justified to be included in the project.

X :Equipment not to be included in the project.

Table 2-12 Review of requested equipment

No.	Item No.	Equipment Name	Q'ty, requested					Remarks	Q'ty, planned
X-RAY EQUIPMENT GROUP									
		Digital Radiography System, Dental	1	X			X		0
X-1	X-1	X-ray Unit, Mobile	1	O	O		O		
X-2	X-2	X-ray Unit, C-arm	1	O	O	O	O		1
X-3	X-3	X-ray Unit, Fluoroscopy	1	O	O	O	O		1
X-4	X-4	CT Scanner	1	O	O	O	O		1
X-5	X-5	X-ray Unit, General	1	O	O	O	O		1
X-6	X-6	X-ray Apron	10	O	O	O	O		10
X-7	X-7	X-ray Grove	10	O	O	O	O		10
X-8	X-8	X-ray Film Processor	1	O	O	O	O		1
X-9	X-9	X-ray Film Processor, Table top	1	O	O	O	O		1
X-10	X-10	Film viewer, mobile stand type	2	O	O	O	O		2
X-11	X-11	Film loading table	1	O	O	O	O		1
X-12	X-12	Dark room accessory	1	O	O	O	O		1
X-13	X-13	X-ray unit, Mammography	1	O	O	O	O		1
GENERAL IMAGE EQUIPMENT									
GI-1	GI-1	Ultrasonic Scanner, Color doppler	1	O	O	O	O		1
GI-2	GI-2	Ultrasonic Scanner, General	2	O	O		O	1 pc, Emergency Dep.	1
GI-3	GI-3	Ultrasonic Scanner, Obstetric/Gynecology	1	O	O	O	O		1
		Scanner, Ultrasonic, Ophthalmic	1	X			X		0
CARDIAC EQUIPMENT GROUP									
C-1	C-1	Defibrillator/Monitor	4	O	O	O	O		4
C-2	C-2	Central Monitoring System, for 8 beds	1	O	O	O	O		1
		Bedside Monitor	8			X	X	Included in above item	0
		Electrocardiograph, Single Channel	6			X	X	Duplicate with C3	0
C-3	C-3	Electrocardiograph, 3 Channel	4	O	O	O	O		4
C-4	C-4	Fetal Heart Detector, Ultrasonic	2	O	O	O	O		2
C-5	C-5	Fetal Monitor	2	O	O	O	O		2
C-6	C-6	Pulse Oximeter	6	O	O	O	O		6
C-7	C-7	Patient Monitor	12	O	O	O	O		12
		Physiologic Monitoring System, Stress Exercise, Cardiac	1	X			X		0
		Pacemaker, Cardiac, External Noninvasive, Cardiac	3	X			X		0
VITAL FUNCTION EQUIPMENT GROUP									
		Electroencephalograph	1	X			X		0
VF-1	VF-1	Infant Incubator, transport	1	O	O	O	O		1
VF-2	VF-2	Infant Incubator	4	O	O	O	O		4
VF-3	VF-3	Phototherapy Unit	2	O	O	O	O		2
		EEG-Monitor	1	X			X		0
VF-4	VF-4	Spirometer, Diagnostic	1	O	O	O	O		1
VF-5	VF-5	Infusion Pump	8	O	O	O	O		8
VF-6	VF-6	Syringe pump	8	O	O	O	O		8
		Bladder Pressure Meter	1	X			X		0
		Electromyograph	1	X			X		0
DIAGNOSTIC LABORATORY EQUIPMENT GROUP									
DL-1	LAB-1	Bilirubinmeter	1	O	O	O	O		1
		Clinical Chemistry Analyzer, Automated	1	O			X	Spectrophotometer can be used instead	0
DL-2	LAB-2	Hematology Analyzer, Automated	1	O	O	O	O		1
DL-3	LAB-3	Colony Counter	1	O	O	O	O		1
DL-4		Electrolyte Analyzer	1				X	Included in LAB-6	0
DL-5		Glucose Analyzer	1				X	Spectrophotometer can be used instead	0
DL-6	LAB-4	pH Meter	1	O	O	O	O		1
DL-7	LAB-5	Urine Meter	1	O	O	O	O		1
DL-8	LAB-6	Blood Gas/pH Analyzer	1	O	O	O	O	Included in LAB-2	1
DL-9	LAB-7	Spectrophotometer	2	O	O	O	O		2
DL-10	LAB-8	Timer	3	O	O	O	O		3
DL-11	LAB-9	Blood Cell Counter, manual	2	O	O	O	O		2
DL-12	LAB-10	Microtome, FREEZING	1	O	O	O	O		1
		Tissue Processor (automated)	1	X			X		0
		Dispenser, Paraffin	1	X			X		0
		Incubator, Laboratory (pathology)	1	X			X		0
Add.	LAB-11	Electrophoresis unit	1	O	O	O	O		1
Add.	LAB-12	Densitometer	1	O	O	O	O		1

No.	Item No.	Equipment Name	Q'ty, requested					Remarks	Q'ty, planned
GENERAL LABORATORY EQUIPMENT GROUP									
GL-1	GL-1	Water Bath, Laboratory	2	0	0	0	0		2
GL-2	GL-2	Centrifuge, Table Top	3	0	0	0	0		3
GL-3	GL-3	Shaker Laboratory	3	0	0	0	0		3
GL-4	GL-4	Balance, Electronic	2	0	0	0	0		2
GL-5	GL-5	Washer, glassware	1	0	0	0	0		1
GL-6	GL-6	Washer, Pipette	1	0	0	0	0		1
		Timer, Coagulation	1			X	X		0
GL-7	GL-7	Hematocrit Centrifuge	1	0	0	0	0		1
GL-8	GL-8	Diluter	1	0	0	0	0		1
GL-9	GL-9	Distilling Unit	2	0	0	0	0		2
GL-10	GL-10	Incubator, Laboratory	1	0	0	0	0		1
GL-11	GL-11	Microscope, Binocular	5	0	0	0	0		5
GL-12	GL-12	Rolling Mixer	2	0	0	0	0		2
GL-13	GL-13	Mixer, Vortex	3	0	0	0	0		3
GL-14	GL-14	Drying Oven	1	0	0	0	0		1
GL-15	GL-15	Micro-Pipette set	1	0	0	0	0		1
GL-16	GL-16	Refrigerator, Blood Bank	1	0	0	0	0		1
GL-17	GL-17	Refrigerator, Laboratory	3	0	0	0	0		3
		Water Purification System, Deionization	2	X			X		0
GL-18	GL-18	Freezer, Laboratory	1	0	0	0	0		1
		Chair, Blood Drawing	2	X		X	X		0
GL-19	GL-19	ELISA Reader	1	0	0	0	0		1
OPHTHALMOLOGY EQUIPMENT GROUP									
OPH-1	OPH-1	Examination/Treatment Chair, Ophthalmic	1	0	0	0	0		1
		Chart, Eye, Color Discrimination	1	X			X		0
OPH-2	OPH-2	Chart, Eye, Visual Acuity	1	0	0	0	0		1
		Cryosurgical Unit, Ophthalmic	1	X			X		0
OPH-3	OPH-3	Extractor, Metal, magnetic	1	0	0	0	0		1
OPH-4	OPH-4	Head Mirror	1	0	0	0	0		1
		Keratometer (Javal)	1			X	X		0
OPH-5	OPH-5	Lens meter	1	0	0	0	0		1
		Motorized, Table	1			X	X		0
OPH-6	OPH-6	Ophthalmoscope, Direct	1	0	0	0	0		1
		Ophthalmoscope, Indirect	2	X			X		0
		Perimeter, Automatic	1			X	X	OPH-7 can be used	0
OPH-7	OPH-7	Perimeter, Manual	1	0	0	0	0		1
		Projector, Chart, Eye	1			X	X	OPH-2 can be used	0
OPH-8	OPH-8	Refractor, Ophthalmologic	1	0	0	0	0		1
		Retinoscope (Skiascope)	2			X	X		0
		Slit Lamp	1			X	X		0
OPH-9	OPH-9	Tonometer, Ophthalmic	1	0	0	0	0		1
OPH-10	OPH-10	Trial Lens Set, Ophthalmic	1	0	0	0	0		1
		Photo-Stimulator	1	X			X		0
		Vitrectomy Unit	1	X			X		0
		Laser, Ophthalmic (Yag, Argon)	1	X			X		0
ENT EQUIPMENT GROUP.									
ENT-1	ENT-1	Audiometer	1	0	0	0	0		1
		Audiometric Booth	1	X			X		0
		Auditory Function Screening Device	1	X			X		0
ENT-2	ENT-2	Chair, Examination/Treatment, ENT	1	0	0	0	0		1
ENT-3	ENT-3	ENT Treatment Unit	1	0	0	0	0		1
		Electronystagmograph (ENG)	1	X			X		0
ENT-4	ENT-4	Microscope, Ear	1	0	0	0	0		1
ENT-5	ENT-5	Laryngeal Mirror Set	2	0	0	0	0		2
		Nasal Resistance Unit	2	X			X		0
		Facialis Nerve Stimulator	1	X			X		0
ENT-6	ENT-6	Hearing Resistance Unit	1	0	0	0	0		1
		Headlight with Light Source	5			X	X		0
		Headlight	2			X	X		0
		Audiometric Evoked-potential Unit	1	X			X		0
ENT-7	ENT-7	ENT Diagnostic Kit	2	0	0	0	0		2
ENT-8	ENT-8	Otoscope	2	0	0	0	0		2
GENERAL SURGICAL EQUIPMENT GROUP.									
GS-1	SUR-1	Bone Drill	1	0	0	0	0		1
GS-2	SUR-2	Cast Cutter, Electric	2	0	0	0	0		2
GS-3	SUR-3	Electrosurgical Unit, General-Purpose	4	0	0	0	0		4
		Light, Surgical (with Satellite)	3			X	X	Already procured	0

No.	Item No.	Equipment Name	Q'ty, requested					Remarks	Q'ty, planned
		Light, Surgical	3	—	—	X	X	Already procured	0
		Light, Surgical (Mobile)	2	—	—	X	X	Already procured	0
		Microscope, Operation	1	—	—	X	X	Already procured	0
		Saw	1	—	—	X	X		0
GS-4	SUR-4	Suction Unit, Electric	9	0	0	0	0		9
GS-5	SUR-5	Operating Table, Gynecology	1	0	0	0	0		1
GS-6	SUR-6	Operating Table, General	2	0	0	0	0		2
GS-7	SUR-7	Operating Table with traction unit, Orthopedic	1	0	0	0	0		1
		Table, Traction	1	—	—	X	X	Included in SUR-7	0
GS-8-A	SUR-8	Instrument Table	9	0	0	0	0		9
GS-8-B	SUR-9	Instrument Table, for ward	10	0	0	0	0		10
		Light, Ultraviolet, Germicidal	6	—	—	X	X	Already procured	0
GS-9	SUR-10	Delivery Table	2	0	0	0	0		2
GS-10	SUR-11	Labor bed	2	0	0	0	0		2
GS-11	SUR-12	Examination Table, Gynecology	1	0	0	0	0		1
GS-12		Examination Table	8	—	—	X	X	Already procured	0
GS-13	SUR-13	Drill, Cranial	1	0	0	0	0		1
GS-14	SUR-14	Bed with Limb Extention & External Fixed Equipment	2	0	0	0	0		2
		Endoscopy Surgery Set	1	—	—	X	X	Duplicate	0
GS-15	SUR-15	Vacuum extractor	1	0	0	0	0		1
GS-16	SUR-16	Suction bottle unit	10	0	0	0	0		10
GS-17	SUR-17	Examination lamp	6	0	0	0	0		6
GS-18	SUR-18	Intubation set	7	0	0	0	0		7
GS-19	SUR-19	Intubation set , for naonate	1	0	0	0	0		1
SPECIAL SURGICAL EQUIPMENT GROUP.									
SS-1	SS-1	kidney machine, Hemodialysis Unit	3	0	0	0	0		3
		Lithotripter, Extracorporeal	1	X	—	—	X		0
SS-2	SS-2	Bath for body washing	1	0	0	0	0		1
SS-3	SS-3	Strecher for body washing	1	0	0	0	0		1
ENDSCOPE EQUIPMENT GROUP									
		Bronchoscope, Flexible	1	X	—	—	X		0
		Bronchoscope, Rigid	1	X	—	—	X		0
END-1	END-1	Colonoscope	1	0	0	0	0		1
		Cystoscope	2	—	—	X	X		0
END-2	END-2	Laparoscope	1	0	0	0	0		1
		Laryngoscope	2	—	—	X	X		0
		Otoscope	2	—	—	X	X		0
		Uretero-roscope	2	X	—	—	X		0
		Bronchoscope for Extraction Foreign Bodies	1	X	—	—	X		0
END-3	END-3	Cysto-Urethroscope	1	0	0	0	0		1
		E.R.C.P.	1	X	—	—	X		0
END-4	END-4	Gastrointestinal fiberscope	2	0	0	0	0		2
END-5	END-5	Duedono fiberscope	1	0	0	0	0		1
END-6	END-6	Disinfector, Fiberscope	1	0	0	0	0		1
END-7	END-7	Endoscope trolley with Monitor	1	0	0	0	0		1
END-8	END-8	Endoscope cabinet	1	0	0	0	0		1
END-9	END-9	Rectoscope with light source	2	0	0	0	0		2
ANESTHESIOLOGY GROUP									
AN-1	AN-1	Anesthesia Unit	4	0	0	0	0		4
		Resuscitator	3	—	—	X	X	Duplicate	0
		Resuscitator, Pulmonary, Exhaled Air	2	—	—	X	X	Duplicate	0
AN-2	AN-2	Anesthesia Unit, portable	1	0	0	0	0		1
AN-3	AN-3	Resuscitator, Manual	10	0	0	0	0		10
AN-4	AN-4	Ventilator	5	0	0	0	0		5
		Ventilator, Jet, Manual	1	—	—	X	X	Duplicate	0
AN-5	AN-5	Ventilator, for Neonatal	1	0	0	0	0		1
		Medical Gas System (Oxgen,Compressed Air, Nitrous Oxide, Vacuum Network)	1	—	—	X	X	Already procured	0
STERILIZING EQUIPMENT GROUP									
		Disinfector	1	—	—	X	X		0
		Sterilizing Unit, Dry Heat (40-50L)	5	—	—	X	X		0
STE-1	STE-1	High Pressure Steam Sterilizer	2	0	0	0	0		15
STE-2	STE-2	High Pressure Steam Sterilizer , table top	7	0	0	0	0		7
		Sterilizing Unit, Steam, Bulk	2	—	—	X	X		0
		Sterilizing Unit, Ethylene Oxide	1	X	—	—	X		0

No.	Item No.	Equipment Name	Q'ty, requested					Remarks	Q'ty, planned
		Furniture Disinfecter	1	X	-	-	X		0
		Waste Sterilizing Unit	1	X	-	-	X		0
STE-3	STE-3	Sterilization Container set	1	O	O	O	O		15
		Sterilization Container (medium size)	12	-	-	X	X	Included in STE-3	0
		Sterilization Container (small size)	12	-	-	X	X	Included in STE-3	0
STE-4	STE-4	U.S. Cleaner	1	O	O	O	O		1
STE-5	STE-5	Sink unit	1	O	O	O	O		1
STE-6	STE-6	Trolley for Instruments	10	O	O	O	O		10
STE-7	STE-7	Trolley for Linen	8	O	O	O	O		8
TRANSPORT GROUP									
		Service Car (3.5ton)	1	X	-	-	X		0
		Service Car (1ton)	1	X	-	-	X		0
		Bus (22-26 passengers)	2	X	-	-	X		0
		Mini Bus (12-15 Passengers)	1	X	-	-	X		0
T-1		Standard Ambulance	1	-	-	X	X		0
T-2	AM-1	Ambulance with Equipment	1	O	O	O	O		1
		Mobile Clinic with Equipment	1	X	-	-	X		0
SURGICAL TOOLS GROUP									
ST-1	ST-1	Ear Wash Tool Set	1	O	O	O	O		1
ST-2	ST-2	Tonsillectomy Kit	2	O	O	O	O		2
ST-3	ST-3	Nasi Instrument Kit	1	O	O	O	O		1
ST-4	ST-4	Laryngotomy kit	1	O	O	O	O		1
		Tracheorhpy Biopsy Instrument Kit	3	X	-	-	X		0
		Mastoid Surgery Kit	2	X	-	-	X		0
ST-5	ST-5	Sinusal Surgery Kit	2	O	O	O	O		2
ST-6	ST-6	Instrument set for Nasal treatment	2	O	O	O	O		2
		Ear Inspection Tools Sterilization Kit	1	X	-	-	X		0
		Dry Heat Sterilization Kit	5	X	-	-	X		0
		General Ophthalmic Surgery Kit	2	X	-	-	X		0
ST-7	ST-7	Eyelid Surgery Kit	1	O	O	O	O		1
		Retinal-Separation Surgery Kit	1	X	-	-	X		0
		Pterygium Surgery Kit	1	X	-	-	X		0
		Chalazion Surgery Kit	1	X	-	-	X		0
		Cornia (Cornea) Cut Kit	1	X	-	-	X		0
		Glaucoma Surgery Kit	2	X	-	-	X		0
ST-8	ST-8	Lacrimal Duct Anatomosis Kit	1	O	O	O	O		1
		Circumocular Surgery kit	1	X	-	-	X		0
		Cataracta (Cataracta) Surgery Kit	2	X	-	-	X		0
ST-9	ST-9	Prostatectomy Kit	2	O	O	O	O		2
ST-10	ST-10	Prostata Biopsy Kit	1	O	O	O	O		1
ST-11	ST-11	Urethorostomy Kit	1	O	O	O	O		1
ST-12	ST-12	Kidney Surgery Kit	1	O	O	O	O		1
ST-13	ST-13	General Urinary Surgery Kit	2	O	O	O	O		2
ST-14	ST-14	General Abdominal Surgery Kit	2	O	O	O	O		2
ST-15	ST-15	Minor Surgery Kit	5	O	O	O	O		5
ST-16	ST-16	Bile Duct Kit	1	O	O	O	O		1
ST-17	ST-17	Bowel Pliers Kit	2	O	O	O	O		2
ST-18	ST-18	Gallblader Surgery Kit	2	O	O	O	O		2
ST-19	ST-19	Hernia Surgery kit, for adult	1	O	O	O	O		1
ST-20	ST-20	Hernia Surgery kit, for child	1	O	O	O	O		1
ST-21	ST-21	General Orthopedic kit	2	O	O	O	O		2
		Pediatric Abdomino Surgery Kit	1	X	-	-	X		0
		General Neurosurgery Kit	1	X	-	-	X		0
		Thorasic Surgery Kit	1	X	-	-	X		0
ST-22	ST-22	Thyreo (Thyroidea) Surgery Kit	2	O	O	O	O		2
		Tracheal Biopsy Kit	1	X	-	-	X		0
ST-23	ST-23	Minor Vascularity Surgery Kit	1	O	O	O	O		1
ST-24	ST-24	Vanulartomy Kit	1	O	O	O	O		1
ST-25	ST-25	Neck Surgery Kit	1	O	O	O	O		1
ST-26	ST-26	Skull Surgery Kit	1	O	O	O	O		1
ST-27		Vertebrae Cervicales Surgery Kit	1	X	-	-	X		0
	ST-27	Skin Grafting Surgery Kit	1	O	O	O	O		1
ST-28	ST-28	Delivery Instrument kit	4	O	O	O	O		4
ST-29	ST-29	Uteroabdominal Abscision Kit	2	O	O	O	O		2
ST-30	ST-30	Uterocervical Abscision Kit	1	O	O	O	O		1
		Diagnostic Abdominal Surgery Kit	2	X	-	-	X		0
ST-31	ST-31	Uterine Curettage Kit	2	O	O	O	O		2
ST-32	ST-32	Cesarean Kit	4	O	O	O	O		4
ST-33	ST-33	Gynecologic Examination Instrument Kit	6	O	O	O	O		6

No.	Item No.	Equipment Name	Q'ty, requested					Remarks	Q'ty, planned
		Spiral Set Instrument Kit	2	X	-	-	X		0
ST-34	ST-34	Dressing Kit	13	O	O	O	O		13
ST-35	ST-35	Oral Surgery Kit	1	O	O	O	O		1
		Jaw Surgery Kit	1	X	-	-	X		0
		Operation Room for the Emmergent Situations	1	X	-	-	X		0
Lecture Room Equipment Group									
L-1	L-1	LCD Projector	1	O	O	O	O		1
L-2	L-2	Visual Projector	1	O	O	O	O		1
		Microphone and speakers	1	-	-	X	X		0
Ward General Equipment Group									
W-1	WAD-1	Oxigen Flow meter w / Humidifier	60	O	O	-	O		54
W-2	WAD-2	Wall suction unit	60	O	O	-	O		54
W-3	WAD-3	HI-LO Strecher	12	O	O	O	O		12
W-4	WAD-4	Strecher for Emergency treatment	1	O	O	O	O		1
W-5		IV Pole	60	-	-	X	X		0
W-6		Wheel chair	9	-	-	X	X		0
W-7	WAD-5	Bed, 3-crank	8	O	O	O	O		8
Physiotherapy Equipment Group									
PH-1	PHY-1	Parallel bar	1	O	O	O	O		1
PH-2	PHY-2	Lower limb exerciser	1	O	O	O	O		1
PH-3	PHY-3	Bycicle Exerciser	2	O	O	O	O		2
PH-4	PHY-4	Exercise stair	1	O	O	O	O		1
PH-5	PHY-5	Shoulder wheel	1	O	O	O	O		1
PH-6	PHY-6	Hot pack unit	1	O	O	O	O		1
PH-7	PHY-7	Low Frequency Therapy unit	1	O	O	O	O		1
PH-8	PHY-8	Microwave Therapy Unit	1	O	O	O	O		1
PH-9	PHY-9	Infrared Therapy Unit	1	O	O	O	O		1
PH-10	PHY-10	Electric Traction Unit	1	O	O	O	O		1
PH-11		Hydro Bubbler for arms and legs	1	-	-	X	X	PHY-1 can be used	0
PH-12	PHY-11	Hydro Bubbler for whole body	1	O	O	O	O		1
Administration									
FA-1		Kitchen Equipment	0						0
	KT-1	Boiling pan	3	O	O	O	O		3
	KT-2	Gas range	2	O	O	O	O		2
	KT-3	Peeler	1	O	O	O	O		1
	KT-4	Food slicer	1	O	O	O	O		1
	KT-5	Grill, electric	2	O	O	O	O		2
	KT-6	Meat chopper	1	O	O	O	O		1
		Dish washer	1	-	-	X	X		0
		Table top scale	1	-	-	X	X	Already procured	0
FA-2	LD-1	Laundry Equipment							0
	LD-2	Washer with extractor A	2	O	O	O	O		2
	LD-3	Washer with extractor B	1	O	O	O	O		1
	LD-4	Dryer	3	O	O	O	O		3
	LD-5	Ironing machine, sheet	1	O	O	O	O		1
Add.		Tool kit	1	O	O	X	X	Already procured	0

2-2-2-2 Equipment Plan

Table 2-13, 2-14 show the outline of main equipment items and list of equipment to be procured by the project.

Table 2-13: Specifications of Main Equipment

Equipment	Specification	Usage	Q'ty
1 X-ray Unit, Mobile	<ol style="list-style-type: none"> 1. X-ray High Voltage Generator <ol style="list-style-type: none"> 1) Inverter type 2) Tube voltage : Max. 125kV or more 3) Tube current : Max. 150mA or more 2. X-ray tube support <ol style="list-style-type: none"> 1) Vertical and horizontal position : adjustable 2) Rotation : Possible 3. Cassette size : Max. 35 x 43cm 	For emergency or brief radiographic examination in the ward or ICU for the critical patient and/or un-walkable patient	1
2 X-ray Unit, C-arm	<ol style="list-style-type: none"> 1. X-ray High Voltage Generator : Inverter type <ol style="list-style-type: none"> 1) kV range : Max. 110kv or more 2) mA range : Max. 12mA or more 2. Image intensifier <ol style="list-style-type: none"> 1) Field input size : 9-inch or more 3. TV camera : CCD camera 4. Monitor : 2 monitors 5. C-arm stand <ol style="list-style-type: none"> 1) Movement : Horizontal, vertical and rotation 	For real-time observation and verification of the treatment during the Operation (especially Orthopaedic operation)	1
3 X-ray Unit, Fluoroscopy	<ol style="list-style-type: none"> 1. X-ray High Voltage Generator : Inverter type <ol style="list-style-type: none"> 1) kV range : Max. 125kv or more 2) mA range : Max. 500mA or more 2. TV camera : CCD camera 3. Image intensifier <ol style="list-style-type: none"> 1) Field input size : 9-inch or more 4. Monitor size: <ol style="list-style-type: none"> 1) Local control : 17 inch or more 2) control console : 15 inch or more 	For fluoroscopy examinations such as oesophagus, gastrointestinal and gallbladder, as well as multi-purpose radiographic examination	1
4 CT Scanner	<ol style="list-style-type: none"> 1. Gantry <ol style="list-style-type: none"> 1) Scan Region : Whole body 2) Scan time : 1 sec or less 3) Slice thickness : 1mm or less 4) Gantry aperture size: 700 mm or wider 2. Patient couch <ol style="list-style-type: none"> 1) Vertical stroke : 35 cm or more 2) Horizontal stroke : 130 cm or more 3. Computer system with desk and chair <ol style="list-style-type: none"> 1) Magnetic hard disk capacity: 12 GB or more 2) User interface : DICOM 4. X-ray tube high voltage generator <ol style="list-style-type: none"> 1) Tube voltage : 130 kV or more 2) Tube current : 30 to 180mA or wider range 	For observation and diagnosis of the diseased part before emergency treatment and/or patient transfer to referral hospital, looking at tomographic images	1
5 X-ray Unit, General	<ol style="list-style-type: none"> 1. Bucky table <ol style="list-style-type: none"> 1) Longitudinal and Transversal travel : Possible 2) Cassette size range : 18 x 24 cm - 35 x 43 cm or wider range 2. Tube stand <ol style="list-style-type: none"> 1) Type : Floor-mounted type 3. X-ray-generator <ol style="list-style-type: none"> 1) Max. Tube voltage : 150 kV or more 2) Max. Tube current : 300 mA or more 4. Bucky wall stand <ol style="list-style-type: none"> 1) Cassette size range : 18 x 24 cm - 35 x 43 cm or wider range 	For general radiographic examination for chest, abdominal as well as orthopaedic application	1
6 X-ray Film Processor	<ol style="list-style-type: none"> 1. Type : Automatic, light room type 2. Processing film size : At least 100 x 125 to 350 x 430mm 3. Throughput : At least 150 films / hr. 	For high-speed developing process of X-ray film in the light room	1

Equipment	Specification	Usage	Q'ty	
7	X-ray Film Processor, Table top	1. Type : Automatic, Dark room type 2. Max film size : 350 X 430mm 3. Processing capacity : More than 90 films/hour (25 x 30 cm film)	For developing process of X-ray film (table-top type and dark room use)	1
8	Dark room accessory	1. Patient name printer 1) Type : Darkroom use type 2) Light source : LED 2. Chest measure caliper 1) Material : Aluminum 2) Measurement range : 40cm or more 3. X-ray film cassette(with screen,M speed) with window : 6 kinds to be provided	Accessories for setting X-ray film, marking and for measuring chest	1
9	X-ray unit, Mammography	1. X-ray generator 1) Inverter type Tube voltage : 35KV or more 2) Tube current : 100mA or more 2. X-ray tube unit 1) Anode heat capacity : 300,000 HU or more 2) Focus : Large and small 3. Mammography stand 1) Compression : Motorized, automatic decompression, force selectable	For mammographic examination to detect breast cancer and/or tumour	1
10	Ultrasonic Scanner, Colour doppler	1. Scanning method : Electronic sector, Electronic convex, Electronic linear 2. Image mode : B, M, and B/M, PWD-mode and CDW-mode 3. B-mode Gain : 62 to 90 dB or more 4. M-mode Sweep speed : 1 to 8 sec./screen or wider 5. CINE memory : Provided 6. Color Monitor : 15-inch or more 7. Color printer : Provided	For ultrasound tomographic examination and diagnosis of heart(adult and child), superficial part, abdominal part and carotid using colour image	1
11	Ultrasonic Scanner, General	1. Scanning method : Electronic convex and Electronic linear 2. Image mode : B and M mode 3. Image display mode : B, Dual B, M, B&M 4. Max. depth : 20 cm or more 5. Monitor size : 12 inch or more, B/W 6. Printer : Black/White printer	For general ultrasound tomographic examination and diagnosis of abdominal part, superficial part (incl.carotid) and uterus	1
12	Ultrasonic Scanner, Obstetric/ Gynecology	1. Scanning method : Electronic convex and Electronic linear 2. Image mode : B and M mode 3. Image display mode : B, Dual B, M, B & M 4. Black/White printer : Provided 5. Monitor size : 9 inch or more, B/W 6. Portable type	For ultrasound tomographic examination and diagnosis of fetal and uterine status, Especially for obstetric/gynaecology application	1
13	Defibrillator/Monitor	1. Defibrillator 1) Output energy : in case of Monophasic waveform:5 to300J or wider in case of Biphasic waveform: 5 to 200J or wider 2) Charging time : 10 sec. or less 2. Monitor : LCD or CRT 3. External paddle for adult and child : Provided 4. Printer : Provided 5. AC/DC operation	Installed in operation room and ICU. For resuscitation treatment against cardiac arrest and fibrillation	4
14	Central Monitoring System, for 8 beds	A. Central Monitor 1. Number of beds to be monitored : 8 or more 2. Connection with patient monitors : hard wire type 3. Monitor : 12-inch or more, color screen 4. Waveforms to be displayed : ECG, Respiration and SpO2 5. Alphanumeric display items : Heart rate or Pulse, VPC, ST level,,Respiration rate, SpO2, NIBP and Temperature 6. Thermal recorder and Data Printer :Provided 7. UPS : provided, 10min or more of back-up time	For continuous monitoring and measuring patient's vital sign such as ECG, respiration, blood pressure, temperature and SpO2 in ICU room. System consists of one central monitor and 8 bedside patient monitors.	1
- contnd. -				

Equipment	Specification	Usage	Q'ty
14	Central Monitoring System, for 8 beds B. Patient Monitor 1. Measurement parameter : ECG, Respiration, SPO2, NIBP, Temperature 2. ECG(heart rate): Measuring range : 30 to 250bpm or wider range 3. Respiration: Measuring rate range : 0 to 100bpm or wider range 4. SpO2 : Measuring range : 50 to 100% or wider range 5. NIBP: Measuring range :25 to 260mmHg or wider range 6. Temperature: Measuring range : 25 to 40 or more 7. Monitor : 8 inch or more, color		
15	Patient Monitor 1. Measurement parameter : ECG, Respiration, SPO2, NIBP, Temperature 2. ECG(heart rate): Measuring range : 30 to 250bpm or wider range 3. Respiration: Measuring rate range : 0 to 100bpm or wider range 4. SpO2: Measuring range : 50 to 100% or wider range 5. NIBP: Measuring range :25 to 260mmHg or wider range 6. Temperature: Measuring range : 25 to 40 or more 7. Monitor : 8 inch or more, color monitor 8. Recorder : Provided	For continuous monitoring and measuring patient's vital sign such as ECG, respiration, blood pressure, temperature and etc in the ward.	12
16	Infant Incubator, transport 1. Air temperature setting range : 30 to 36.9 or wider range 2. Carrying trolley : Height adjustable 3. Alarm function : Provided 4. IV pole : Provided	Incubator that is used for transportation of lower weighted baby or morbid baby and that is operated by AC / DC and has temperature / humidity control function and oxygen monitoring capability	1
17	Hematology Analyzer, Automated 1. Sample :Whole blood or /and diluted blood 2. Sample volume : 50 µ L or less 3. Measured parameter : RBC, WBC, HGB, HCT, MCV, MCH, MCHC, PLT, Lymphocyte(LYM), Monocyte (MXD) and Granulocyte (NEUT) 4. Throughput : 50 samples/hour 5. Printer : Provided	For measuring red blood cell, white blood cell and haemoglobin in the blood for basic haematology examination.	1
18	Blood Gas /Electrolyte Analyzer 1. Measuring method: Electrode method 2. Measurement parameters : pH, pCO ₂ , pO ₂ , Na, K, Ca and Cl 3. Sample volume : 195ml or less 4. Throughput : 25 samples/hour or more 5. Display : LCD display 6. Printer : Provided 7. UPS : Provided	For measuring partial pressure of oxygen, carbon dioxide in the blood and electrolyte for verification of respiratory and metabolism condition.	1
19	Spectrophotometer 1. Flow cell and temperature control unit : Provided 2. Light source : Halogen lamp 3. Band width : 10 nm or less 4. Printer : Provided	For general bio-chemical examination by manual operation	2
20	Microtome, FREEZING 1. Rotary type 2. Lowest temp. of chamber : -30 or less 3. Section thickness range: 2 - 20 µ m or wider range 4. Defrosting : Automatic	For cutting thin sample from tissue taking from patient for pathological examination. This unit is mainly used for rapid examination during the operation and has freezing function of the sample.	1
21	Densitometer 1. Media : Cellulose acetate membrane or more 2. Sample : Serum protein and other (if available) 3. Measurement time : 20 test/5 min. or more 4. Indicator : Digital display 5. Printer : Provided	For quantitative measurement of frequency band distribution of the samples which is obtained through electrophoresis	1

Equipment	Specification	Usage	Q'ty
22 ELISA Reader	1. Composition : Main unit and Washer 2. Wave length : 400 - 750 nm or wider range 3. Light source : Tungsten halogen lamp 4. Detection system : Silicon photodiode 5. Dynamic range : 0 to 3 OD or more 6. Micro-plate washer :Applicable plate : 96 well-plate	For immunity examination(allergy, hormone and etc) and virus check examination (hepatitis, HIV and etc)	1
23 Examination/ Treatment Chair, Ophthalmic	1. Ophthalmic stand: with Control console 2. Ophthalmic chair: Electric elevating system 3. Slit lamp : Binocular 1) Total magnifications: 10 x,16 x and 25 x or more 4. Keratometer 1) Radius of curvature : 6.5 to 9.4mm or wider range 2) Corneal refractive power : 36D to 52D or wider range 3) Astigmatism : 0 to 180 ° 5. Chart projector : provided4mmor wider	For ophthalmic examination and diagnosis, especially anterior ocular segment such as hyalin and cornea.	1
24 Perimeter, Manual	1. Type : Projection type, hemisphere 2. Target sizes : 1/16, 1/4, 1, 4, 16 and 64mm2	For diagnosis of optic nerve disorder, glaucoma and etc.	1
25 Tonometer, Ophthalmic	1. Type : Non-contact type 2. Measurement range : 0-60 mmHg 3. Working distance : 11mm 4. Measurement printing : by Built-in printer 5. Measurement Mode : Auto/ Manual, selectable 6. Electric Instrument table : Provided	For diagnosis of glaucoma, high intraocular pressure disease and low intraocular pressure disease through the measurement of intraocular pressure.	1
26 Hearing Resistance Unit	1. Test item : Tympanometry, Acoustic reflex test 2. Probe tone : Approx. 226 Hz \pm 3%, 85 dB SPL 3. Pressure range:+200 to -300 daPa or wider range 4.Equivalentvolume:Measurementrange: 0.2to.0mL or wider range 5. Stimulus tone (reflex test) 1) Ipsilateral (frequency) : 500, 1000, 2000 and 4000Hz 2) Contralateral (frequency): 500, 1000, 2000 and 4000Hz 6. Monitor : Provided	For diagnosis of tympanitis, otocleisis and facial nerve	1
27 Bone Drill	1. Electric powered type 2. Hand piece : 2 kinds, straight and angled 3. Type of drills : 5 kinds 4. Type of burr : 13kinds	For orthopaedic operation, especially for complicated fracture, osteoncus and etc.	1
28 Operating Table, Gynecology	1. Accessories to be provided : Screen frame, Shoulder support with pad, Knee crutch, Douche funnel,Waste receptacle can with drainage hose, X-ray cassette holder and I.V. pole with clamp 2. Operation 1) Height elevating : Manual oil pump pedal 2) Positioning : Manual gear or pedal 3. Table top:190(L) x 50(W) cm, Allowance \pm 10% 4. Height adjustment :77 to 98 cm or more wide range 5. Trendelenburg : 12° or more 6. Reverse trendelenburg : 20° or more	Operation table which has the capability of suitable positioning of the patient to various operation. This table is mainly used in operation room of OB/GY department.	1
29 Operating Table, General	1. Accessories to be provided : Screen frame, Shoulder support with pad, Knee crutch, Douche funnel,Waste receptacle can with drainage hose, X-ray cassette holder, I.V. pole with clamp and Multi purpose positioning pad for patient 2. Operation 1) Height elevating : Manual oil pump pedal 2) Positioning : Manual gear or pedal 3. Table top:190(L) x 50(W) cm, \pm 10% 4. Height adjustment:77 to 98 cm or more 5. Trendelenburg : 12° or more 6. Reverse trendelenburg : 20° or more	Operation table which has the capability of suitable positioning of the patient to various operations. The composition of this operation table is general.	2

Equipment	Specification	Usage	Q'ty
30 Operating Table with traction unit, Orthopaedic	<ol style="list-style-type: none"> 1. Operation : Electro Hydraulic type 2. C-arm X-ray applicable 3. Table top : 194(L) x 50(W) cm or more 4. Accessories for Orthopaedic operation : Provided 5. Traction unit: Provided (connected with table) 6. Height Adjustment : 70 to 95 cm 7. Trendelenburg : 25° or more Reverse trendelenburg : 25° or more 8. Lateral tilting : 15° or more (Right and Left) 9. Lumbar section : 60° up, 25° down or more 	Operation table just for Orthopaedic operation. This table has the traction unit and table top can be slidden for C-arm X-ray usage.	1
31 Drill, Cranial	<ol style="list-style-type: none"> 1. Pneumatic drive type 2. Straight hand piece : 1 pc 3. Drill : 2 kinds 4. Burr : 5 kinds 5. Cranial perforator : 1 pc. 6. Sterilization container : Provided 	For opening and perforation on the cranial bone.	1
32 Kidney machine, Hemodialysis Unit	<ol style="list-style-type: none"> 1. Blood flow control <ol style="list-style-type: none"> 1) Blood flow rate : 50 to 500ml/min 2) Air detector : Equipped 3) Heparin pump flow rate : 0.5 to 5.5ml/hr 2. Dialysate control <ol style="list-style-type: none"> 1) Flow rate : 500ml/min. 2) Temperature : 35 to 39 degrees 3) Blood leak detector: Equipped 3. Water supply control <ol style="list-style-type: none"> 1) Water reserve : 300 L or more 2) Water-softener unit : At least 500liters/h 4. RO water system unit <ol style="list-style-type: none"> 1) Water supply capacity : 3 unit or more 5. Backup system (UPS): Back-up time: 10 min or more 	For hemodialysis treatment of diabetes patient. Water treatment unit is provided.	3
33 Colonoscope	<ol style="list-style-type: none"> 1. Type : Flexible fiber scope 2. Minimum field of view : 120 ° or more 3. Depth range of field: 5 to 100 mm or wider range 4. Outer diameter of distal end : 14 mm or less 5. Bending section <ol style="list-style-type: none"> 1) Up : 180 ° or more 2) Down : 180 ° or more 3) Right and left : 160 ° or more 6. Working length : 1,660 to 1,700 mm 7. Inner diameter of instrument channel : 3.2 mm or more 	For diagnosis by biopsy examination and monitoring of disordered S-shaped colon and ileocecum	1
34 Laparoscope	<ol style="list-style-type: none"> 1. Rigid type : 0 degree and 30 degree 2. Video system : Compatible with PAL 3. Light source : Xenon lamp type 4. Insufflations set : CO2 gas type 5. Electrosurgical unit : Provided 	For laparotomy operation using 3 telescopes. Especially for surgery operation such as gallstone	1
35 Cysto-Urethroscope	<ol style="list-style-type: none"> 1. Telescope : 3 kinds <ol style="list-style-type: none"> 1) 5 degree or 12 degree : 1 pc 2) 25 or 30 degree : 1 pc 3) 70 degree : 1 pc 2. Cystoscope, flexible type : 1 set 	For treatment and observation of inside of urethra and bladder	1
36 Gastrointestinal fiberscope	<ol style="list-style-type: none"> 1. Flexible type 2. Minimum field of view : 100 ° or more 3. Depth range of field : 5 to 100 mm or wider range 4. Outer diameter of distal end : 11 mm or less 5. Bending section <ol style="list-style-type: none"> 1) Up : 210 ° or more 2) Down : 90 ° or more, 3) Right and left : 100 ° or more 6. Working length : 1, mm 7. Inner diameter of instrument channel : 2.8mm or more 	For treatment and observation of stomach disease	2

Equipment	Specification	Usage	Q'ty	
37	Duodono fiberscope	1. Flexible type 2. Direction of view : 10 - 15 ° 3. Minimum field of view : 80 ° or more 4. Depth range of field : 5 to 60 mm or wider range 5. Outer diameter of distal end : 13 mm or less 6. Bending section, 1) Up : 120 ° or more, 2) Down : 90 ° or more 3) Right and left : 90 ° or more 7. Working length : 1,050 mm or more 8. Inner diameter of instrument channel : 3.2 mm or more	For treatment and observation of duodenum	1
38	Endoscope trolley with Monitor	1. Mobile type 2. TV monitor : 14 inch 3. Video tape recorder : Compatible with PAL 4. Light source : Haloge 5. Electrosurgical unit for Endoscopy Output (at 500 ohm) 1) Monopolar : 200 to 400 W or wider range 2) Bipolar : 10W to 100 W or wider range	Connecting with each fiberscope, observed image can be displayed on the monitor and recorded by VCR.	1
39	Anaesthesia Unit	Anaesthetic Apparatus 1. Anaesthesia circuit : Closed type 2. Flow meter range 1) O2 : 0.1- 10 liters/min. or more 2) N2O : 0.5 - 10 liters/min. or more 3) AIR : 1 - 10 liters/min. or more 3. Vaporizer with inter-lock: Halothane, Isoflurane Ventilator for anesthesia machine 1. Mounted type 2. Flow rate setting : 50 - 1200ml or wider range 3. Respiration rate setting : 4-60 bpm or wider range	For general anesthesia before operation. This will be used in operation room.	4
40	Anesthesia Unit, portable	1. Anesthesia circuit : Closed type 2. Flow meter range 1) O2 : 0.1- 10 liters/min. or more 2) N2O : 0.5 - 10 liters/min. or more 3) AIR : 1 - 10 liters/min. or more 3. Vaporizer with inter-lock: for Halothane and Isoflurane	For general anesthesia before emergency operation. This will be used in treatment room of to Emergency department.	1
41	Ventilator	1. Application : Adult and paediatric 2. Mode : Volume control, pressure control, SIMV(IDV), CPAP/PEEP 3. Tidal volume : 50 to 1300 ml or wider range 4. Respiratory rate : 1 to 40 breath/min. or wider range 5. PEEP : 0 - 20 cm H2O or more 6. Inspire pressure : 5 - 50cm H2O or wider range 7. Pressure support : 1 - 30cm H2O or wider range	For respiration control for critical patient in ICU	5
42	Ventilator, for Neonate	1. Ventilation control: Pressure, flow or volume control 2. Mode : IMV, PEEP/CPAP, Manual 3. Breath setting range : 6 to 150 bpm or wider 4. Inspiratory setting range: 0.5 to 2 sec or wider 5. Flow rate setting range : 3 to 30 L/m or wider	For respiration control for new born baby and premature baby who has the problem with spontaneous respiration.	1
43	High Pressure Steam Sterilizer	1. Door type : Double door type (Pass through) 2. Nominal chamber volume : 285 liters or more 3. Sterilization temperature range : 105 - 134 or wider range 4. Control system : Microprocessor control system 5. Material of chamber : Stainless steel 6. Boiler : built-in 7. Water softener unit : Provided 8. Printer : Provided	For sterilization of various medical forceps, tools and linens, giving high pressure in high temperature chamber	2

Equipment	Specification	Usage	Q'ty
44 Ambulance with Equipment	One box type ambulance 1. Engines type : Gasoline 2. Displacement : 1,997cc or more 3. Steering position : Left handle drive 4. Drive system : Two wheel drive 5. Transmission : Manual, 5 speed 6. Defibrillator and stretcher : equipped	For transportation of the patient to upper level hospital. This ambulance has some medical equipment for emergency treatment.	1
45 Electric Traction Unit	1. Application: For cervical and lumbar traction 2. Traction continuation and pause time adjustable 3. Treatment time: Max. 99 min. or more 4. Traction mode : Selectable, 3 modes or more 5. Max. traction force : 90kg or more 6. Safety function : Provided	For treatment of cervix and lumber to remove pain or swelling, giving intermittent or continuous traction	1
46 Hydro Bubbler for whole body	1. Temperature setting range : 35 to 45 2. Timer setting: Max. 30 min. or more 3. Display function : Temperature, therapy time 4. Inner capacity of bathtub : 200L or more 5. Heater : 750W or more 6.Safety device: Leakage breaker, empty protection	For hydro-massage of full body or diseased part by air bubbles coming from the bottom of the bath	1
47 Washer with extractor A	1. Washing capacity (dry weight) : 40kg/load or more 2. Operating control : Programmable 3. Cylinder material : Stainless steel 4. Anti vibration function : Provided	For washing bed sheets, operation suits	2

Table 2-14 Planned Equipment list

ITEM NO.	EQUIPMENT	TOTAL QTY	DEPARTMENT																
			E.R.	X-Ray	OPT.	LAB	I.C.U	HI CARE	INT.	PED	OB/GY	SUR.	OUTP.	CSSD	KITCHEN	LAUNDRY	LECT	REHA	TRANS
X-Ray Equipment Group																			
X-1	X-ray Unit, Mobile	1	1																
X-2	X-ray Unit, C-arm	1		1															
X-3	X-ray Unit, Fluoroscopy	1	1																
X-4	CT Scanner	1	1																
X-5	X-ray Unit, General	1	1																
X-6	X-ray Apron	10	10																
X-7	X-ray Grove	10	10																
X-8	X-ray Film Processor	1	1																
X-9	X-ray Film Processor, Table top	1	1																
X-10	Film viewer, mobile stand type	2															2		
X-11	Film loading table	1	1																
X-12	Dark room accessory	1	1																
X-13	X-ray unit, Mammography	1	1																
General Image Equipment																			
GI-1	Ultrasonic Scanner, Color doppler	1				1													
GI-2	Ultrasonic Scanner, General	1	1																
GI-3	Ultrasonic Scanner, Obstetric/Gynecology	1								1									
Cardiac Equipment Group																			
C-1	Defibrillator/Monitor	4	1	1	1					1									
C-2	Central Monitoring System, for 8 beds	1			1														
C-3	Electrocardiograph, 3 Channel	4	1		1	1			1										
C-4	Fetal Heart Detector, Ultrasonic	2								1	1								
C-5	Fetal Monitor	2								2									
C-6	Pulse Oximeter	6						2	4										
C-7	Patient Monitor	12	3	3				2		2	2								
Vital Function Equipment Group																			
VF-1	Infant Incubator, transport	1								1									
VF-2	Infant Incubator	4								4									
VF-3	Phototherapy Unit	2								2									
VF-4	Spirometer, Diagnostic	1						1											
VF-5	Infusion Pump	8	2			6													
VF-6	Syringe pump	8				4			4										
Diagnostic Laboratory Equipment Group																			
LAB-1	Bilirubinmeter	1			1														
LAB-2	Hematology Analyzer, Automated	1			1														
LAB-3	Colony Counter	1			1														
LAB-4	pH Meter	1			1														
LAB-5	Urine Meter	1			1														
LAB-6	Blood Gas/Electrolyte Analyzer	1			1														
LAB-7	Spectrophotometer	2			2														
LAB-8	Timer	3			3														
LAB-9	Blood Cell Counter, manual	2			2														
LAB-10	Microtome, FREEZING	1			1														
LAB-11	Electrophoresis unit	1			1														
LAB-12	Densitometer	1			1														
General Laboratory Equipment Group																			
GL-1	Water Bath, Laboratory	2			2														
GL-2	Centrifuge, Table Top	3			3														
GL-3	Shaker, Laboratory	3			3														
GL-4	Balance, Electronic	2			2														
GL-5	Washer, glassware	1			1														
GL-6	Washer, Pipette	1			1														
GL-7	Hematocrit Centrifuge	1			1														
GL-8	Diluter	1			1														

ITEM NO.	EQUIPMENT	TOTAL Q'TY	DEPARTMENT																	
			E.R.	X-Ray	OPT.	LAB	I.C.U	HI CARE	INT.	PED	OB/GY	SUR.	OUTP.	CSSD	KITCHEN	LAUNDRY	LECT	REHA	TRANS	WARD
GL-9	Distilling Unit	2				2														
GL-10	Incubator, Laboratory	1				1														
GL-11	Microscope, Binocular	5				5														
GL-12	Rolling Mixer	2				2														
GL-13	Mixer, Vortex	3				3														
GL-14	Drying Oven	1				1														
GL-15	Micro-Pipette set	1				1														
GL-16	Refrigerator, Blood Bank	1				1														
GL-17	Refrigerator, Laboratory	3				3														
GL-18	Freezer, Laboratory	1				1														
GL-19	ELISA Reader	1				1														
Ophthalmology Equipment Group																				
OPH-1	Examination/Treatment Chair, Ophthalmic	1										1								
OPH-2	Chart, Eye, Visual Acuity	1										1								
OPH-3	Extractor, Metal, magnetic	1										1								
OPH-4	Head Mirror	1										1								
OPH-5	Lens meter	1										1								
OPH-6	Ophthalmoscope, Direct	1										1								
OPH-7	Perimeter, Manual	1										1								
OPH-8	Refractor, Ophthalmologic	1										1								
OPH-9	Tonometer, Ophthalmic	1										1								
OPH-10	Trial Lens Set, Ophthalmic	1										1								
ENT Equipment Group.																				
ENT-1	Audiometer	1										1								
ENT-2	Chair, Examination/Treatment, ENT	1										1								
ENT-3	ENT Treatment Unit	1										1								
ENT-4	Microscope, Ear	1										1								
ENT-5	Laryngeal Mirror Set	2										2								
ENT-6	Hearing Resistance Unit	1										1								
ENT-7	ENT Diagnostic Kit	2										2								
ENT-8	Otoscope	2										2								
General Surgical Equipment Group.																				
SUR-1	Bone Drill	1			1															
SUR-2	Cast Cutter, Electric	2	1		1															
SUR-3	Electrosurgical Unit, General-Purpose	4			4															
SUR-4	Suction Unit, Electric	9	1		4	2					2									
SUR-5	Operating Table, Gynecology	1									1									
SUR-6	Operating Table, General	2			2															
SUR-7	Operating Table with traction unit, Orthopedic	1			1															
SUR-8	Instrument Table, for Operation room	9			7						2									
SUR-9	Instrument Table, for ward	10	3			2	2				1	2								
SUR-10	Delivery Table	2									2									
SUR-11	Labor bed	2									2									
SUR-12	Examination Table, Gynecology	1									1									
SUR-13	Drill, Cranial	1			1															
SUR-14	Bed with Limb Extention & External Fixed Equipment	2										2								
SUR-15	Vacuum extractor	1									1									
SUR-16	Suction bottle unit	10	2		8															
SUR-17	Examination lamp	6	3							1		2								
SUR-18	Intubation set	7	2		3	1					1									
SUR-19	Intubation set , for naonate	1								1										
Special Surgical Equipment Group.																				
SS-1	Kidney machine, Hemodialysis Unit	3			3															
SS-2	Bath for body washing	1									1									

ITEM NO.	EQUIPMENT	TOTAL Q'TY	DEPARTMENT																	
			E.R.	X-Ray	OPT.	LAB	I.C.U	HI CARE	INT.	PED	OB/GY	SUR.	OUTP.	CSSD	KITCHEN	LAUNDRY	LECT	REHA	TRANS	WARD
SS-3	Strecher for body washing	1																		
Endscope Equipment Group																				
END-1	Colonoscope	1							1											
END-2	Laparoscope	1							1											
END-3	Cysto-Urethroscope	1							1											
END-4	Gastrointestinal fiberscope	2							2											
END-5	Duedono fiberscope	1							1											
END-6	Disinfector, Fiberscope	1							1											
END-7	Endoscope trolley with Monitor	1							1											
END-8	Endoscope cabinet	1							1											
END-9	Rectoscope with light source	2							2											
Anesthesiology Group																				
AN-1	Anesthesia Unit	4			3						1									
AN-2	Anesthesia Unit, portable	1	1																	
AN-3	Resuscitator, Manual, for adult	8	1		4		1		1			1								
AN-4	Resuscitator, Manual, for OB/GY and neonate	2								1	1									
AN-5	Ventilator	5					5													
AN-6	Ventilator, for Neonate	1								1										
Sterilizing Equipment Group																				
STE-1	High Pressure Steam Sterilizer	2											2							
STE-2	High Pressure Steam Sterilizer , table top	7	1		3						1		1	1						
STE-3	Sterilization Container set	15												15						
STE-4	U.S. Cleaner	1												1						
STE-5	Sink unit	1												1						
STE-6	Trolley for Instruments	10												10						
STE-7	Trolley for Linen	8												8						
Transport Group																				
AM-1	Ambulance with Equipment	1																		1
Surgical Tools Group																				
ST-1	Ear Wash Tool Set	1			1															
ST-2	Tonsillectomy Kit	2			2															
ST-3	Nasal Instrument Kit	1			1															
ST-4	Laryngotomy kit	1	1																	
ST-5	Sinusal Surgery Kit	2			2															
ST-6	Instrument set for Nasal treatment	2			2															
ST-7	Eyelid Surgery Kit	1	1																	
ST-8	Lacrimal Duct Anatomosis Kit	1	1																	
ST-9	Prostatectomy Kit	2			2															
ST-10	Prostate Biopsy Kit	1			1															
ST-11	Urethrostomy Kit	1			1															
ST-12	Kidney Surgery Kit	1			1															
ST-13	General Urinary Surgery Kit	2			2															
ST-14	General Abdominal Surgery Kit	2			2															
ST-15	Minor Surgery Kit	5	2		3															
ST-16	Bile Duct Kit	1			1															
ST-17	Bowel Pliers Kit	2			2															
ST-18	Gallblader Surgery Kit	2			2															
ST-19	Hernia Surgery kit, for adult	1			1															
ST-20	Hernia Surgery kit, for child	1			1															
ST-21	General Orthopedic kit	2			2															
ST-22	Thyreo (Thyroidea) Surgery Kit	2			2															
ST-23	Minor Vascularity Surgery Kit	1	1																	
ST-24	Vanulartomy Kit	1			1															
ST-25	Neck Surgery Kit	1			1															
ST-26	Skull Surgery Kit	1	1																	

ITEM NO.	EQUIPMENT	TOTAL Q'TY	DEPARTMENT																	
			E.R.	X-Ray	OPT.	LAB	I.C.U	HI CARE	INT.	PED	OB/GY	SUR.	OUTP.	CSSD	KITCHEN	LAUNDRY	LECT	REHA	TRANS	WARD
ST-27	Skin Grafting Knife	2			2															
ST-28	Delivery Instrument kit	4								4										
ST-29	Uteroabdominal Abscission Kit	2								2										
ST-30	Uterocervical Abscission Kit	1								1										
ST-31	Uterine Curettage Kit	2								2										
ST-32	Cesarean Kit	4								4										
ST-33	Gynecologic Examination Instrument Kit	6								4		2								
ST-34	Dressing Kit	13	3				2		2	1	2	2	1							
ST-35	Oral Surgery Kit	1			1															
Lecture Room Equipment Group																				
L-1	LCD Projector	1																	1	
L-2	Visual Projector	1																	1	
Ward General Equipment Group																				
WAD-1	Oxygen Flow meter with Humidifier	54																		54
WAD-2	Wall suction unit	54																		54
WAD-3	HI-LO Strecher	12	2		4				2	1	1	2								
WAD-4	Strecher for Emergency treatment	1	1																	
WAD-5	Bed, 3-crank	8					4	4												

2-2-3 Basic Design Drawing

The Layout of each floor of the hospital are shown below.

Fig 2-1 1st floor layout

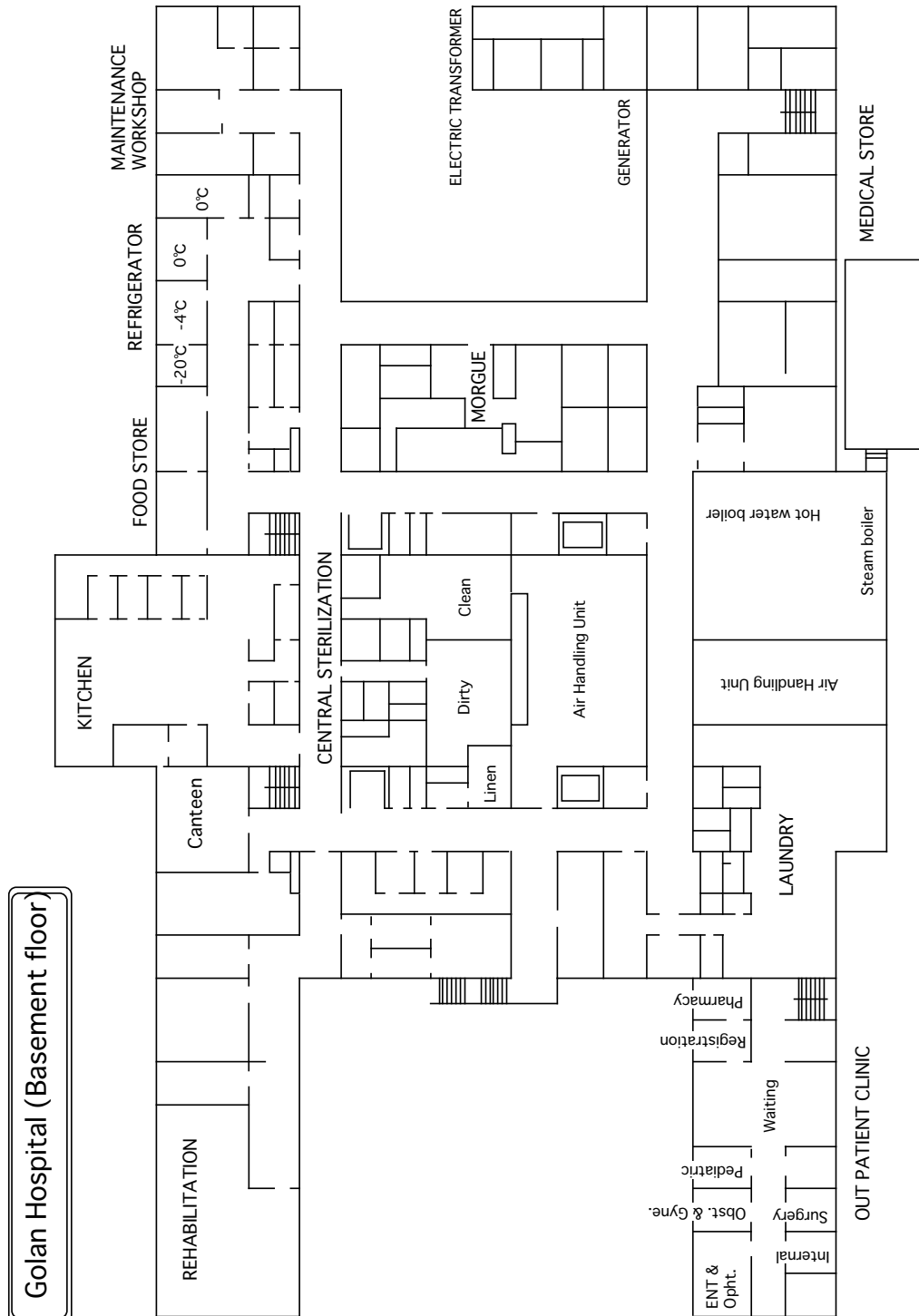


Fig 2-2 2nd floor layout

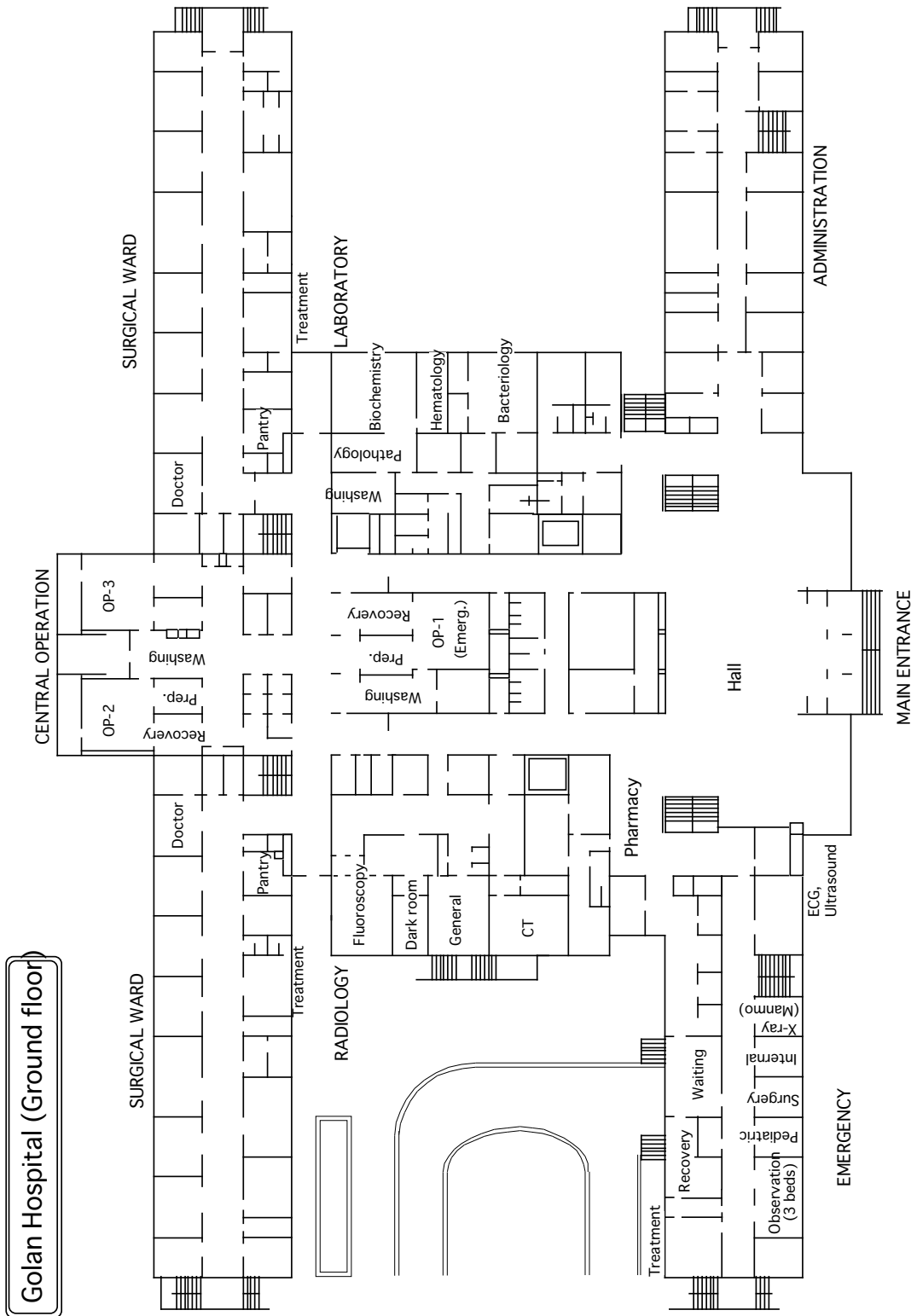
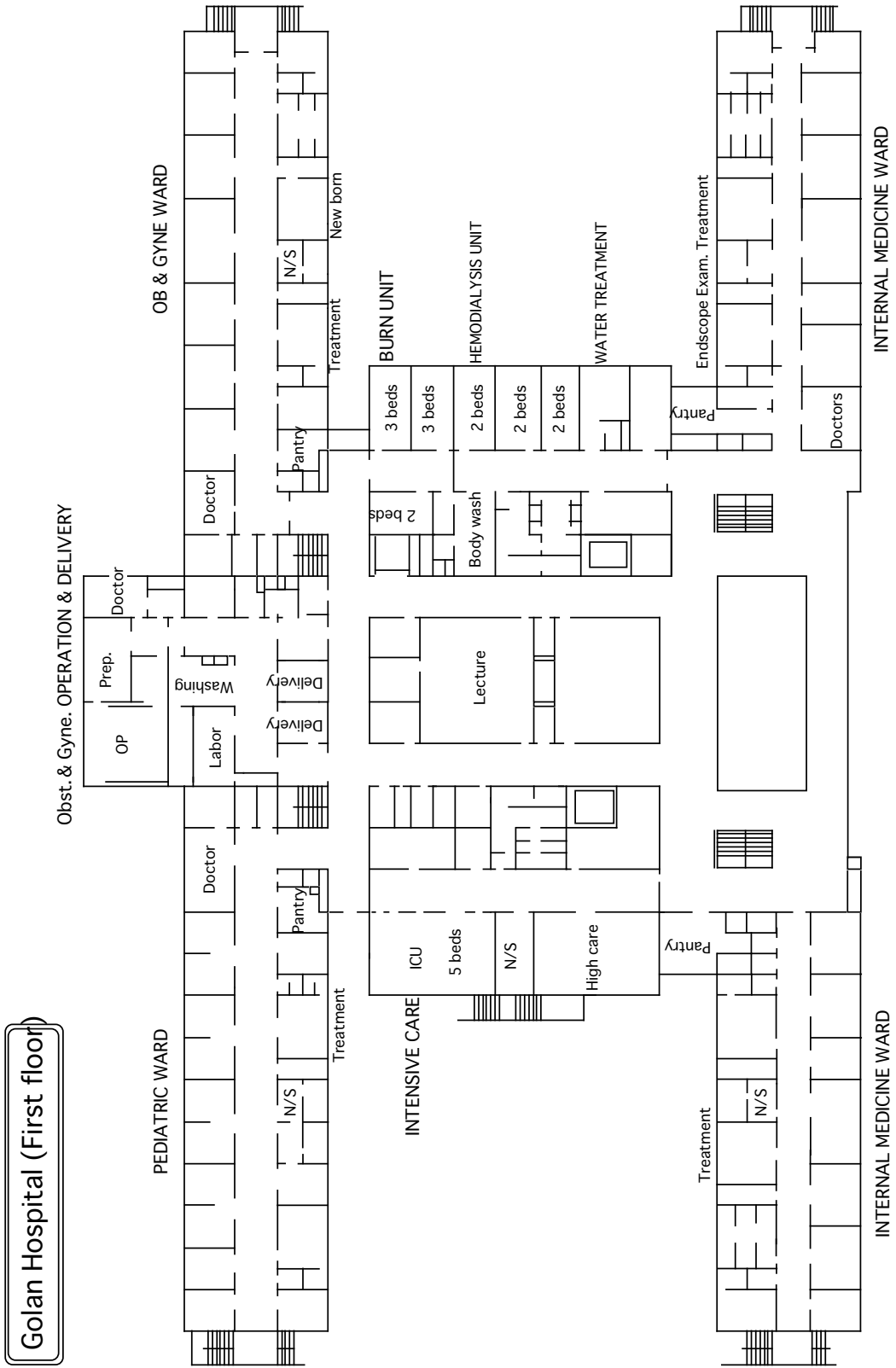


Fig 2-3 3rd floor layout



2-2-4 Implementation Plan

2-2-4-1 Implementation Policy

This project will be implemented, in accordance with the framework of grant aid program of the Japanese Government, after approval of the Cabinet, by signing an exchange of notes (E/N) regarding this project between the Governments of Japan and Syria. After signing of the E/N by the two Governments, a consultant (a Japanese firm) recommended by the Japan International Cooperation Agency will conclude a contract for consulting services with the Ministry of Health of Syria. This contract comes into effect only after verification by the Government of Japan. According to the contract, the consultant shall provide tendering arrangements and its related services and execution supervision. In case of equipment supply, a supplier of the equipment, a Japanese firm, awarded as a result of the tender, will conclude a contract with the Ministry of Health of Syria for further fulfillment, and yet this contract comes into effect only after verification by the Government of Japan. The supplier shall fulfill necessary procurement, delivery and installation of the equipment, give technical guidance for operation and maintenance of each piece of equipment, and prepare technical documentation such as manuals and lists of manufacturers and distributors that are necessary for maintenance after procurement.

2-2-4-2 Implementation Conditions

The Ministry of Health will procure consumables and spare parts, and intends to conclude a maintenance contract with manufacturers or their distributors for equipment that requires periodic inspections or repairs by the manufacturers or their distributors. In selecting equipment, it is necessary to require tendering conditions that equipment manufacturers should have distributors in Syria.

2-2-4-3 Scopes of Works

(1) The Government of Japan

- Expenses related to procurement of equipment for the project
- Expenses related to sea and land transportation to the project facilities
- Expenses related to installation and adjustment
- Expenses related to trial runs of the equipment and technical guidance for operation and maintenance.

(2) The Government of Syria

- Provision of information and data necessary for transportation, installation and adjustment
- Acquisition of permission necessary for importation

Preparation of the intended places for installation of the procured equipment
Securement of places for unloading of the procured equipment
Provision of storage of the equipment before installation and adjustment
Securement of passage to carry in the procured equipment
Repair of indoors after installation of equipment.

2-2-4-4 Consultant Supervision

The consultant, after completion of tendering arrangements and related services, shall supervise smooth implementation of equipment procurement and other works. Basic points of supervision are verification of equipment to be procured and contract documents, inspection of products and packing conditions before shipment, confirmation of the situations of sea/land transportation and customs procedures, the final acceptance inspection at the site of destination, etc. On the occasion of inspection before shipment, the consultant shall verify nonexistence of discrepancy between the goods to be shipped and contract details, and assign a third-party organization to conduct overall inspection regarding shipment and packing. The consultant should always try to grasp the progress of each process etc., and shall provide appropriate advice and guidance to the implementation agency on the Syrian side and the supplier of equipment, and report the progress of processes to authorities concerned of both the Governments. The consultant shall conduct spot investigations by its own supervisor or technical personnel of equipment planning.

2-2-4-5 Quality Control Plan

The equipment items to be procured under this project will be selected from ready-made models that have been successfully delivered to medical institutions in various countries. To ensure safety for patients, Japanese equipment shall comply with JIS, and European equipment or US shall comply with BS, DIN and FDA standards.

2-2-4-6 Procurement Plan

The equipment intended to procure in this project is not manufactured in Syria. Therefore, the equipment manufacturers shall be of Japan or third countries.

In case that equipment needs consumables, spare parts or periodic inspections, or that equipment can be repaired only by the manufacturers or authorized local agents, it is required that there should be authorized local agents in Syria and/or neighboring countries for those kinds of equipment.

Table 2-15 Equipment to be procured from Japan or Third Countries

No	EQUIPMENT NAME	Q'ty	No	EQUIPMENT NAME	Q'ty
X-1	X-ray Unit, Mobile	1	GL-18	Freezer, Laboratory	1
X-2	X-ray Unit, C-arm	1	GL-19	ELISA Reader	1
X-3	X-ray Unit, Fluoroscopy	1	OPH-6	Ophthalmoscope, Direct	1
X-4	CT Scanner	1	OPH-8	Refractor, Ophthalmologic	1
X-5	X-ray Unit, General	1	OPH-9	Tonometer, Ophthalmic	1
X-8	X-ray Film Processor	1	ENT-1	Audiometer	1
X-9	X-ray Film Processor, Table top	1	ENT-6	Hearing Resistance Unit	1
X-13	X-ray unit, Mammography	1	SUR-1	Bone Drill	1
GI-1	Ultrasonic Scanner, Color doppler	1	SUR-2	Cast Cutter, Electric	2
GI-2	Ultrasonic Scanner, General	1	SUR-3	Electrosurgical Unit, General-Purpose	4
GI-3	Ultrasonic Scanner, Obstetric/ Gynecology	1	SUR-4	Suction Unit, Electric	9
C-1	Defibrillator/Monitor	4	SUR-7	Operating Table with traction unit, Orthopedic	1
C-2	Central Monitoring System, for 8 beds	1	SUR-10	Delivery Table	2
C-3	Electrocardiograph, 3 Channel	4	SUR-11	Labor bed	2
C-5	Fetal Monitor	2	SUR-12	Examination Table, Gynecology	1
C-6	Pulse Oximeter	6	SUR-13	Drill, Cranial	1
C-7	Patient Monitor	12	END-2	Laparoscope	1
VF-1	Infant Incubator, transport	1	END-3	Cysto-Urethroscope	1
VF-2	Infant Incubator	4	AN-1	Anesthesia Unit	4
VF-4	Spirometer, Diagnostic	1	AN-2	Anesthesia Unit, portable	1
VF-5	Infusion Pump	8	AN-5	Ventilator	5
VF-6	Syringe pump	8	AN-6	Ventilator, for Neonatal	1
LAB-2	Hematology Analyzer, Automated	1	STE-1	High Pressure Steam Sterilizer	2
LAB-5	Urine Meter	1	ST-21	General Orthopedic kit	2
LAB-7	Spectrophotometer	2	ST-27	Skin Grafting Surgery Kit	2
LAB-10	Microtome, FREEZING	1	ST-35	Oral Surgery Kit	1
GL-4	Balance, Electronic	2	L-1	LCD Projector	1
GL-9	Distilling Unit	2	L-2	Visual Projector	1
GL-11	Microscope, Binocular	5	KT-1	Boiling pan	3
GL-12	Rolling Mixer	2	KT-2	Gas range	2
GL-13	Mixer, Vortex	3	KT-3	Peeler	1
GL-15	Micro-Pipette set	1	KT-4	Food slicer	1
GL-16	Refrigerator, Blood Bank	1	KT-5	Grill, electric	2
GL-17	Refrigerator, Laboratory	3	KT-6	Meat chopper	1

Table 2-16 Equipment to be procured from Third Countries

No	EQUIPMENT NAME	Q'ty
LAB-6	Blood Gas/Electrolyte Analyzer	1
SS-1	Kidney machine, Hemodialysis Unit	3
END-9	Rectoscope with light source	2
LD-1	Washer with extractor A	2
LD-2	Washer with extractor B	1
LD-3	Dryer	3
LD-4	Ironing machine, sheet	1

Table 2-17 Equipment that need authorized local agents in Syria and/or neighboring countries

NO	EQUIPMENT	Q'ty	NO	EQUIPMENT	Q'ty
X-1	X-ray Unit, Mobile	1	ENT-6	Hearing Resistance Unit	1
X-2	X-ray Unit, C-arm	1	SUR-1	Bone Drill	1
X-3	X-ray Unit, Fluoroscopy	1	SUR-2	Cast Cutter, Electric	2
X-4	CT Scanner	1	SUR-3	Electrosurgical Unit, General-Purpose	4
X-5	X-ray Unit, General	1	SUR-4	Suction Unit, Electric	9
X-8	X-ray Film Processor	1	SUR-5	Operating Table, Gynecology	1
X-9	X-ray Film Processor, Table top	1	SUR-6	Operating Table, General	2
X-13	X-ray unit, Mammography	1	SUR-7	Operating Table with traction unit, Orthopedic	1
GI-1	Ultrasonic Scanner, Color doppler	1	SUR-13	Drill, Cranial	1
GI-2	Ultrasonic Scanner, General	1	SUR-15	Vacuum extractor	1
GI-3	Ultrasonic Scanner, Obstetric/Gynecology	1	SUR-17	Examination lamp	6
C-1	Defibrillator/Monitor	4	SS-1	Kidney machine, Hemodialysis Unit	3
C-2	Central Monitoring System, for 8 beds	1	END-1	Colonoscope	1
C-3	Electrocardiograph, 3 Channel	4	END-2	Laparoscope	1
C-4	Fetal Heart Detector, Ultrasonic	2	END-3	Cysto-Urethroscope	1
C-5	Fetal Monitor	2	END-4	Gastrointestinal fiberscope	2
C-6	Pulse Oximeter	6	END-5	Duedono fiberscope	1
C-7	Patient Monitor	12	END-7	Endoscope trolley with Monitor	1
VF-1	Infant Incubator, transport	1	END-9	Rectoscope with light source	2
VF-2	Infant Incubator	4	AN-1	Anesthesia Unit	4
VF-3	Phototherapy Unit	2	AN-2	Anesthesia Unit, portable	1
VF-4	Spirometer, Diagnostic	1	AN-5	Ventilator	5
VF-5	Infusion Pump	8	AN-6	Ventilator, for Neonate	1
VF-6	Syringe pump	8	STE-1	High Pressure Steam Sterilizer	2
LAB-2	Hematology Analyzer, Automated	1	STE-2	High Pressure Steam Sterilizer, table top	7
LAB-5	Urine Meter	1	STE-4	U.S. Cleaner	1
LAB-6	Blood Gas/Electrolyte Analyzer	1	AM-1	Ambulance with Equipment	1
LAB-7	Spectrophotometer	2	PHY-6	Hot pack unit	1
LAB-10	Microtome, FREEZING	1	PHY-7	Low Frequency Therapy unit	1
LAB-11	Electrophoresis unit	1	PHY-8	Microwave Therapy Unit	1
LAB-12	Densitometer	1	PHY-9	Infrared Therapy Unit	1
GL-7	Hematocrit Centrifuge	1	PHY-11	Hydro Bubbler for whole body	1
GL-9	Distilling Unit	2	KT-1	Boiling pan	3
GL-19	ELISA Reader	1	KT-2	Gas range	2
OPH-1	Examination/Treatment Chair, Ophthalmic	1	KT-3	Peeler	1
OPH-8	Refractor, Ophthalmologic	1	KT-4	Food slicer	1
OPH-9	Tonometer, Ophthalmic	1	KT-5	Grill, electric	2
ENT-1	Audiometer	1	KT-6	Meat chopper	1
ENT-2	Chair, Examination/Treatment, ENT	1	LD-1	Washer with extractor A	2
ENT-3	ENT Treatment Unit	1	LD-2	Washer with extractor B	1
ENT-4	Microscope, Ear	1	LD-3	Dryer	3
			LD-4	Ironing machine, sheet	1

As for transportation, the equipment shipped from Japan should be packed in containers, and transported to Latakia port, Syria, in approx. 40 days, and cleared the customs at a bonded warehouse. After the customs clearance for about 3 days, the equipment should be transported by truck to the Golan Hospital. Equipment of third countries should be consolidated at

Hamburg port, Germany, and transported to Latakia port and transported by truck to the Golan Hospital after customs clearance as the shipment from Japan.

2-2-4-7 Soft Component

(1) Background

Presently, Golan Hospital is maintaining its facilities and medical equipment for outpatients department by five engineers during hospital hours. One engineer in charge of medical equipment and four are in charge of air-conditioning, electrical system, and machinery. Simple equipment items to be procured by this project will be maintained and repaired by the engineers of the hospital's maintenance department, while those requiring periodic servicing will be attended by the local agents of the equipment under a maintenance contract to be concluded between the hospital and each agent. Thus, the current maintenance engineers will be dealing the new equipment during hospital hours as well.

While the current maintenance staff, combined with maintenance services provided by equipment agents, are deemed sufficient to properly handle and maintain the equipment to be procured by this project, the hospital may encounter major problems shortly before and after its official opening as listed below:

Installing a wide variety of medical equipment all at the same time in a 120-bed hospital may create some confusion. Can the hospital staff operate and maintain all the equipment properly?

All operators of the equipment will be newly employed and assigned to new job sites in a newly established organization. They have no prior experience in working together, and there are no established procedures to provide how to maintain the equipment. To facilitate the introduction of new equipment to the new hospital, certain preparatory works and establishment of effective systems will be needed so that the maintenance department and the operators will be able to accept the equipment and receive operational training without major difficulties. Also, to ensure proper maintenance of the new equipment, preparation of equipment ledgers, manuals for handling equipment failure, and procedures for daily inspections by the operators will be necessary.

(2) Direct effect

As a result of the above preparation work, the operators and the maintenance department will be able to accept the equipment efficiently and effectively. In addition, a functional maintenance system will be established for the hospital.

(3) Output

Preparing the operators and the maintenance department for the acceptance of the equipment will facilitate the operation/maintenance training to be conducted by the equipment supplier at the time of its arrival.

Preparation of manuals, forms, and other documents for the operators and the maintenance department for dealing with equipment failure, disposal of expendable items, etc. will assist them in properly maintaining the equipment after the handover.

Instructing the maintenance department as to how to monitor daily inspections and other activities to be conducted by the operators will decrease the change of initial failure and trouble.

(4) Activities (detailed scope of works)

(i) Site Maintenance Department, Golan Hospital

(ii) Activities Activities of the consultant consist of the following:

Assistance for defining the roles of the maintenance personnel and the operators at the time of accepting the equipment, as well as for drafting operational procedures.

Assistance for the preparation of manuals, forms, and other documents for the maintenance personnel and the operators for handling equipment failure, disposal of expendable items, etc.

Assistance for the establishment of a system to monitor daily inspections to be conducted by the operators.

(5) Detailed Input Plan (by each job/session/field, no. of personnel, period)

(i) No. of Personnel to be Deployed

Assistance for the establishment of equipment maintenance system: 1 Japanese, 1.5 M/M

Term-1: 1 person, 1.0M/M, to be carried out within 2 months after selecting suppliers

Term-2: 1 person, 0.5M/M, to be carried out after equipment installation is completed

(ii) Activities Plan

Term-1 (1.0M/M)

Week 1 to Week 2:

Explaining project contents to the representatives of each hospital department

- Assistance for the formation of Equipment Acceptance Committee
- Discussions to define the responsibilities of the maintenance personnel and the equipment operators
- Assistance for the formulation of acceptance schedule
- Assistance for the drafting of operational procedures for the operators and the

maintenance personnel who will be involved in equipment installations and acceptance inspection

Week 3 to Week 4:

- Discussions (with operators and maintenance personnel) to determine how to maintain the equipment to be handed over
- Assistance for the preparation of manuals, forms, and other documents for dealing with equipment failure, disposal of expendable items, etc. (equipment maintenance log, repair request form, repair record, etc.)

Term-2 (0.5M/M)

Week 1: Discussions to determine the contents of daily inspections to be carried out by the operators, and organizing seminars

Week 2: Facilitating the daily inspections for each equipment type, monitoring, and discussions to identify points to be improved

(iii) Output

Organized Equipment Acceptance Committee

Written standard procedures for equipment installation and acceptance inspection for the operators and maintenance personnel concerned

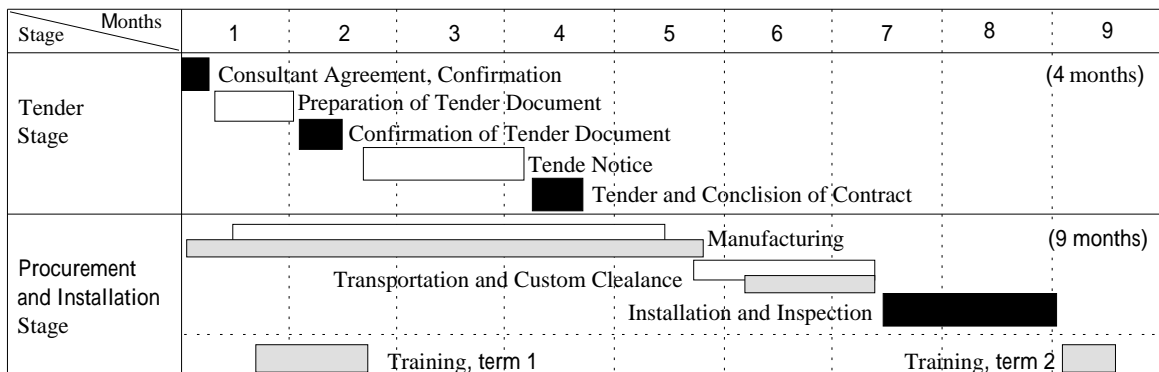
Manuals, forms, and other documents for dealing with equipment failure, disposal of expendable items, etc.

Records of daily inspections to be conducted by the operators, as well as discussions, seminars, monitoring, and other activities.

2-2-4-8 Implementation Schedule

Implementation process of this project is divided in two phases, namely a tendering stage and Implementation stage. The progress schedule after signing the E/N is shown in the following chart.

Figure 2-18 Progress schedule of the project implementation



2-3 Obligation of recipient country

Renovation Works to be done by the Syrian side for this project is described in "Section 2-2-4-3 Scope of Works ". However, at the Golan Hospital, modification works for some part of walls and/or partition screens, piping works for medical gasses, additional works for air-conditionings and new electricity line works are still being done. Estimated cost is approximately 230 thousands Syrian pound and these works is estimated to take around 2 months. Table 2-19 shows contents of works.

Table 2-19 Contents of Renovation works at Golan Hospital

Section	Contents of work	Cost (Syrian pound)
Pediatrics	Medical gasses piping work , Add4 points	30,000
ICU	Observation window work at Nurse station	10,000
Burn unit	Water/Drain piping work	3,000
	Electricity wiring work	5,000
Radiology	Water/Drain piping work	4,000
	Electricity circuit breaker work, (4points)	20,000 (5,000X4)
Clinical Lab.	Some laboratory table Dismantling work	1,000
Kitchen	Water/Drain piping work	15,000
	Electricity circuit breaker work, (5points)	25,000 (5,000X5)
Sterilization	Steam line work / Partition work / Electricity wiring work	40,000
Rehabilitation	Water/Drain piping work	3,000
	Waterproofing work (wall)	20,000
Laundry	Electricity circuit breaker work, (7points)	35,000 (5,000X7)
	Electricity wiring work (3phase)	10,000
Hemodialysis	Electricity wiring work (3phase)	6,000
	Water/Drain piping work	2,000
Others	Door work for equipment installation (5 points)	5,000 (1,000X5)
Total		234,000

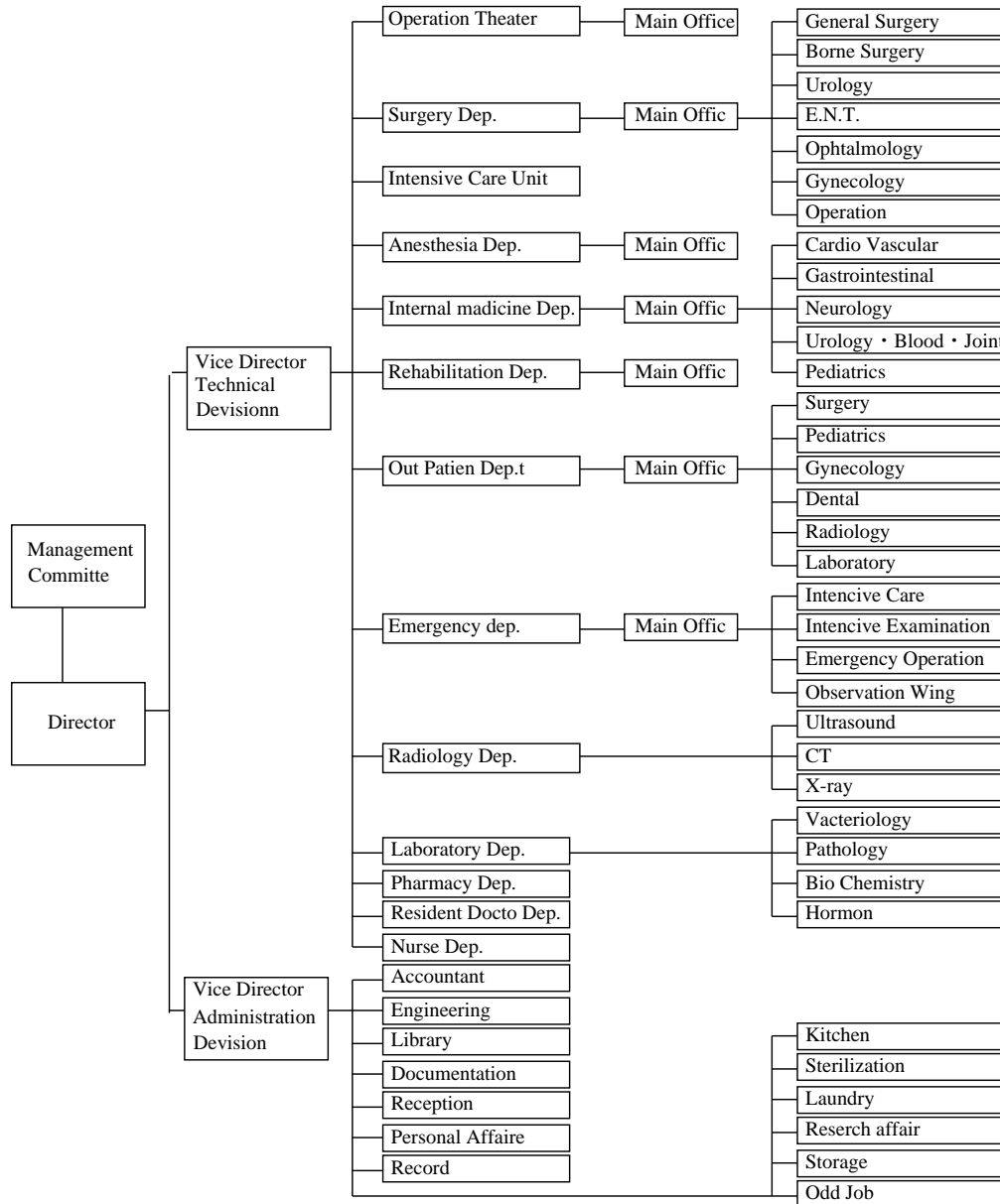
2-4 Project Operation Plan

2-4-1 Management plan

2-4-1-1 Organization of the Hospital

The Golan Hospital is currently running its outpatient departments with 45 persons of staff (16 doctors, 13 nurses, 5 operation and maintenance personnel and 11 factotums). The following structure is planned for the time, when the hospital is reinforced with the projected functions as the new Golan Hospital.

Figure 2-20 Organization Chart of the Golan Hospital



Now the Hospital Steering Committee is established to prepare for the opening of the hospital and is pursuing discussions on management and financial plans of the hospital. The Hospital Steering Committee composed of the Chief of the Department of Health of Quneitra province and representatives of the hospital staff, the Labor Relations Commission and the Local Assembly.

2-4-1-2 Staff allocation plan of the Hospital

The whole number of staff of the new hospital planned by the Ministry of Health is 341 persons. However, the Golan Hospital as the implementing agency is concerned about a lack

of medical specialists at the time of opening, and plans to increase the number of medical specialists at a little less than 30 persons (See the Table 2-21).

Table 2-21 Golan Hospital Staff Allocation plan at opening stage

Category	Number
Doctor (Dentist) + Pharmacist	55(27)
B.H.C (Manager level)	8
Paramedical	76
Nurse• Midwife	120
High school Graduate (Clerk level)	8
Worker	32
Odd job man	70
Total	396(341)

() : M.O.H planed No., Source :M.O.H.

The Golan Hospital is newly constructed medical facilities, so education of staff or their augmentation shall be pursued step-by-step. The hospital deliberated a human resources development and additional employment plan for a time period from 2004 to 2009, split in three phases, and intends to have manpower shown in the Table 2-22 in 2008(see next page).

2-4-2 Maintenance Plan

Simple equipment will be repaired by technical staff of the maintenance department within the Golan Hospital, but for such equipment that needs periodic inspection, the maintenance service contracts will be concluded with distributors for its maintenance and repair. The number of current engineers will be maintained at the time of opening, and additional 7 engineers and 12 technicians will be employed by 2008. Regarding the maintenance service contracts with manufacturers or local agents, the Department of Health of Quneitra province will take charge. And it will discuss and decide the issue with the Ministry of Health from the time when a supplier is determined as a result of the tender and to the time of equipment delivery, if equipment procurement by the grant aid will be put into practice. The maintenance department of the hospital will prepare the logbooks on maintenance and repair records and manuals, and will make daily checking and simple repair or adjustment of equipment. And manufacturers or their qualified local agents will repair complicated or delicate equipment in need of special measurement instruments, spare parts and repair technique. This form of maintenance arrangement is also adopted by medical facilities in Japan and can be considered appropriate.

Table 2-22 Golan Hospital Staff Allocation plan (2008)

Department		Dr. Specialist	Dr. Resident	Nurse	Midwife	Radio logist	Anesthesio logist	Lab. Technician	Pharmacist	Nutritionist	Physio therapist	Engineer	Technician	Dental Technician
Surgery	General	4	6	15										
	Borne	3	4	12										
	Urology	3	4	8										
	Obstetric & Gynecology	4	4	6	6									
	Nerve	3	3	6										
	Ear	3	3	6										
	Ophthalmology	2	3	4										
	Stomatology	2	3	4										2
Internal Medicine	Digestive	2	3	8										
	Chest	2	2	8										
	Neuro	2	2	6										
	Rheumatics	3	6	10										
	Hemodialysis	2	2	6										
	Pediatric	4	6	10										
	Cardiovascular	3	3	6										
Emergency	12	6	40		3	6	6							
Anaesthesia/Operation	5	10	15		1	10								
CCU	1	3	6											
ICU	1	3	6											
Radiology	2	3	3		8									
Laboratory	2	3					15							
Pathology	1	2												
Forensic	1	2												
Pharmacy	1	3						14						
Outpatient Clinic	1		15					3						
Rehabilitation	2	2	2							6				
Nutrition	1	2							3					
Maintenance											7	12		
Total		72	93	202	6	12	16	21	17	3	6	7	12	2

Job Description	University		Technical College	High School			Technical Institute	Junior High	Primary School	Skilled	Driver	Un qualified
	Business	Law		Engineering	Business	General						
Director, Administration		1										
Chief, Administration	1	1										
Information, Statistics	PC: 2, Library: 1 Public Inf:1		PC: 5									
Accountant	4		8		4	20						
Storage			3									
Secretary			5									
Technician									7			
Documentation								5				
Worker									20			10
Transportation									10			7
Cook			6					4				
Guard						5		5	8			
Building Maintenance				3			4					
Facility Maintenance			3								5	
Gardener			2									3
Total		11	32		32		4	14	38	7	5	20

2-4-3 Project cost

The total cost necessary to implement this project, under the conditions of estimation in the paragraph (3), amounts to 452.1 million Japanese yen. This cost estimate is provisional and would be further examined by the Government of Japan for the approval of the Grant. Shown below are shares in costs of the Japanese and Syrian sides.

(1) Japanese side

Item		Project cost estimation (million yen)	
Equipment	Department/Ward	97.7	414.1
	Diagnostics	135.8	
	Special Treatment	92.4	
	Supporting Department	78.2	
	Installation and Training cost	10.0	
Detail Design · Supervision · Soft Component		38.0	
Total		452.1	

(2) Syrian side

Item	Cost estimation
Preparation for equipment installation	230,000 sp (494,623 yen)
Total	30,000 sp (0.5 million yen)

(3) Conditions of the cost estimation of Japanese side

Time of the cost estimation July, 2003

Currency exchange rate 120.32 Japanese Yen/US Dollar,
130.53 Japanese Yen/Euro

Execution period 12 months

Ordering system Multiple partial ordering

Others This project is to be implemented according to the grant aid program of the Japanese Government.

This cost estimation of Japanese side is provisional and would be further examined by the Government of Japan for the approval of the Grant.

2-5 Other Relevant Issues

2-5-1 Operation and maintenance cost Estimation

2-5-1-1 Medical equipment operation and maintenance cost

In case of successful implementation of the project, yearly operation and maintenance expenses for consumables, spare parts and maintenance service contracts can be estimated as follows. This cost estimation is based on the numbers of expected patients and examinations

calculated in the paragraph 4) of Section 2-2-1-1 "Basic Concept", Chapter 2.

T2-23 Estimated patient number

Emergency	Operation	Out Patient	Laboratory	Hemodialysis	Rehabilitation	Endoscope	Total
50	8	48	198	3	2	8	317

T2-24 Estimated examination test number

Laboratory Test					Radiology		Ultrasound		CT	
Urine	Stool	Blood	Pathology	Total	Patient	Film	Patient	Film	Patient	Film
12	2	175	10	199	23	31	6	8	2	5

In Syria, such spare parts and consumables as X-ray films, dialysis membranes and standardized reagents that do not depend on manufacturers or models are centrally purchased by the Ministry of Health by yearly based tenders for further distribution to medical facilities of each province. Bulk purchase of spare parts and consumables that are dependent on equipment is difficult due to diversity of equipment models, so they are procured by each hospital on individual payment basis. Therefore, the following estimate is divided in two parts - shares of the hospital and the Ministry of Health.

Besides, as maintenance service are package deals concluded by the Ministry of Health, the expenses are counted in the share of the Ministry of Health based roughly on 5% of equipment cost, because maintenance expenses vary depending on manufacturers, models, etc. From the above mentioned, yearly operation and maintenance cost accompanied by necessary consumables, spare parts and maintenance service contracts can approximately be calculated as follows.

Table 2-25 Estimated yearly operation and maintenance cost (Unit : Syrian Pond, rate: Yen 100=46.5 SP)

	Golan Hospital	Ministry of Health	Total
Consumables and Spare Parts	SP 5,598,000 (Yen 12,036,000)	SP 18,239,000 (Yen 39,214,000)	SP 23,837,000 (Yen 51,250,000)
Maintenance Contract	-	SP 8,912,000 (Yen 19,160,000)	SP 8,912,000 (Yen 19,160,000)
Total	SP 5,598,000 (Yen 12,036,000)	SP 27,151,000 (Yen 58,374,000)	SP 32,749,000 (Yen 70,410,000)

Judging from the estimate, a yearly budget of 5,598,000 Syrian pounds (12,036,000 Japanese yen) should be secured for operation and maintenance cost accompanied by consumables and spare parts necessary for the equipment to be procured. This amount is approx. 10% of 52,985,000 Syrian pounds, the whole budget of the Golan Hospital for fiscal 2003. The Ministry of Health should secure a budget of 27,151,000 Syrian pounds (58,374,000 Japanese yen) for maintenance cost of the procured equipment for the Golan Hospital. This amounts to

as much as approximately 50% of the whole budget of the Golan Hospital for fiscal 2003, 52,985,000 Syrian pounds. However, the expenses other than those for maintenance service contracts can be deemed to have been spent on patients from Quneitra province who have been treated in Damascus other neighboring provinces, so they are not newly born expenses. Therefore, it is necessary for the Ministry of Health to secure 8,912,000 Syrian pounds (19,160,000 Japanese yen) of budget for maintenance service contracts. Syrian Government needs to secure a budget of 5,598,000 Syrian pounds (12,036,000 Japanese yen) for consumables and spare parts necessary for the equipment, and a budget of 8,912,000 Syrian pounds (19,160,000 Japanese yen) for maintenance service contracts, representing a total of 14,510,000 Syrian pounds (31,196,000 Japanese yen).

	Hospital	Ministry of Health	Total
Consumables and Spare Parts	SP 5,598,000 (Yen 12,036,000)		SP 5,598,000 (Yen 12,036,000)
Maintenance Contract	- -	SP 8,912,000 (Yen 19,160,000)	SP 8,912,000 (Yen 19,160,000)
Total	SP 5,598,000 (Yen 12,036,000)	SP 8,912,000 (Yen 19,160,000)	SP14,510,000 (Yen 31,196,000)

(Unit : Syrian Pond、 rate: Yen 100=46.5 SP)

(2) Hospital operation and management cost

Based on the actual expenditure at similar facilities in Syria, the Dar'a Hospital, in the fiscal year ending in March 2003, an estimated running cost of the newly constructed Golan Hospital is calculated as shown below.

1) Personnel expenses

On the basis of 341 persons of staff budgeted by the Ministry of Health, personnel expenses per person were added by 59,412 Syrian pounds for additionally intended 28 medical specialists. (Equivalent to approx. 128,000 JP Yen/year, approx. 10,000 JP Yen/month)

2) General administrative cost

Utilizing the actual expenditure of the Dar'a Hospital (410 beds) in the fiscal year ending in March 2003, an expenditure of the 120-bed hospital is estimated at 30% of the Dar'a Hospital.

Table 2-26 Estimated Golan hospital Annual operation Cost

Item	OperationCost	Ratio
1. TotalPersonalExpenses	22,767,140	38.7%
StaffSalary · Allowance	19,317,140	
Doctor,(Dentist),Pharmacist	55men (3,267,660)	
University	8men (1,452,000)	
Paramedical	76men (3,752,500)	
Nurse · Midwife	120men (6,300,000)	

Item	OperationCost	Ratio
High School 8men	(343,336)	
Worker 32men	(1,619,904)	
OddJobworker 70men	(2,581,740)	
Parttime · SeasonalEmployer		
Contractbasestaff · Expertsalary		
Specialworkallowance	1,200,000	
OvertimeSalary	1,500,000	
Otherallowance	750,000	
2. TotalExpenditureofGeneraloperation	36,120,046	61.3%
Transportation	160,387	
Communication (Tel · mail) · Water · electricity 720,000		
Heating · Fuel	1,060,801	
Drugs · Medicalmaterial	29,748,625	
clothes	360,000	
Stationery · Publications		
Maintenance	1,440,000	
Foods	1,415,232	
OtherOperationexpenditure	1,215,000	
Total (1+2)	58,887,186	100.0%

By this estimation, a yearly running cost amount to 58,887,000 Syrian pounds (126,638,700 Japanese yen), which exceeds the budget of the Golan Hospital for fiscal 2003 - 52,895,000 Syrian pounds (113,752,700 Japanese yen) - at about 11%. This is, supposedly, because the budget for fiscal 2003 did not allow for opening of the hospital in the beginning of the year and the running cost is included only partially.

Summarizing the above, the operation and maintenance costs of the Golan Hospital is estimated as shown in the following table, which come up to approx. 140% of the Golan Hospital budget for fiscal 2003.

Table 2-27 Estimated operation and maintenance cost of the Golan Hospital

	Hospital	Ministry of Health	Total
Consumables and Spare Parts	SP 5,598,000 (Yen 12,036,000)		SP 5,598,000 (Yen 12,036,000)
Maintenance Contract	- -	SP 8,912,000 (Yen 19,160,000)	SP 8,912,000 (Yen 19,160,000)
Hospital Operation Cost	SP 58,887,186 (Yen 126,638,700)		SP 58,887,186 (Yen 126,638,700)
Total	SP 64,485,000 (Yen 138,674,700)	SP 8,912,000 (Yen 19,160,000)	SP 73,397,000 (Yen 157,834,700)

(Unit : Syrian Pond, rate: Yen 100 : 46.5 SP)

Implementation of the Requested Japanese Assistance will cause increase in equipment maintenance cost by as much as 10% of the hospital budget of fiscal 2003. The entire operation cost of the hospital including the costs of personnel, lighting and fuel, drugs, etc.

will be 1.4 times as large as the hospital's present budget of fiscal 2003. The operation cost borne by the Golan Hospital will be as much as 0.02% of the total expenditure of the Ministry of Health of fiscal 2003, which can reasonably be shared by the recipient side.

The "Presidential Order of the Golan Hospital" issued in March 2002 dictates to set exceptionally the Golan Hospital as a special Hospital from other 120-bed hospitals and to give preferential treatment for its budget from the Ministries of Health and Finance. It is desired that the Government of Syria take top priority to meet the operation and maintenance costs which, according to the estimation, will increase at 40% of the Golan Hospital budget for fiscal 2003.

Chapter 3 Project Evaluation and Recommendations

Chapter 3 Project Evaluation and Recommendation

3-1 Project Effects

The table below summarizes the extent of effects and improvement of the present situation expected if the proposed project is implemented toward such objectives:

Table 3-1 Extent of effects and improvement of the present situation by the project implementation

Current situation and problems	Measures taken by this project (Scope of cooperation)	Extent of effects and improvement by the project
The Quneitra province has no hospitals. Medical services for residents are carried out by primary medical care facilities, such as health centers, but patients in need for tertiary care, surgical operation or hospitalization have to go far to hospitals in Damascus city, etc. The Ministry of Health has been promoting construction of a hospital for almost twenty years, which is eventually almost completed. However, there is a difficult situation in procurement of equipment and materials.	To furnish the following departments with equipment and materials which allow secondary medical services: Internal medicine department, surgery department, pediatric department, obstetric and gynecologic department, otolaryngology department, ophthalmic department, emergency department, clinical examination department, radiology department, operative treatment department, intensive care/monitoring department, antipyretic department, cookery department, laundry department	As the only hospital in the Quneitra province, the Golan Hospital will provide secondary medical services to local residents. Consequently, patients who had to be transferred to neighboring provinces or Damascus city can be diagnosed and treated on site. Also, patients who are referred to by subordinate facilities can be diagnosed and treated on site. In addition, completion of the hospital will upgrade the whole medical service system in the Quneitra province.

To follow describes the benefits expected to arise from implementation of the project.

1) Direct Benefits

The Golan Hospital, as secondary medical service institution with bed can provide secondary medical services for 112 thousand residents in the Quneitra province. Estimated activities of the hospital throughout a year based on the data of other provinces are as follows:

Table 3-2 Estimated activities of Golan Hospital

Category	Number of Patients
Outpatient	14,000
Emergency patient	18,000
Number of operations	2,100
Number of clinical tests	59,000

2) Indirect Benefits

1. Enhancement of the medical referral system in the Quneitra province

Once the Golan Hospital starts diagnosis and treatment services, patients who referred and forwarded from health and emergency centers to hospitals in neighboring provinces or Damascus city will be able to receive diagnosis and treatments on site. Thus, the medical referral system in the Quneitra province is expected to strengthen.

2. Alleviation of burden of medical facilities in Damascus city and neighboring provinces

Once the Golan Hospital starts diagnosis and treatment services, patients who have been referred or forwarded from the Quneitra province to hospitals in neighboring provinces or Damascus city will be taken care of by the Golan Hospital, and thus burden of the hospitals in other regions will be alleviated.

3-2 Objectives and Recommendations

(1) Clarification of the mission and role of the new hospital

In order that the Golan Hospital will offer high quality medical services trusted by patients and aim at a hospital that can contribute to the region, it is necessary to clarify basic philosophy, fundamental plan, management policy and so on, all of which will formulate a framework of the hospital. Introduced below is a proposal, and it is important that all the hospital staff and local residents jointly work out and recognize the mission and role of the new hospital.

In addition, for improvement in quality and future development of the hospital, it is desirable that efforts be put into evaluation and human resource development.

T3-3 Proposal of basic philosophy, fundamental plan and management plan

Basic philosophy	To clarify raison d'e-tre as the key hospital in the Quneitra province, to arduously pursue medical activities, to show respect for patients and provide high quality medical services to earn the trust of patients, and thus to aim at developing the hospital which contributes to the region
Fundamental plan	<ol style="list-style-type: none"> 1. To provide equal and appropriate treatment to local residents of Quneitra which has been the only province without a hospital across the country of Syria. 2. To furnish medical care functions in accordance with its position as the secondary medical care facilities for the region. 3. To seek collaboration with other local medical institutions (health centers, emergency centers) and special hospitals in Damascus city. 4. To target at geographic coverage of its medical care within the Quneitra province and 112,000 people of its population.
Management policy	<ol style="list-style-type: none"> 1. Hospital functions <ol style="list-style-type: none"> 1) To furnish functions as the key hospital in the Quneitra province in the light of collaboration with subordinate health and emergency centers, and superordinate special hospitals. 2) Obstetric and emergency departments shall be run 24 hours a day. 3) To concentrate on establishment of acute-phase treatment (from one to two weeks of hospitalization) for the time being. 4) The examination and radiology departments which can be centralized shall be shared by each department and run around the clock. 2. Governing body <ol style="list-style-type: none"> 1) The role and responsibility of each department shall be clarified. 2) Local representatives shall be incorporated into the governing body to make it an organization which can reflect outside opinions.

Management policy	<p>3. Efficient management of the hospital To aim at efficient hospital management along with introduction of autonomy system, while improving the quality of medical services.</p> <p>1) To improve efficiency of services by appropriate staffing and outsourcing etc. in the light of the employment policy of Syria.</p> <p>2) Hospital income from paid medical care shall be effectively distributed, so as to enhance incentive of the staff and to ensure maintenance of facilities and equipment.</p>
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T3-4 Management Policy by Department

Hospitalization treatment	To target at acute stage diseases and provide efficient service.	<p>1. Target diseases</p> <ul style="list-style-type: none"> - Internist diseases: circulatory organ, digestive organ, nervus, uropoietic organ, respiratory organ, pediatrics - Surgical diseases: bone fracture, mild burn injury, uropoietic organ, digestive organ, malignant neoplasm, gynecologic disorder (ovary, uterine body, uterine cervix), minor ophthalmic surgery, minor otolaryngology surgery - Obstetrics: normal childbirth, cesarean section <p>2. Target departments for diagnosis and treatment Basic hospitalization capability for internal medicine, surgery, pediatric, obsteric and gynecologic departments, shall be improved, and an intensive care unit and a skilled nursing unit for monitoring severe emergency and postoperative patients shall be provided. In addition, also provided is a function of burn injury unit for treatment of patients of heat and burn injuries by disasters and accidents.</p>
Outpatient treatment	To center on treatment of patients who are difficult to be taken care of by health centers.	<p>1. Target departments for diagnosis and treatment The subjects which are currently practiced (internal medicine, surgery, pediatric, obsteric and gynecologic, ophthalmic, and otolaryngology departments) are necessary for local residents and those services shall be continued. In addition, dialysis treatment will newly start as the only facilities with the service in the province.</p> <p>2. System of patients' first visit and revisitation First visit patients are those who are referred to by health centers. Revisitation is subject to appointments.</p> <p>3. Referral and back-referral system A coordinating department shall be introduced which is concerned with collaboration with superordinate institutions, emergency centers and health centers for smooth operation of the referral system.</p>
Emergency medical care	To be ready around the clock for primary and secondary emergency medical service of all internal medicine and surgery departments.	<p>1. To promptly provide initial treatment for tertiary emergency patients (with GCS, or Glasgow Coma Scale, score 12 or less) and transfer to specialized medical facilities.</p> <p>2. To engage in emergency medical activities within its service area as the headquarters of emergency medicine of the Quneitra province in collaboration with the emergency care system (emergency calls).</p> <p>3. Parturient patients in the nighttime are treated by the obsteric department.</p> <p>4. To enhance cooperation with the centralized radiology and examination departments.</p>
Obsteric care	To aim at comprehensive	<p>1. To serve normal and emergency childbirth, and cesarean</p>

	maternal and child health service, including predelivery and postpartum periods, in collaboration with each health center and ambulatory obstetrics.	<p>section.</p> <ol style="list-style-type: none"> 2. Conditions for acceptance of high-risk delivery cases shall be determined in advance, and patients shall be accepted as much as possible. In case pregnancy with complication (heart disease, respiratory disease), abnormal pregnancy or hypoplasia in the fetus are known, the patients shall be transferred to special hospitals. 3. The obstetrical service is open for emergency patients in the nighttime.
Central consultation	To create functions and administration system which can respond to hospitalization, outpatients and emergency medical care.	<ol style="list-style-type: none"> 1. To furnish medical care functions in accordance with its position as the key hospital: Surgery, radiology, electrocardiogram, ultrasonic, examination, rehabilitation, sterilizers, medicaments
Maintenance	To establish an effective operation and maintenance system of the facilities and equipment, including outsourcing, in order to maintain high quality medical care functions and hospital environment.	<ol style="list-style-type: none"> 1. Operation and maintenance manuals shall be prepared, while aiming at enhancement of operation and management skills, including of operators.
Administrative department	To establish medical care and management functions for improvement of medical service quality, to clarify the organizational structure and service classification, and to strictly evaluate the staff.	<ol style="list-style-type: none"> 1. Administration manuals shall be prepared for each department and the whole facilities. 2. Business management information (Data on activities: number of patients, number of surgical operations, number of examinations, etc. Data on income and expenditure: budget, hospital earnings, items of expenses, ratios, etc.) shall be utilized in order to increase business efficiency.
	Material management	To strictly adhere to inventory management by establishing management procedures of inhouse materials (equipment, medicaments, expendable supplies), and aim at promoting efficiency and laborsaving by systematic procurement.
	Medical information management	Medical information items between the hospital and other local medical facilities shall be standardized, so that information can be mutually compared.
	Storage of medical records and films	Centralized management shall be introduced.
	Control over medical waste	To separate from general waste and establish an appropriate disposal method together with the local community in line with environmental measures.

(2) Coordination with technical cooperation and other donors

In implementing this grant aid project, the staffing intended by the Golan Hospital and the Ministry of Health is considered practical enough for its operation. However, in order to obtain greater effects, technical cooperation is desirable to support preparation of the hospital's opening and so on. Besides, the World Health Organization and other international organizations, the European Union, etc. are providing technical support concentrated on primary health care, and if it cooperates with the project toward enhancement of the medical referral system, further progress is expected in improvement of Syrian people's health.

3-3 Relevance of the project

This project is considered relevant to implementation in the framework of our country's grant aid program, judging from the following:

Population that will benefit from the project is 112,000 of people who currently live in the Quneitra province.

Completion of the hospital in the underdeveloped region, the Quneitra province, will create an environment in which people can live in peace with the improved medical care system.

The medical equipment and materials that are intended for procurement in the project are at the same level as those currently used in Syria, and thus it is entirely possible to operate and maintain them on the Syrian side.

3-4 Conclusion

Because this project is expected not only to bring about considerable effects, as mentioned before, but also to contribute to filling in basic human needs of the residents in the Quneitra province, it has great significance for extending our country's grant aid for a part of the intended project.

It is expected that this Project will be smoothly and successfully implemented if Syrian side opens the Golan Hospital in 2005 as scheduled and further implements the matters described in Chapter 3-2 Objectives and Recommendations.

Appendices

1. Member List of the Study Team

(1) Basic Design Study

Team Leader	Ako MUTO	Second Project Managing Div. Grant Aid Management Dep. Japan International Cooperation Agency
Technical Adviser	Keisuke YAMASHITA	Assistant Professor, Emergency and Critical Care Medicine Dept. Jichi Medical School
Project Manager	Shigetaka TOJO	International Techno Center Co., Ltd.
Regional Health / Hospital Management	Shigehito AKAGI	ITEC cooperation
Equipment Planner / Facilities Planner I	Kenji ISHIDA	ITEC cooperation
Equipment Planner / Facilities Planner II	Shuuichi MURASHITA	International Techno Center Co., Ltd.
Cost / Procurement Planner	Toshihiko MATSUKI	International Techno Center Co., Ltd.
Interpreter	Tomoya TAKASE	International Techno Center Co., Ltd.

(2) Explanation of Draft Final Report

Team Leader	Ako MUTO	Second Project Managing Div. Grant Aid Management Dep. Japan International Cooperation Agency
Project Manager	Shigetaka TOJO	International Techno Center Co., Ltd.
Equipment Planner / Facilities Planner I	Kenji ISHIDA	ITEC cooperation
Equipment Planner / Facilities Planner II	Shuuichi MURASHITA	International Techno Center Co., Ltd.
Interpreter	Tomoya TAKASE	International Techno Center Co., Ltd.

2. Study Schedule

(1) Basic Design Study

No.	Date		Ms. MUTO Aka, Dr. YAMASHITA Keisuke	Project manager	Regional Health/ Hospital Management	Equipment Plan/ Facility Plan 1	Equipment Plan/ Facility Plan 2	Procurement Plan/ Cost Estimate	Interpreter
				TOJO Shigetaka	AKAGI Shigehito	ISHIDA Kenji	MURASHITA Shuichi	MATSUKI Toshihiko	TAKASE Tomoya
1	22-May	Thr		NRT Millan17:30arrive (AZ787) Millan20:30 Left (AZ830)		NRT Millan17:30arrive Millan20:30 Left			
2	23-May	Fri		DMS01:25arrive Preparation of Survey (Arrange Car, Interpreter etc)		DMS01:25arrive Preparation of Survey (Arrange Car, Interpreter etc)			
3	24-May	Sat		Cautesy call AM: MOH PM:JICA		Cautesy call : MOH,and JICA (Survey Schedule, Inseption report, Presentation, Request data to Health Office)			
4	25-May	Sun		Survey: Quneitra Hospital, Health Center(2),Al-Watani Hospital in Daraa and Sweida		NRT Millan17:30arrive (AZ787) Millan20:30 Left (AZ830)			
5	26-May	Mon	Leave Narita	MOH:Survey on18Hospital Project,Emergency system	Arrive Damascus on:01:25 go with Project Manager	Qunetra Hospital survey:(Equipmet and Facility) (With MOH staff, Architect/ Biomedical Engineer)		Accompany with Project manager	
6	27-May	Tue	Arrive Damascus, Cautesy call MOH,MOF,JICA,EOJ	Damascus and Quneitra Health Office (Health data, Budget, etc)	Qunetra Hospital survey:(Equipmet Facility) (With MOH staff, Architect/ Biomedical Engineer)				
7	28-May	Wed	Quneitra Hospital/ Health center (2 centers in Quneitra)		Meeting at MOH (Equipment Plan • Pick up Drawings)				
8	29-May	Thr	Project Presentation By Moh Damascus Hospital survey			NRT Millan17:30arrive Millan20:30 Left			
9	30-May	Fri	Meeting within the Team			DMS01:25arrive			
10	31-May	Sat	Meeting with MOH	Study at Daraa Health office	Meeting at MOH (Equipment Plan • Facility)	NRT Millan18:00 Millan20:30			
11	1-Jun	Sun	Survey Al-Watani Hospital in Daraa and Sweida	Study at Sweida Health office	Meeting at MOH (Equipment Plan • Facility)	DMS01:25arrive Preparation of Agent Survey			
12	2-Jun	Mon	Discussion of Minute of Meeting at MOH		Survey at MOH/ Statictic dep/ Financial dep	Discussion of Minute of Meeting at MOH	Agent Survey		
13	3-Jun	Tue	Discussion of Minute of Meeting at Quneitra Hospital						
14	4-Jun	Wed	Discussion of Minute of Meeting at MOH						
15	5-Jun	Thr	Sign of Minute of Meeting at MOH, Report to EOJ and JICA	Survey at MOH/ Statictic dep/ Financial dep	Sign of Minute of Meeting at MOH		Agent and Procurement Survey		
16	6-Jun	Fri	Leave Damascus	Documentation Work at Hotel					
17	7-Jun	Sat	Arrive Narita	Survey at UNICEF/UNROWA	Survey at MOH/ Statictic dep/ Financial dep	Meeting at MOH (Equipment • Facility, allocation, Syrian side work)	Agent and Procurement Survey		
18	8-Jun	Sun		Survey at WHO	Leave Damascus on 5:00 Arrive Millan on14:35	Meeting at MOH (Facility:Water Drain etc)	Meeting at MOH (Equipment)	Agent and Procurement Survey	
19	9-Jun	Mon		Survey at Embassy of Spain and Italy and EU Office	Arrive Narita 9:25	Meeting at MOH (Equipment)	Meeting at MOH (Electrical Facility)	Damascus 5:00 (AZ829 Milan14:35 (AZ829)	
20	10-Jun	Tue		Meeting at Quneitra Hospital		Meeting at Quneitra Hospital		Narita 9:25	
21	11-Jun	Wed	Meeting at MOH	Meeting at MOH(Equipment)					
22	12-Jun	Thr	Meeting at MOH Report to EOJ and JICA	Meeting at MOH Report to EOJ and JICA					
23	13-Jun	Fri	Damascus 5:00 (AZ829 Milan14:35 (AZ829)	Damascus 5:00 (AZ829 Milan14:35 (AZ829)					
24	14-Jun	Sat	Narita 9:25		Narita 9:25				

(2) Explanation of Draft Final Report

No.	Date		Ms. MUTO Ako	Project manager	Equipment Plan / Facility Plan 1	Equipment Plan / Facility Plan 2	Interpreter
				TOJO Shigetaka	ISHIDA Kenji	MURASHITA Shuichi	TAKASE Tomoya
1	23-Aug	Sat.		NRT Amsterdam (KL403) Amsterdam (KL403) Damascus			Accompanying with Project Manager
2	24-Aug	Sun.	Leave Narita	DMS 01:25arrive, Courtesy call at MOH, JICA office, Explanation of Schedule & Draft report, and preparation of survey			
3	25-Aug	Mon	Arrival at DMS, Courtesy call at MOH and JICA office	Discussion of draft report and equipment specification etc at MOH and Quneitra health dept.			
4	26-Aug	Tue	Meeting at Golan Hospital, (Equipment specification and verification of facilities of hospital)				
5	27-Aug	Wed	Meeting at MOH (Equipment specifications and Syrian side work and etc.)				
6	28-Aug	Thu.	Discussion of Minute of Meeting at MOH				
7	29-Aug	Fri	Meeting within the Team				
8	30-Aug	Sat	Meeting at Golan Hospital, (Equipment specification and Syrian side work : renovation of the facilities)				
9	31-Aug	Sun	Sign of Minute of Meeting at MOH, Report to EOJ and JICA				
10	1-Sep	Mon	Leaving Damascus (KL404) to Amsterdam,				
11	2-Sep	Tue	Amsterdam (KL861) to Tokyo arrival at 9:00				

3. List of Parties concerned in the Recipient Country

Ministry of Health	Dr. Mohammed Eyad Chatty Dr. Mahmoud Dashash Mr. Farid Akl	Minister of Health Director of Planning & Statistics Head of planning div.
State Planning Commission	Mr. Bassam Al Sibai	Director of Technical & Scientific Cooperation
Quneitra Health Department	Dr. Hassan Issa	Head of Quneitra Health Department
Golan Hospital	Dr. Sallah Ismail Dr. Mohamed Ebrahim Miss. Khaldiah Kaboul Dr. Hassan Al-Ibrahim Dr. Morhej Mostafa Mr. Majed Borjas Mr. Hassan Hommoud Dr. Ousarma Kamalmez Mr. Radwan Tahhan Mr. Mazan Mriod	Director Vice-director Chief engineer, Service dept. Chief doctor, Internal dept. Chief doctor, Surgery dept. Chief doctor, Nursing dept. Accounting manager Family doctor Representative of residence, Management committee Representative of residence, Management committee
<u>Related institutions:</u>		
Damascus hospital	Dr. Kamal Al Hamasneh Mr. Husan Hamdan	Director Chief, Service dept.

Other donors:

G.T.Z.

Prof. Detlef Schwefel

Advisor

E.U.

Dr. Gerd Guenter Kloewer

Health sector modernization
project, Senior Health
Economist

Mr. Erik Lamontagne

Delegation of the European
Commission in Syria

4. Minutes of Discussion

(1) Basic Design Study

MINUTES OF DISCUSSIONS
ON THE BASIC DESIGN STUDY
ON THE PROJECT FOR SUPPLYING MEDICAL EQUIPMENT
FOR GOLAN HOSPITAL IN SYRIAN ARAB REPUBLIC

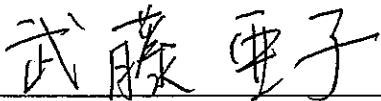
In response to a request from the Government of Syrian Arab Republic (hereinafter referred to as "Syria"), the Government of Japan decided to conduct a Basic Design Study on the Project for Supplying Medical Equipment for Golan Hospital (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Syria the Basic Design Study Team (hereinafter referred to as "the Team"), which is headed by Ms. Ako MUTO, Second Project Management Division, Grant Aid Management Department, JICA, and is scheduled to stay in the country from May 23 to June 12, 2003.

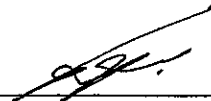
The Team held discussions with the officials concerned of the Government of Syria and conducted a field survey in the study area.

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

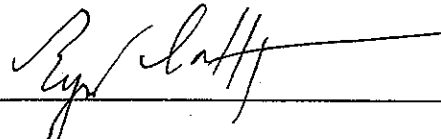
Damascus, June 5, 2003



Ms. Ako MUTO
Team Leader
Second Project Management Division
Grant Aid Management Department
JICA
Japan



Mr. Bassam Al Sibai
Deputy Head
State Planning Commission
Syrian Arab Republic



Dr. Mohammed Eyad Chatty
Minister
Ministry of Health
Syrian Arab Republic

ATTACHMENT

1. Objective of the Project

The objective of the Project is to assist provision of secondary level medical services based on the Health Sector Strategy from 2000 to 2020 at the Golan Hospital. The sphere of medical services is clarified in 7-1.

2. Project site

The Project site is located at Golan Hospital in Al-Baath City, Governorate of Qunaitra.

3. Responsible Agency and Implementing Agency

The responsible agency is Ministry of Health (Directorate of Planning), Qunaitra Health Directorate, and the implementing agency is Golan Hospital (hereinafter referred to as "the Syrian Side"). The organization chart is as Annex 1.

4. Items requested by the Government of Syria

After discussions with the Team, the items described in Annex-2 were finally requested by The Government of Syria. JICA will assess the appropriateness of the request and will recommend to the Government of Japan for approval.

However, the final components of the Project will be decided after further studies.

5. Japan's Grant Aid Scheme

5-1. The Syrian side understands the Japan's Grant Aid Scheme explained by the Team, as described in Annex-3.

5-2. The Syrian side will take the necessary measures, as described in Annex-4~5, for smooth implementation of the Project, as a condition for the Japan's Grant Aid to be implemented.

6. Schedule of the Study

6-1. The consultants will proceed to further studies in Syria until June 12, 2003.

6-2. JICA will prepare the draft basic design report in English and dispatch a mission in order to explain its contents around August 2003.

6-3. In case that the contents of the draft report are acceptable in principle by The Syrian side, JICA will complete the final report and send it to the Syrian side around October, 2003.

After the final report is completed, it is open to public.

7. Other relevant issues

7-1. Name of the Project

Upon the request from the Syrian side, both sides agreed to name the Project "The Project for Supplying Medical Equipment for Golan Hospital".

2.4
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7-2. Medical services in Golan Hospital

- 1) Bed capacity : around 120 beds
- 2) Internal Medicine
- 3) Surgery
- 4) Pediatrics
- 5) Obstetrics & Gynecology
- 6) Ophthalmology
- 7) ENT
- 8) Central Laboratory
- 9) Radiology
- 10) Physiotherapy
- 11) Emergency
- 12) Out-Patient
- 13) I.C.U. and High Care Unit
- 14) Hemodiaysis

Both sides agreed with the block plan of the Golan Hospital as Annex-6.

7-3. Utilization of the Equipment

Both sides agreed that the equipment procured by the Project shall be used within the Golan Hospital.

7-4. Criteria to select the equipment

Based on the objective of the Project and medical services in Golan Hospital, the criteria to select the equipment was summarized in Annex-7.

2 ✓ 7-5. Budgetary Allocation

- 1) The Team confirmed that Ministry of Health had made necessary budgetary measures to allocate 341 medical staffs.
- 2) The Syrian side agreed to allocate budgets to manage the Golan Hospital constantly.

7-6. Necessary preparations by The Syrian Side

The Syrian side agreed to secure infrastructure such as electricity, steam, water, drainage medical gas before the installation work.

7-7. Recommendation by the Team

The Team strongly recommended to maintain the existing facilities, such as steam boilers, hot water boilers, air handling unit, and related pipelines and connections.

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7-8. Other donors' Projects

The Syrian side explained that the EIB's loan project for 15 Hospitals didn't include Golan Hospital.

7-9. Revealing the detailed information

Both side confirmed that the detailed specifications of the equipment and other technical information shall not be released before the tender to be held in the implementation stage of the Project.

Annex-1: Organization Chart

Annex-2: Lists of the Equipment

Annex-3: Japan's Grant Aid Scheme

Annex-4: Flowchart of Japan's Grant Aid Procedures

Annex-5: Major Undertakings to be taken by Each Government

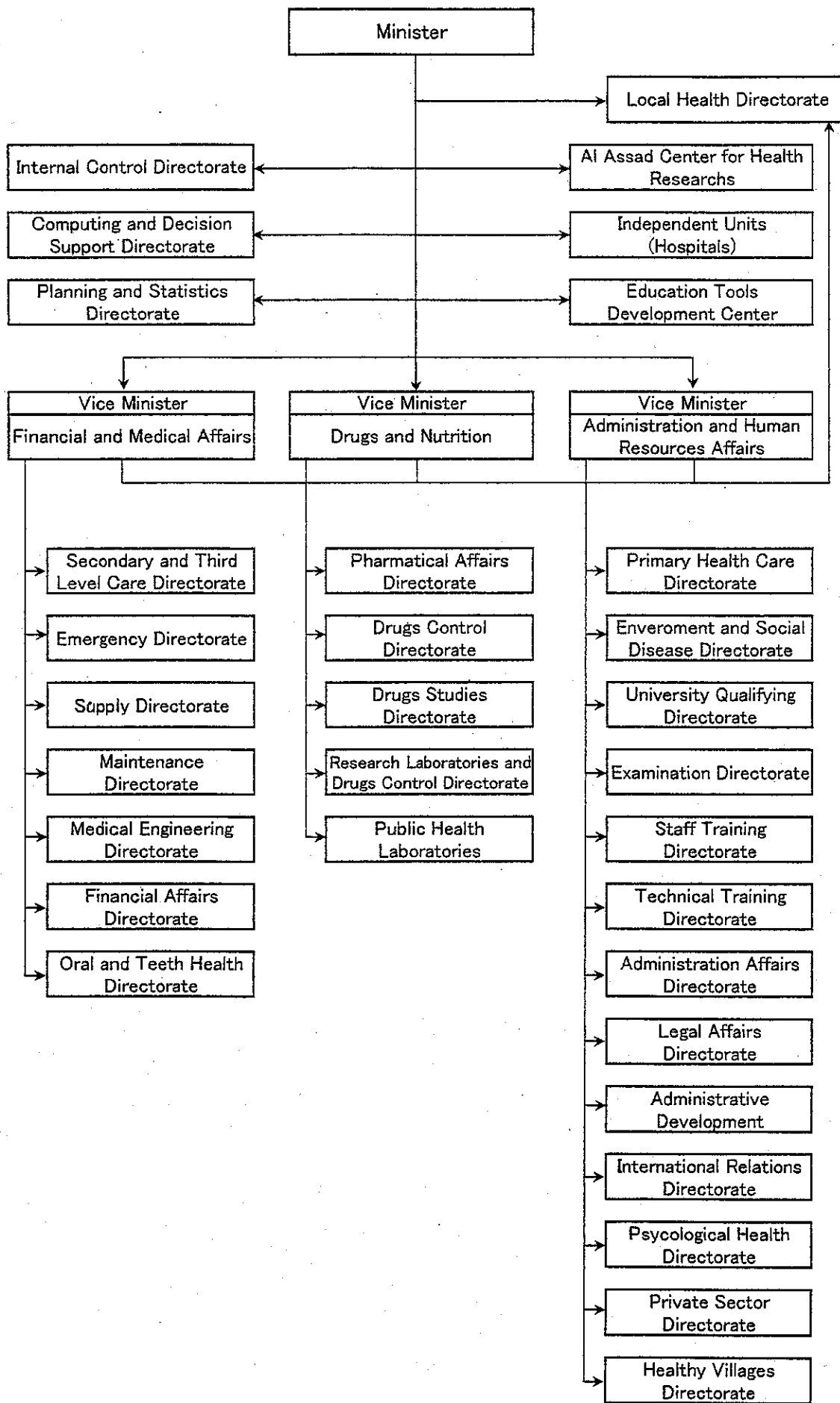
Annex-6: Block Plan of the Golan Hospital

Annex-7: Criteria to select the Equipment

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Organization Chart of Ministry of Health



2 ✓

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Department																			
Equipment	QTY	E.R.	X-RAY	OPT	LAB	I.C.U	High Care	INT.	PED.	OB/ GY	SUR.	OUT P.	CSSD	KITCHEN	LAUNDRY	LECT.	REHA.	TRANS.	
X-RAY EQUIPMENT GROUP																			
X-1 X-ray Unit, Mobile	1		1																
X-2 X-ray Unit, C-arm	1			1															
X-3 X-ray Unit, Fluoroscopy	1		1																
X-4 CT Scanner	1		1																
X-5 X-ray Unit, General	1		1																
X-6 X-ray Apron	10		10																
X-7 X-ray Grove	10		10																
X-8 X-ray Film Processor	1		1																
X-9 X-ray Film Processor, TABLE TOP	1		1																
X-10 Film viewer, mobile stand type	2																		
X-11 Film loading table	1		1																
X-12 Dark room accessory	1		1																
X-13 X-ray unit, Mammography	1	1																	
GENERAL IMAGE EQUIPMENT																			
GI-1 Ultrasonic Scanner, Color doppler	1					1													
GI-2 Ultrasonic Scanner, General	2	1						1											
GI-3 Ultrasonic Scanner, Obstetric/Gynecology	1									1									
CARDIAC EQUIPMENT GROUP																			
C-1 Defibrillator/Monitor	4	1		1						1									
C-2 Central Monitoring System, for 8 beds	1					1													
C-3 Electrocardiograph, 3 Channel	4	1				1		1											
C-4 Fetal Heart Detector, Ultrasonic	2									1		1							
C-5 Fetal Monitor	2									2									
C-6 Pulse Oximeter	6							2	4										
C-7 Patient Monitor	12	3		3				2		2		2							
VITAL FUNCTION EQUIPMENT GROUP																			
VF-1 Infant Incubator, transport	1									1									
VF-2 Infant Incubator	4									4									
VF-3 Phototherapy Unit	2									2									
VF-4 Spirometer, Diagnostic	1									1									
VF-5 Infusion Pump	8	2				6													
VF-6 Syringe pump	8					4				4									
DIAGNOSTIC LABORATORY EQUIPMENT GROUP																			
DL-1 Bilirubinmeter	1				1														
DL-2 Hematology Analyzer, Automated	1				1														
DL-3 Colony Counter	1				1														
DL-4 Electrolyte Analyzer	1				1														
DL-5 Glucose Analyzer	1				1														
DL-6 pH Meter	1				1														
DL-7 Urine Meter	1				1														

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EQUIPMENT LIST

ANNEX-2

Department																	
Equipment	QTY	E.R.	X-RAY	OPT	LAB	I.C.U	High Care	INT.	PED.	OB/ GY	SUR.	OUT P.	CSSD	KITCHEN LAUNDRY	LECT.	REHA.	TRANS.
DL-8	Blood Gas/pH Analyzer	1			1												
DL-9	Spectrophotometer	2			2												
DL-10	Timer	3			3												
DL-11	Blood Cell Counter, manual	2			2												
DL-12	Microtome, FREEZING	1			1												
GENERAL LABORATORY EQUIPMENT GROUP																	
GL-1	Water Bath, Laboratory	2			2												
GL-2	Centrifuge, Table Top	3			3												
GL-3	Shaker Laboratory	3			3												
GL-4	Balance, Electronic	2			2												
GL-5	Washer, glassware	1			1												
GL-6	Washer, Pipette	1			1												
GL-7	Hematocrit Centrifuge	1			1												
GL-8	Diluter	1			1												
GL-9	Distilling Unit	2			2												
GL-10	Incubator, Laboratory	1			1												
GL-11	Microscope, Binocular	5			5												
GL-12	Rolling Mixer	2			2												
GL-13	Mixer, Vortex	3			3												
GL-14	Drying Oven	1			1												
GL-15	Micro-Pipette set	1			1												
GL-16	Refrigerator, Blood Bank	1			1												
GL-17	Refrigerator, Laboratory	3			3												
GL-18	Freezer, Laboratory	1			1												
GL-19	ELISA Reader	1			1												
OPHTHALMOLOGY EQUIPMENT GROUP																	
OPH-1	Examination/Treatment Chair, Ophthalmic	1										1					
OPH-2	Chart, Eye, Visual Acuity	1										1					
OPH-3	Extractor, Metal, magnetic	1										1					
OPH-4	Head Mirror	1										1					
OPH-5	Lens meter	1										1					
OPH-6	Ophthalmoscope, Direct	1										1					
OPH-7	Perimeter, Manual	1										1					
OPH-8	Refractor, Ophthalmologic	1										1					
OPH-9	Tonometer, Ophthalmic	1										1					
OPH-10	Trial Lens Set, Ophthalmic	1										1					
ENT EQUIPMENT GROUP.																	
ENT-1	Audiometer	1										1					
ENT-2	Chair, Examination/Treatment, ENT	1										1					
ENT-3	ENT Treatment Unit	1										1					
ENT-4	Microscope, Ear	1										1					
ENT-5	Laryngeal Mirror Set	2										2					

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EQUIPMENT LIST

ANNEX-2

Department

	Equipment	QTY	E.R.	X-RAY	OPT	LAB	I.C.U	High Care	INT.	PED.	OB/GY	SUR.	OUT P.	CSSD	KITCHEN	LAUNDRY	LECT.	REHA.	TRANS.	
ENT-6	Hearing Resistance Unit	1											1							
ENT-7	ENT Diagnostic Kit	2											2							
ENT-8	Otoscope	2											2							
GENERAL SURGICAL EQUIPMENT GROUP.																				
GS-1	Bone Drill	1			1															
GS-2	Cast Cutter, Electric	2	1		1															
GS-3	Electrosurgical Unit, General-Purpose	4			4															
GS-4	Suction Unit, Electric	9	1		4		2				2									
GS-5	Operating Table, Gynecology	1									1									
GS-6	Operating Table, General	2			2															
GS-7	Operating Table with traction unit, Orthopedic	1			1															
GS-8	Instrument Table	19	3		7		2	2			3	2								
GS-9	Delivery Table	2									2									
GS-10	Labor bed	2									2									
GS-11	Examination Table, Gynecology	1									1									
GS-12	Examination Table	8	3						2	1		2								
GS-13	Drill, Cranial	1			1															
GS-14	Bed with Limb Extension & External Fixed Equipment	2										2								
GS-15	Vacuum extractor	1									1									
GS-16	Suction bottle unit	10	2		8															
GS-17	Examination lamp	6	3									2								
GS-18	Intubation set	7	2		3		1				1									
GS-19	Intubation set, for neonate	1																		
SPECIAL SURGICAL EQUIPMENT GROUP.																				
SS-1	kidney machine, Hemodialysis Unit	3			3															
SS-2	Bath for body washing	1																		
SS-3	Stretcher for body washing	1																		
ENDSCOPE EQUIPMENT GROUP																				
END-1	Colonoscope	1																		
END-2	Laparoscope	1																		
END-3	Cysto-Urethroscope	1																		
END-4	Gastrointestinal fiberoscope	2							2											
END-5	Duodono fiberoscope	1							1											
END-6	Disinfector, Fiberscope	1							1											
END-7	Endoscope trolley with Monitor	1							1											
END-8	Endoscope cabinet	1							1											
END-9	Rectoscope with light source	2							2											
ANESTHESIOLOGY GROUP																				
AN-1	Anesthesia Unit	4			3															
AN-2	Anesthesia Unit, portable	1	1								1									
AN-3	Resuscitator, Manual	10	1		4		1		1		1	1								
AN-4	Ventilator	5					5													

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EQUIPMENT LIST

ANNEX-2

Department																			
Equipment	QTY	E.R.	X-RAY	OPT	LAB	I.C.U	High Care	INT.	PED.	OB/ GY	SUR.	OUT P.	CSSD	KITCHEN	LAUNDRY	LECT.	REHA.	TRANS.	
AN-5 Ventilator, for Neonatal	1								1										
STERILIZING EQUIPMENT GROUP																			
STE-1 High Pressure Steam Sterilizer	2												2						
STE-2 High Pressure Steam Sterilizer, table top	7	1		3						1		1	1						
STE-3 Sterilization Container set	1												1						
STE-4 U.S. Cleaner	1												1						
STE-5 Sink unit	1												1						
STE-6 Trolley for Instruments	10												10						
STE-7 Trolley for Linen	8												8						
TRANSPORT GROUP																			
T-1 Standard Ambulance	1																	1	
T-2 Ambulance with Equipment	1																	1	
SURGICAL TOOLS GROUP																			
ST-1 Ear Wash Tool Set	1			1															
ST-2 Tonsillectomy Kit	2			2															
ST-3 Nasal Instrument Kit	1			1															
ST-4 Laryngotomy kit	1	1																	
ST-5 Sinusal Surgery Kit	2			2															
ST-6 Instrument set for Nasal treatment	2			2															
ST-7 Eyelid Surgery Kit	1	1																	
ST-8 Lacrimal Duct Anapomosis Kit	1	1																	
ST-9 Prostatectomy Kit	2			2															
ST-10 Prostate Biopsy Kit	1			1															
ST-11 Urethrostomy Kit	1			1															
ST-12 Kidney Surgery Kit	1			1															
ST-13 General Urinary Surgery Kit	2			2															
ST-14 General Abdominal Surgery Kit	2			2															
ST-15 Minor Surgery Kit	5	2		3															
ST-16 Bile Duct Kit	1			1															
ST-17 Bowel Pliers Kit	2			2															
ST-18 Gallbladder Surgery Kit	2			2															
ST-19 Hernia Surgery kit, for adult	1			1															
ST-20 Hernia Surgery kit, for child	1			1															
ST-21 General Orthopedic kit	2			2															
ST-22 Thyreo (Thyroides) Surgery Kit	2			2															
ST-23 Minor Vascularity Surgery Kit	1	1		1															
ST-24 Vanulartomy Kit	1			1															
ST-25 Neck Surgery Kit	1			1															
ST-26 Skull Surgery Kit	1	1		1															
ST-27 Vertebrae Lumbales Surgery Kit	1			1															
ST-28 Delivery Instrument kit	4										4								
ST-29 Uteroabdominal Abscession Kit	2			2							2								

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		Department																	
	Equipment	QTY	E.R.	X-RAY	OPT	LAB	I.C.U	High Care	INT.	PED.	OB/GY	SUR.	OUT P.	CSSD	KITCHEN	LAUNDRY	LECT.	REHA.	TRANS.
ST-30	Uterocervical Abcission Kit	1									1								
ST-31	Uterine Curettage Kit	2									2								
ST-32	Cesarean Kit	4									4								
ST-33	Gynecologic Examination Instrument Kit	6									4		2						
ST-34	Dressing Kit	13	3				2		2	1	2	2	1						
ST-35	Oral Surgery Kit	1			1														
Lecture Room Equipment Group																			
L-1	LCD Projector	1															1		
L-2	Visual Projector	1															1		
Ward General Equipment Group																			
W-1	Oxygen Flow meter w / Humidifier	60																	
W-2	Wall suction unit	60																	
W-3	HI-LO Stretcher	12	2		4				2	1	1	2							
W-4	Stretcher for Emergency treatment	1	1																
W-5	IV Pole	60																	
W-6	Wheel chair	9	2					1	2	1	1	2							
W-7	Bed, 3-crank	8					4	4											
Physiotherapy Equipment Group																			
PH-1	Parallel bar	1																	1
PH-2	Lower limb exerciser	1																	1
PH-3	Bicycle Exerciser	2																	2
PH-4	Exercise stair	1																	1
PH-5	Shoulder wheel	1																	1
PH-6	Hot pack unit	1																	1
PH-7	Low Frequency Therapy unit	1																	1
PH-8	Microwave Therapy Unit	1																	1
PH-9	Infrared Therapy Unit	1																	1
PH-10	Electric Traction Unit	1																	1
PH-11	Hydro Bubbler for arms and legs	1																	1
PH-12	Hydro Bubbler for whole body	1																	1
General Service Equipment Group																			
FA-1	Kitchen Equipment	1													1				
FA-2	Laundry Equipment	1														1			

武藤

JAPAN'S GRANT AID

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

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 to conduct a study on the request. If necessary, JICA sends a Preliminary Study Team to the recipient country to confirm the contents of the request.

Secondly, JICA conducts the study (Basic Design Study), using Japanese consulting firms.

2 ✓ 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.

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2. Basic Design Study

1) Contents of the Study

The aim of the Basic Design Study (hereinafter 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 Government of Japan. 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 the 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 and
- e) Estimation of costs of the Project.

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

2 ✓ 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 through 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 the smooth implementation of the Study, JICA uses registered consultant firms. JICA selects firms based on proposals submitted by interested firms. The firm selected carry out a Basic Design Study and write a report, based upon terms of reference set by JICA.

The consulting firms used for the Study are recommended by JICA to the recipient country to also work in the Project's implementation after the Exchange of Notes, in order to maintain technical consistency between the Basic Design and detailed Design.

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3. Japan's Grant Aid Scheme

(1) Exchange of Notes (E/N)

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

(2) "The period of the Grant" means the one fiscal year which the Cabinet approves the project for.

Within the fiscal year, all procedure such as exchanging of the Notes, concluding contracts with consultant firms and contractors and 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 at most by mutual agreement between the two Governments.

(3) Under the Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However, the prime contractors, namely consulting, constructing and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

(4) Necessity of "Verification"

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

(5) Undertakings required to 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 following;

- a) To secure land necessary for the sites of the Project, and to clear, level and reclaim the land prior to commencement for the construction;
- b) To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities in and around the sites;
- c) To secure buildings prior to the procurement in case the installation of the equipment.
- d) To ensure all the expenses and prompt execution for unloading, customs clearance at the port

of disembarkation and internal transportation of the products purchase under the Grant Aid.

- e) 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;
- f) To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work;
- g) To ensure that the facilities constructed and products purchased under the Grant Aid be maintained and used properly and effectively for the Project; and
- h) To bear all the expenses, other than those covered by the Grant Aid, necessary for the Project.

(6) Proper Use

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

(7) Re-export

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

(8) Banking Arrangement (B/A)

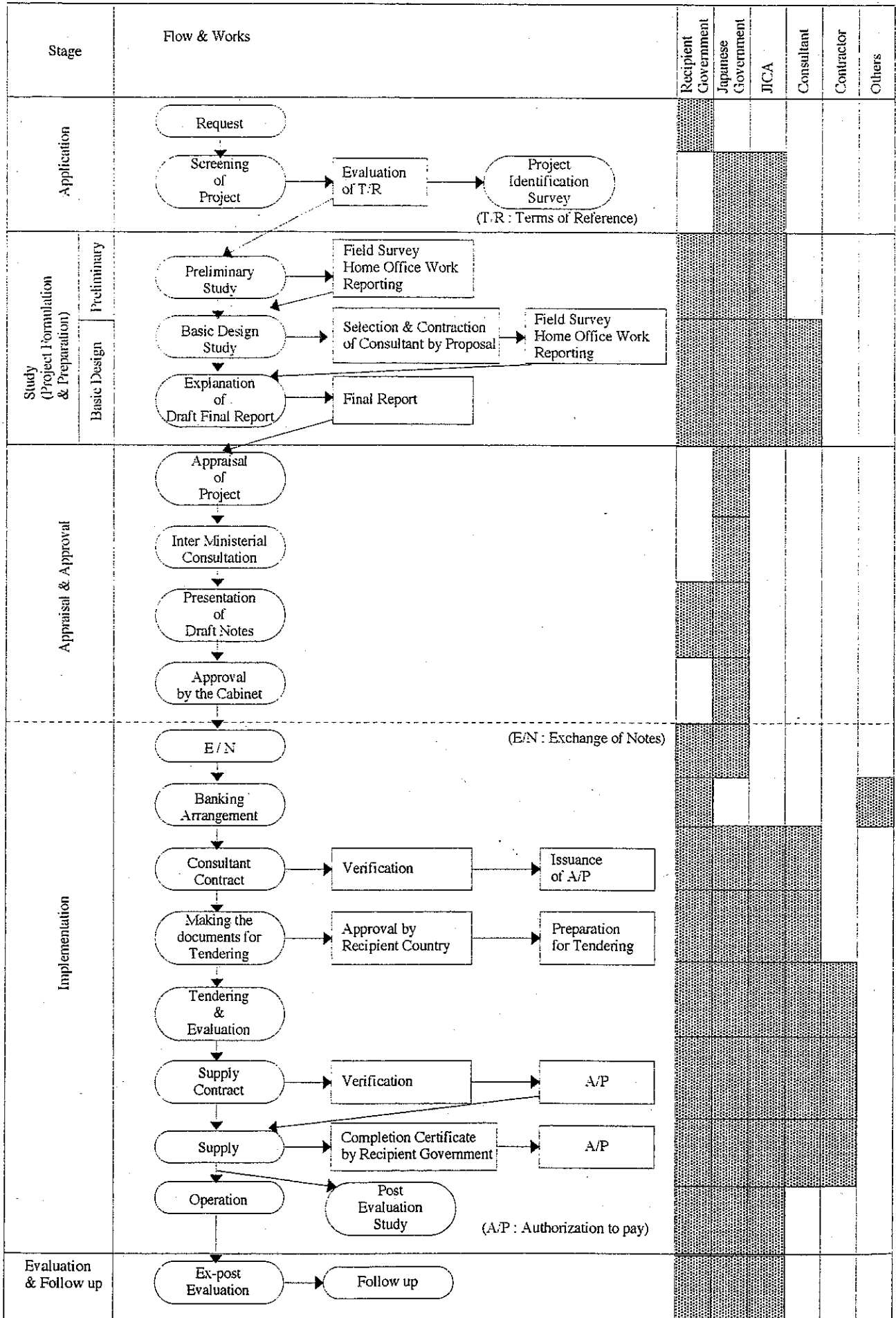
- 2 ✓ a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the verified contracts.
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay (A/P) issued by the Government of recipient country or its designated authority.

(9) Authorization to Pay (A/P)

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

武藤

Flow Chart of Japan's Grant Aid Procedures

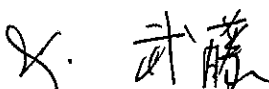


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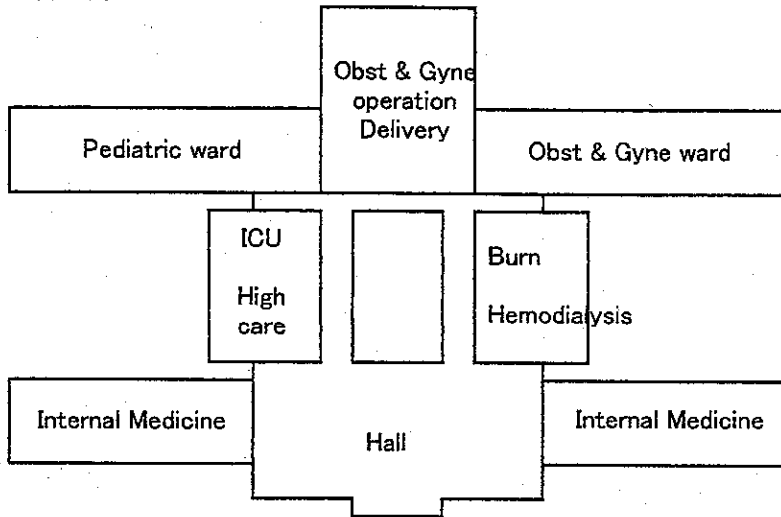
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Major Undertakings to be taken by Each Government

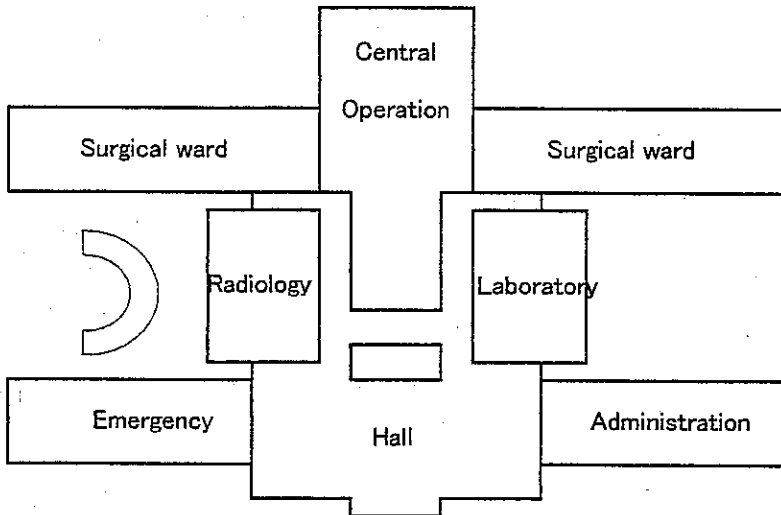
NO	Items	To be covered by Grant Aid	To be covered by Recipient
1	To bear the following commissions to a foreign exchange bank in Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		•
	2) Payment commission		•
2	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the products from Japan to the recipient country	•	
	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	•	
3	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		•
4	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract		•
5	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		•
6	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for the transportation and installation of the equipment		•

24


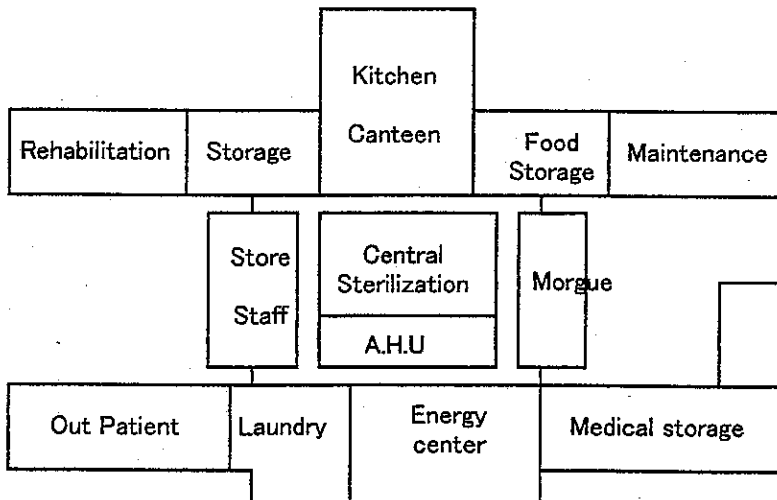
1st floor



Ground floor



Basement floor

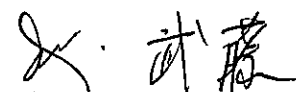


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Criteria to select the Equipment

No.	Criteria	Deleting Status
Criterion 1	Necessity	Equipment which is used personally by medical staff
		Equipment which is mainly used for academic researches but not for diagnoses/treatments
		Equipment which is substituted by the existing equipment
Criterion 2	Usefulness	Equipment which has not be proved medical usefulness
		Equipment which is not in balance with other related department on the level of service
Criterion 3	Possibility of use	Equipment which requests beyond the technical level of planned department
		Equipment which requests a large scale of building preparation work for installation
Criterion 4	Effectiveness	Equipment whose positive benefit effectiveness is small
		Equipment whose negative benefit effectiveness is large
		Equipment whose cost effectiveness is small
		Equipment that may cause environmental pollution by its medical waste etc.
		Equipment that has than minimum required quantity (inefficient, repetitive equipment)
Criterion 5	Sustainability	Equipment requested is a disposable or consumable item but not an equipment
		Equipment whose consumables and spare parts are difficult to get in Syria
		Equipment whose maintenance is difficult to be done in the hospitals and local agents in Syria
		Equipment whose maintenance cost requests considerably high
		Equipment that can be substituted with a simple ones.

2 ✓


4. Minutes of Discussion

(2) Explanation of Draft Final Report

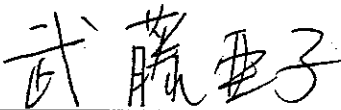
MINUTES OF DISCUSSIONS
ON THE BASIC DESIGN STUDY
ON THE PROJECT FOR SUPPLYING MEDICAL EQUIPMENT
FOR GOLAN HOSPITAL IN SYRIAN ARAB REPUBLIC
(EXPLANATION ON DRAFT FINAL REPORT)

In May 2003, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team on The Project for Supplying Medical Equipment for Golan Hospital (hereinafter referred to as "the Project") to Syrian Arab Republic (hereinafter referred to as "Syria"), and through discussion, field survey, and technical examination of the study results in Japan, JICA prepared a draft report of the study.

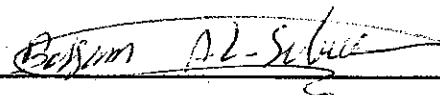
In order to explain and to consult the Government of Syria on the components of the draft report, JICA sent to Syria the Draft Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Ms. Ako MUTO, Second Project Management Division, Grant Aid Management Department, Japan International cooperation Agency, and is scheduled to stay in the country from August 23 to 1 September, 2003.

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

Damascus, August 31, 2003



Ms. Ako MUTO
Team Leader
Second Project Management Division
Grant Aid Management Department
JICA



Mr. Bassam Al Sibai
Deputy Head
State Planning Commission
Syrian Arab Republic



Dr. Mohammed Eyad Chatty
Minister of Health
Syrian Arab Republic

ATTACHMENT

1. Components of the Draft Report

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

2. Japan's Grant Aid scheme

The Syrian side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Syria as explained by the Team and described in Annex-1 and Annex-2 of the Minutes of Discussions signed by both parties on June 5, 2003.

3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to the Government of Syria by November, 2003.

4. Other relevant issues

4-1 After discussions with the Team, the items described in Annex-3 were finally requested by the Syrian side.

4-2 The Syrian side will allocate medical staff for the Hospital before opening. The staff recruiting plan showed by the Syrian side is attached as Annex-4.

4-3 The Syrian side agreed to allocate enough budgets for the year 2004 and 2005 to operate the equipment supplied by the Project, to cover the provision of spare parts, consumables and periodical maintenance contract, and to secure infrastructure such as electricity, central piping and water supply and drainage etc., as attached Annex-5.

4-4 The Syrian side agreed to have ownership for establishing maintenance system for the equipment procured by the Project. The Syrian side also agreed to keep capable staff to operate and maintain the equipment supplied by the Project. The components of cooperation by the Consultants for establishing maintenance system of the equipment procured by the Project were suggested by the Team and basically agreed as Annex-6.

4-5 The Syrian side agreed to complete the renovation work attached as Annex-7 before Oct., 2004 and to report the monthly progress of construction work to Embassy of Japan.

4-6 For sustainable management, operation of the hospital and maintenance of the equipment procured by the Project, the Syrian side requested the dispatch of counterpart personnel to Japan for technical training. The Team will convey the request to the Government of Japan. The Syrian side understood that official request on training should be submitted through

diplomatic channels.

4-6 Both sides confirmed that the equipment specifications and the other technical information shall not be released before the tender to be held in the implementation stage of the Project.

Annex-1: Japan's Grant Aid Scheme

Annex-2: Major Undertakings to be taken by Each Government

Annex-3: Lists of the equipment

Annex-4: Medical staff recruiting plan

Annex-5: The budgetary plan for year 2004 and 2005

Annex-6: Components of cooperation

Annex-7: Schedule of renovation works

24

24

24

JAPAN'S GRANT AID

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

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 to conduct a study on the request. If necessary, JICA sends a Preliminary Study Team to the recipient country to confirm the contents of the request.

Secondly, JICA conducts the study (Basic Design Study), using Japanese consulting firms.

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 (hereinafter 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 Government of Japan. 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 the 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 and
- e) Estimation of costs of the Project.

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of 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 through 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 the smooth implementation of the Study, JICA uses registered consultant firms. JICA selects firms based on proposals submitted by interested firms. The firm selected carry out a Basic Design Study and write a report, based upon terms of reference set by JICA.

The consulting firms used for the Study are recommended by JICA to the recipient country to also work in the Project's implementation after the Exchange of Notes, in order to maintain technical consistency between the Basic Design and detailed Design.

3. Japan's Grant Aid Scheme

(1) Exchange of Notes (E/N)

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

(2) "The period of the Grant" means the one fiscal year which the Cabinet approves the project for.

Within the fiscal year, all procedure such as exchanging of the Notes, concluding contracts with consultant firms and contractors and 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 at most by mutual agreement between the two Governments.

(3) Under the Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However, the prime contractors, namely consulting, constructing and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

(4) Necessity of "Verification"

The Government of the 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 of Japanese taxpayers.

(5) Undertakings required to 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 following;

- a) To secure land necessary for the sites of the Project, and to clear, level and reclaim the land prior to commencement for the construction;
- b) To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities in and around the sites;
- c) To secure buildings prior to the procurement in case the installation of the equipment.
- d) To ensure all the expenses and prompt execution for unloading, customs clearance at the port

of disembarkation and internal transportation of the products purchase under the Grant Aid.

- e) 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;
- f) To exempt customs duties, 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;
- g) 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;
- h) To ensure that the facilities constructed and products purchased under the Grant Aid be maintained and used properly and effectively for the Project; and
- i) To bear all the expenses, other than those covered by the Grant Aid, necessary for the Project.

(6) Proper Use

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

(7) Re-export

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

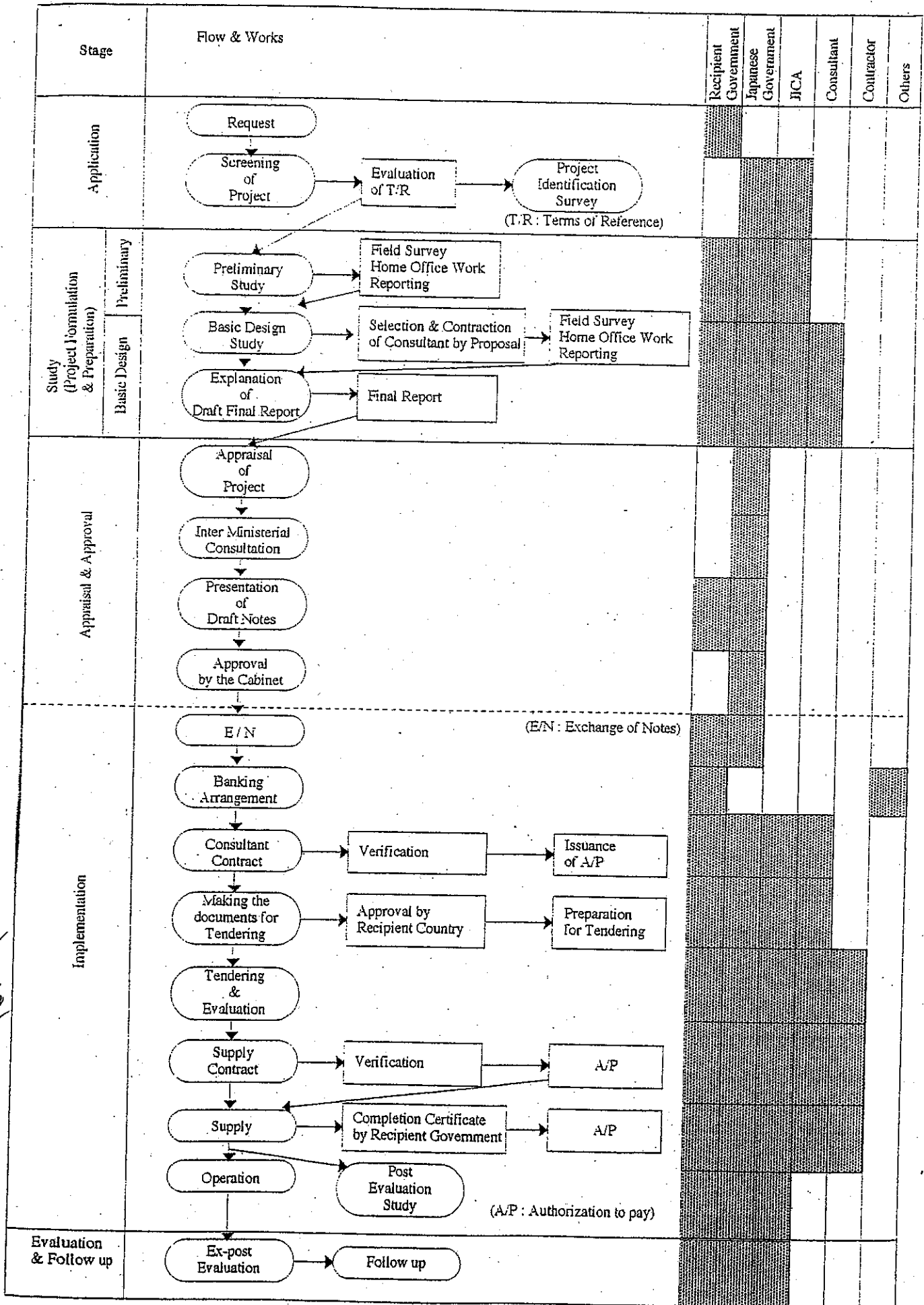
(8) Banking Arrangement (B/A)

- 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 an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the verified contracts.
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay (A/P) issued by the Government of recipient country or its designated authority.

(9) Authorization to Pay (A/P)

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

Flow Chart of Japan's Grant Aid Procedures



24

Major Undertakings to be taken by Each Government

NO	Items	To be covered by Grant Aid	To be covered by Recipient side
1	To bear the following commissions to a foreign exchange bank in Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		•
	2) Payment commission		•
2	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the products from Japan to the recipient country	•	
	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	•	
3	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		•
4	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract		•
5	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		•
6	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for the transportation and installation of the equipment		•

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X 20

Annex-3

1/6

EQUIPMENT LIST

ITEM NO.	EQUIPMENT	TOTAL Q'ty	DEPARTMENT																	
			E.R.	X-RAY	OPT.	LAB	I.C.U	HI CARE	INT.	PED.	OB/GY	SUR.	OUT.P.	CSSD	KITCHEN	LAUNDRY	LECT	REHA	TRANS	WARD
	X-RAY EQUIPMENT GROUP																			
X-1	X-ray Unit, Mobile	1		1																
X-2	X-ray Unit, C-arm	1			1															
X-3	X-ray Unit, Fluoroscopy	1		1																
X-4	CT Scanner	1		1																
X-5	X-ray Unit, General	1		1																
X-6	X-ray Apron	10		10																
X-7	X-ray Grove	10		10																
X-8	X-ray Film Processor	1		1																
X-9	X-ray Film Processor, Table top	1		1																
X-10	Film viewer, mobile stand type	2																		
X-11	Film loading table	1		1																
X-12	Dark room accessory	1		1																
X-13	X-ray unit, Mammography	1		1																
	GENERAL IMAGE EQUIPMENT																			
GI-1	Ultrasonic Scanner, Color doppler	1					1													
GI-2	Ultrasonic Scanner, General	1		1																
GI-3	Obstetric/Gynecology	1																		
	CARDIAC EQUIPMENT GROUP																			
C-1	Defibrillator/Monitor	4		1			1													
C-2	Central Monitoring System, for 8 beds	1					1													
C-3	Electrocardiograph, 3 Channel	4		1			1													
C-4	Fetal Heart Detector, Ultrasonic	2																		
C-5	Fetal Monitor	2																		
C-6	Pulse Oximeter	6																		
C-7	Patient Monitor	12		3			3													
	VITAL FUNCTION EQUIPMENT GROUP																			
VF-1	Infant incubator, transport	1																		
VF-2	Infant Incubator	4																		
VF-3	Phototherapy Unit	2																		
VF-4	Spirometer, Diagnostic	1																		
VF-5	Infusion Pump	8		2			6													
VF-6	Syringe pump	8					4													
	DIAGNOSTIC LABORATORY EQUIPMENT GROUP																			
LAB-1	Bilirubinmeter	1					1													
LAB-2	Hematology Analyzer, Automated	1					1													

EQUIPMENT LIST

ITEM NO.	EQUIPMENT	TOTAL Qty	DEPARTMENT																	
			ER.	X-RAY	OPT.	LAB	I.C.U	HI CARE	INT.	PED.	OB/GY	SUR.	OUT P.	CSSD	KITCHEN	LAUNDRY	LECT	REHA	TRANS	WARD
LAB-3	Colony Counter	1				1														
LAB-4	pH Meter	1				1														
LAB-5	Urine Meter	1				1														
LAB-6	Blood Gas/Electrolyte Analyzer	1				1														
LAB-7	Spectrophotometer	2				2														
LAB-8	Timer	3				3														
LAB-9	Blood Cell Counter, manual	2				2														
LAB-10	Microtome, FREEZING	1				1														
LAB-11	Electrophoresis unit	1				1														
LAB-12	Densitometer	1				1														
	GENERAL LABORATORY EQUIPMENT GROUP																			
GL-1	Water Bath, Laboratory	2				2														
GL-2	Centrifuge, Table Top	3				3														
GL-3	Shaker, Laboratory	3				3														
GL-4	Balance, Electronic	2				2														
GL-5	Washer, glassware	1				1														
GL-6	Washer, Pipette	1				1														
GL-7	Hematocrit Centrifuge	1				1														
GL-8	Diluter	1				1														
GL-9	Distilling Unit	2				2														
GL-10	Incubator, Laboratory	1				1														
GL-11	Microscope, Binocular	5				5														
GL-12	Rolling Mixer	2				2														
GL-13	Mixer, Vortex	3				3														
GL-14	Drying Oven	1				1														
GL-15	Micro-Pipette set	1				1														
GL-16	Refrigerator, Blood Bank	1				1														
GL-17	Refrigerator, Laboratory	3				3														
GL-18	Freezer, Laboratory	1				1														
GL-19	ELISA Reader	1				1														
	OPHTHALMOLOGY EQUIPMENT GROUP																			
OPH-1	Examination/Treatment Chair, Ophthalmic	1																		1
OPH-2	Chart, Eye, Visual Acuity	1																		1
OPH-3	Extractor, Metal, magnetic	1																		1
OPH-4	Head Mirror	1																		1

EQUIPMENT LIST

ITEM NO.	EQUIPMENT	TOTAL Q'ty	DEPARTMENT																	
			E.R.	X-RAY	OPT.	LAB	I.C.U	HI CARE	INT.	PED.	OB/GY	SUR.	OUT P.	CSSD	KITCHEN	LAUNDRY	LECT	REHA	TRANS	WARD
OPH-5	Lens meter	1																		
OPH-6	Ophthalmoscope, Direct	1																		
OPH-7	Perimeter, Manual	1																		
OPH-8	Refractor, Ophthalmologic	1																		
OPH-9	Tonometer, Ophthalmic	1																		
OPH-10	Trial Lens Set, Ophthalmic	1																		
	ENT EQUIPMENT GROUP.																			
ENT-1	Audiometer	1																		
ENT-2	Chair, Examination/Treatment, ENT	1																		
ENT-3	ENT Treatment Unit	1																		
ENT-4	Microscope, Ear	1																		
ENT-5	Laryngeal Mirror Set	2																		
ENT-6	Hearing Resistance Unit	1																		
ENT-7	ENT Diagnostic Kit	2																		
ENT-8	Otoscope	2																		
	GENERAL SURGICAL EQUIPMENT GROUP.																			
SUR-1	Bone Drill	1			1															
SUR-2	Cast Cutter, Electric	2	1		1															
SUR-3	Electrosurgical Unit, General-Purpose	4			4															
SUR-4	Suction Unit, Electric	9	1		4			2												
SUR-5	Operating Table, Gynecology	1																		
SUR-6	Operating Table, General	2			2															
	Operating Table with traction unit,																			
SUR-7	Orthopedic	1			1															
SUR-8	Instrument Table, for Operation room	9			7															
SUR-9	Instrument Table, for ward	10	3																	
SUR-10	Delivery Table	2																		
SUR-11	Labor bed	2																		
SUR-12	Examination Table, Gynecology	1																		
SUR-13	Drill, Cranial	1			1															
	Bed with Limb Extention & External																			
SUR-14	Fixed Equipment	2																		
SUR-15	Vacuum extractor	1																		
SUR-16	Suction bottle unit	10	2		8															
SUR-17	Examination lamp	6	3																	
SUR-18	Intubation set	7	2		3															
SUR-19	Intubation set, for neonate	1																		

EQUIPMENT LIST

ITEM NO.	EQUIPMENT	TOTAL QTY	DEPARTMENT																	
			E.R.	X-RAY	OPT.	LAB	I.C.U.	H.I. CARE	INT.	PED.	OB/GY	SUR.	OUT P.	CSSD	KITCHEN	LAUNDRY	LECT	REHA	TRANS	WARD
	<u>SPECIAL SURGICAL EQUIPMENT GROUP</u>																			
SS-1	Kidney machine, Hemodialysis Unit	3			3															
SS-2	Bath for body washing	1																		
SS-3	Stretcher for body washing	1																		
	<u>ENDSCOPE EQUIPMENT GROUP</u>																			
END-1	Colonoscope	1																		
END-2	Laparoscope	1																		
END-3	Cysto-Urethroscope	1																		
END-4	Gastrointestinal fiberscope	2																		
END-5	Duedono fiberscope	1																		
END-6	Disinfector; Fiberscope	1																		
END-7	Endoscope trolley with Monitor	1																		
END-8	Endoscope cabinet	1																		
END-9	Rectoscope with light source	2																		
	<u>ANESTHESIOLOGY GROUP</u>																			
AN-1	Anesthesia Unit	4																		
AN-2	Anesthesia Unit, portable	1																		
AN-3	Resuscitator, Manual, for adult	8																		
AN-4	neonate	2																		
AN-5	Ventilator	5																		
AN-6	Ventilator, for Neonate	1																		
	<u>STERILIZING EQUIPMENT GROUP</u>																			
STE-1	High Pressure Steam Sterilizer	2																		
STE-2	High Pressure Steam Sterilizer, table top	7																		
STE-3	Sterilization Container set	15																		
STE-4	U.S. Cleaner	1																		
STE-5	Sink unit	1																		
STE-6	Trolley for Instruments	10																		
STE-7	Trolley for Linen	8																		
	<u>TRANSPORT GROUP</u>																			
AM-1	Ambulance with Equipment	1																		
	<u>SURGICAL TOOLS GROUP</u>																			
ST-1	Ear Wash Tool-Set	1																		
ST-2	Tonsillectomy Kit	2																		
ST-3	Nasal Instrument Kit	1																		
ST-4	Laryngotomy kit	1																		

EQUIPMENT LIST

ITEM NO.	EQUIPMENT	TOTAL Q'ty	DEPARTMENT																	
			ER.	X-RAY	OPT.	LAB	I.C.U	HI CARE	INT.	PED.	OB/GY	SUR.	OUT P.	CSSD	KITCHEN	LAUNDRY	LECT	REHA	TRANS	WARD
ST-5	Sinusal Surgery Kit	2			2															
ST-6	Instrument set for Nasal treatment	2			2															
ST-7	Eyelid Surgery Kit	1	1																	
ST-8	Lacrimal Duct Anomosis Kit	1	1																	
ST-9	Prostatectomy Kit	2			2															
ST-10	Prostate Biopsy Kit	1			1															
ST-11	Urethrostomy Kit	1			1															
ST-12	Kidney Surgery Kit	1			1															
ST-13	General Urinary Surgery Kit	2			2															
ST-14	General Abdominal Surgery Kit	2			2															
ST-15	Minor Surgery Kit	5	2		3															
ST-16	Bile Duct Kit	1			1															
ST-17	Bowel Pliers Kit	2			2															
ST-18	Gallblader Surgery Kit	2			2															
ST-19	Hernia Surgery kit, for adult	1			1															
ST-20	Hernia Surgery kit, for child	1			1															
ST-21	General Orthopedic kit	2			2															
ST-22	Thyreo (Thyroidea) Surgery Kit	2			2															
ST-23	Minor Vascularity Surgery Kit	1	1																	
ST-24	Vanulartomy Kit	1			1															
ST-25	Neck Surgery Kit	1			1															
ST-26	Skull Surgery Kit	1	1																	
ST-27	Skin Grafting Knife	2			2															
ST-28	Delivery Instrument kit	4																		
ST-29	Uteroabdominal Abscision Kit	2																		
ST-30	Uterocervical Abscision Kit	1																		
ST-31	Uterine Curettage Kit	2																		
ST-32	Cesarean Kit	4																		
ST-33	Gynecologic Examination Instrument Kit	6																		
ST-34	Dressing Kit	13	3																	
ST-35	Oral Surgery Kit	1			1															
L-1	Lecture Room Equipment Group																			
L-1	LCD Projector	1																		
L-2	Visual Projector	1																		
WAD-1	Oxygen Flow meter with Humidifier	54																		54
WAD-2	Wall suction unit	54																		54
WAD-3	HI-LO Stretcher	12	2		4															

2
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EQUIPMENT LIST

ITEM NO.	EQUIPMENT	TOTAL Qty	DEPARTMENT																	
			E.R.	X-RAY	OPT.	LAB	I.C.U	HI CARE	INT.	PED.	OB/GY	SUR.	OUTP.	CSSD	KITCHEN	LAUNDRY	LECT	REHA	TRANS	WARD
WAD-4	Stretcher for Emergency treatment	1	1																	
WAD-5	Bed, 3-crank	8				4	4													
	<u>Physiotherapy Equipment Group</u>																			
PHY-1	Parallel bar	1																		1
PHY-2	Lower limb exerciser	1																		1
PHY-3	Bicycle Exerciser	2																		2
PHY-4	Exercise stair	1																		1
PHY-5	Shoulder wheel	1																		1
PHY-6	Hot pack unit	1																		1
PHY-7	Low Frequency Therapy unit	1																		1
PHY-8	Microwave Therapy Unit	1																		1
PHY-9	Infrared Therapy Unit	1																		1
PHY-10	Electric Traction Unit	1																		1
PHY-11	Hydro Bubbler for whole body	1																		1
	<u>Kitchen Equipment Group</u>																			
KT-1	Boiling pan	3																		3
KT-2	Gas range	2																		2
KT-3	Peeler	1																		1
KT-4	Food slicer	1																		1
KT-5	Grill, electric	2																		2
KT-6	Meat chopper	1																		1
	<u>Laundry Equipment Group</u>																			
LD-1	Washer with extractor A	2																		2
LD-2	Washer with extractor B	1																		1
LD-3	Dryer	3																		3
LD-4	Ironing machine, sheet	1																		1

**Syrian Arab Republic
Ministry of health
Al-Jollan hospital**

The policy of hospital in preparing Labour

1-Current stage: the following staff were employed

- Chief of surgery section-Chief of internal section –Chief of out patient clinics-
Chief of maintenance section-Chief of general nursing.
- Contacting with number of specialist doctors (general surgery-Urinary surgery-
Women-Ear-Optic-Children/two/- Internal surgery).
- It was contracted with 15 employees from the second category ,some of them are;
(Laboratory technician/one/-Electrical technician/one/-Mechanic & energy
technician/one/X-ray technician/one/-Quality control technician /one/-Agriculture
technician/one/), the rest are distributed in both administration & accounting sections.
- It was contracted with employees from the third category in order to work in the
administrative works at clinics and training them on the way of filing documents.
- The fourth category are those of technical experiences ,and was contracted with
two for the maintenance of electrical wires –one for air conditioning maintenance.
- Also 19 workers from the fifth category have been distributed on the works of
agriculture –guard-cleaning-stores.

Head of section	Specialist	Nursing	Second category	Third category	Fourth category	Fifth category	Total
5	7	9	15	4	3	19	52

2-Second stage:

It will extend till the end of 2003 when the cabinet decree for allocating permanent staff will be issued during this stage, some contracts with specialist will be made such as:

(Bones surgery-Cardinal internal surgery –X-ray-Skin-Nervous) to cover out clinics in a good way.

3-Third stage:

* In case of having the decree issued , a study will be made for it in addition to an announcement for employment ,a support to some contracts for positions which are not included or not enough in it.

- In case the decree is not issued , we will start contracts for the whole staff gradually ,first to complete the numbers of engineering & technicians before the end of the sixth month of 2003 ,in a way to include two technicians for each specialty.
- While the specialist doctors are chosen since the fifth month and till the end of eight month ,the total number should be 43 specialist.
- The rest of employers will be pointed in accordance with our need for administrative & workers .
- Regarding the resident doctors ,they will be called from the hospitals that are training them in Damascus a week before finishing the installation of medical equipment.

Plan of Doctor Recruitment

Department		Specialized Doctor		
		From MOH	Opening Stage	Future Plan
Surgery	General	2	3	4
	Borne	1	2	3
	Urology	1	1	3
	Obstetric & Gynecology	1	2	4
	Nerve	0	1	3
	Ear	1	2	3
	Ophthalmology	0	1	2
	Stomatology	2	2	2
Internal Medicine	Digestive	1	2	2
	Chest	1	1	2
	Neuro	0	1	2
	Rheumatics	0	2	3
	Hemodialysis	0	2	2
	Pediatric	2	3	4
	Cardiovascular	0	2	3
Emergency		0	3	9
Anaesthesia/Operation		2	2	5
CCU		0	1	1
ICU		0	1	1
Radiology		1	2	2
Laboratory		1	1	2
Pathology		0	1	1
Forensic		0	1	1
Pharmacy		1	1	1
Outpatient Clinic		0	1	1
Rehabilitation		0	1	2
Nutrition		0	1	1
Total		17	43	69

2
X

Sections	No of beds	No of physicians		Nurses	Midwives	X-ray technician	Anesthesia technician	Laboratory technician	Pharmacist - technician	Nutrition - technician	Physio-therapy technician	Engineering technician	Dental technician
		Specialist	Resident										
SURGERY SECTION													
General	24	4	6	15						1	1		
Bones	12	3	4	12									
Urinary	8	3	4	8									
Genico	6	4	4	6	6								
Nervous	6	3	3	6							1		
Ear	6	3	3	6									
Optic	4	2	3	4									
Dental	4	2	3	4									2
INTERNAL SECTION													
Digestive	8	2	3	8									
Disperatory	4	2	2	4									
Nervous	6	2	2	6									
Arthritis- Blood glands	10	3	6	10						1			
Artificial Kidney	6	2	2	6									
Kids section	16	4	6	10									
Cardio section	6	3	3	6									
Emergency section	8	9	6	40		3	6	6					
Anaesthesia & operation section	5 hales	5	10	15		1	10						
Cardinal care	5	1	3	6									
General care	5	1	3	6									
X-ray section		2	3	3		8							
Laboratory section		2	3					15					
Pathology		1	2										
Legality medicin		1	2										
Pharmacy		1	3										
Dut-clinics		1		15							14		
Physical therapy		2	2	2							3		
Nutrition section		1										6	
Maintenance													7 Engineer 12 techno Eng

Ministry of health
General Committee
Golan Hospital

The administrative staff and the rest of employees at the hospital in open stage

Certificate position	University degree		Intermedia te institutes	Secondary			Professional school	Preparatory	Elementary	Experienced technician	Driving	Illiterate
	economic	law		industrial	commercial	general						
Administrative director		1										
Departments managers	1	1										
Administrative employees	1	journalist-libraries-informatics 1 2	5 informatics	4	20							
Accountants	4		8									
Stores workers			3									
Secretary			5							7		
Experts workers								5				
Clerks & posting workers									20			10
Movers for patients									10			7
Cooks			6					4				
Security-gurading					5			5	8			
General maintenance				3			4				5	
Garage & maintenance			3									
Agriculture			2							4		

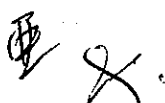
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Schedule

Year	2003			2004			2005														
	Month	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	
E/N			◆																		
Consultant agreement			◆																		
Final approval of equipment			◆																		
Tender Document preparation			◆																		
Approval of Tender Document			◆																		
Notification of Tender																					
Tendering																					
Evaluation																					
Contract with Supplier																					
Ordering																					
Manufacturing																					
Pre-shipment inspection																					
Transportation																					
Installation & Training																					
Hospital opening committee																					
Scheduling																					
Finalization of Organization																					
Recruitment of Key staff of services																					
Other staff recruitment																					
Rehearsal of opening																					
Opening of Hospital																					

Budget for (ALJOLAN) hospital 2004

Item name	Total
Salaries & wages	
Salaries of seasonal factors	1220000
Salaries of Syrian contract factors	9500000
Compensation of the work	1000000
Compensation of over time work	300000
Another Compensation	800000
Rewords	385000
Total of chapter (1)	13205000
Transports	250000
Communication & phones & electric power	300000
Petroleum	890000
Petroleum (another uses)	900000
Drugs & other medical needs	30000000
Dress	500000
Administration tools	900000
Maintenance expenditure	1500000
Publicity & conferences expenditure	500000
Feeding expenditure	1900000
Multi-administration expenditure	2000000
Stable administration expenditure	1500000
Total of chapter (2)	41140000
Restoration expenditure (building clinic , doctors home , children school	15000000
Transports (cars & buses...)	7000000
Total of chapter (3)	22000000
Debts. & obligation	700000
Total of chapter (5)	700000
Total	77045000

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Syrian Arab Republic
Ministry of Health
Damascus



31st, August 2003

Mr. Shozo Matsuura
Managing Director
Grant Aid Management Department
JICA

Dear Sir,

Please kindly receive this confirmation letter.

After the signing the Exchange of Note between the Government of Japan and the Government of Syrian Arab Republic concerning the Grant Aid Project for Supplying Medical Equipment for Golan Hospital, the Government of Syrian Arab Republic shall make all the necessary preparations for the Presidential decree ensuring the execution of the Project. Then, Ministry of Health and Ministry of Finance will take necessary measures for the budgetary allocation for the Golan Hospital in the year 2005.

Prof. M. Eyad Chatty
F.I.A.P., F.A.S.C.P., F.C.A.P.
Professor of Pathology,
Damascus University

Minister of Health

Cooperation Plan

1) Manning

Maintenance system support : Japanese 1 person, Total: 1.5 months

Term 1 : 1 person 1.0M/M Start within 2months after determination of supplier

Term 2 : 1 person 0.5M/M Start after the handing over the equipment to the hospital

2) Action plan

Term 1 (1.0M/M)

First week~Second week :

- Explain of the Contents of the Japanese project to the each department head
- Support to establish and to open the Committee for the equipment acceptance
- Discuss and clarify the responsibility and duty of the maintenance department and his staff.
- Support scheduling of equipment acceptance
- Support methodology and procedure for the installation and the inspection of the equipment,
- Support making process chart and manuals for the maintenance department

Third week~Forth week :

- Discussion with the maintenance department regarding the methodology and the process of the maintenance work after installation
- Support establishment of the countermeasure and troubleshooting manual for the equipment and draw up maintenance document
(Equipment inventory list, Repair request slip, Repair record list etc.)

Term 2 (0.5M/M)

First week : Discussion of Contents of Daily checking of the equipment and hold training seminar

Second week : promotion and monitoring of daily checking of the equipment at each department ,each equipment and discussion of improvement point

Additional renovation work by Syrian side (Facility modification)

Department	Room	Additional Work	Start of renovation work		Remarks
			Immediately	After consultant agreement	
Paediatric Dept.	Original NICU room	3 lines of Gas pining (O2/Vacuum)	<input type="radio"/>		
		4 power lines (single phase) x 4 sets	<input type="radio"/>		
		Removal of Sink unit	<input type="radio"/>		
ICU/HIGH CARE	Nurse Station between ICU and High Care room	Windows (both ICU room and High care room side)	<input type="radio"/>		
		Hole (about 10cm x 10 cm) for connection cables between central monitor and bedside monitors (both sides)	Completed		
Burn Unit	Washing room	Addition of Hot and cold water mixing unit	<input type="radio"/>		
		Shower unit (1)	<input type="radio"/>		
Hemo.dialysis	Water treatment room	Removal of power outlet(2)	Completed		
		Water supply and drain for water treatment equipment		<input type="radio"/>	
		3 phase power supply outlet, 3kW		<input type="radio"/>	
		Power line should be connected to the emergency power line.		<input type="radio"/>	Details of the renovation work will be given by the supplier.
		Piping hole on the wall for treated water supply and drain		<input type="radio"/>	
Internal Dept.	Endoscope diagnosis room	Room change	Completed		
X-ray Dept.	Dark room	Hole to install the Film processor is required.		<input type="radio"/>	Details of the renovation work will be given by the supplier.
		Water supply and drain		<input type="radio"/>	
		3 phase power supply outlet with breaker		<input type="radio"/>	
		Single phase power line (approx. 15kVA)		<input type="radio"/>	Details of the renovation work will be given by the supplier.
Laboratory Dept.	CT and General X-ray room	Breaker for power supply		<input type="radio"/>	
		Removal of existing counter table		<input type="radio"/>	Details of the renovation work will be given by the supplier.
Kitchen	Kitchen	Hot water and water supply	<input type="radio"/>		
		Hood for ventilation	<input type="radio"/>		
		Floor drainage	<input type="radio"/>		
		Gas main supply piping	<input type="radio"/>		Piping diameter : more than 1-inch
		Gas piping to each equipment		<input type="radio"/>	Details of the renovation work will be given by the supplier.
		Change of power connector in the food washing rooms	<input type="radio"/>		

Additional renovation work by Syrian side (Facility modification)

Department	Room	Additional Work	Start of renovation work		Remarks
			Immediately	After consultant agreement / After supplier contract	
Central Sterilization	Central Sterilization room	Water supply and drain for High Pressure steam Sterilizer			
		Water supply, 1/2" x 2 lines		<input type="radio"/>	
		Water supply 3/4" x 1 line		<input type="radio"/>	
		Water drain, approx. 100 mm		<input type="radio"/>	
		Power supply, 3 phase, approx. 40 kVA x 2 lines		<input type="radio"/>	
		Single phase power line (approx. 15kVA) x 1 line		<input type="radio"/>	
		Hot water and Water supply and drain		<input type="radio"/>	
		1 line each for sink unit		<input type="radio"/>	
		1 line each for US cleaner		<input type="radio"/>	
		Wall removal & reconstruction between Clean and Dirty room		<input type="radio"/>	
Rehabilitation	Bathing room	Water supply and drain		<input type="radio"/>	
	Laundry room	Water proof floor		<input type="radio"/>	Details of the renovation work will be given by the supplier.
Laundry	Laundry room	For 3 washer and extractor			
		3 phase power supply, approx. 36kVA x 2	Completed		
		3 phase power supply, approx. 36kVA x 1		<input type="radio"/>	
		Hot water and water supply with stop cock x 3		<input type="radio"/>	
		Water drain		<input type="radio"/>	
		For 3 Dryers			
		3 phase power supply, approx. 55kVA x 3 lines with breaker		<input type="radio"/>	
		Air duct, 1 duct to be added		<input type="radio"/>	
		For Ironing machine			
		Location change of 3 phase power line (existing 26.5A line)		<input type="radio"/>	
General	Capacity of power lines	Reconfirmation of total power distribution to each room		<input type="radio"/>	
	Power outlet	Single phase 220V outlet to be medical use type		<input type="radio"/>	