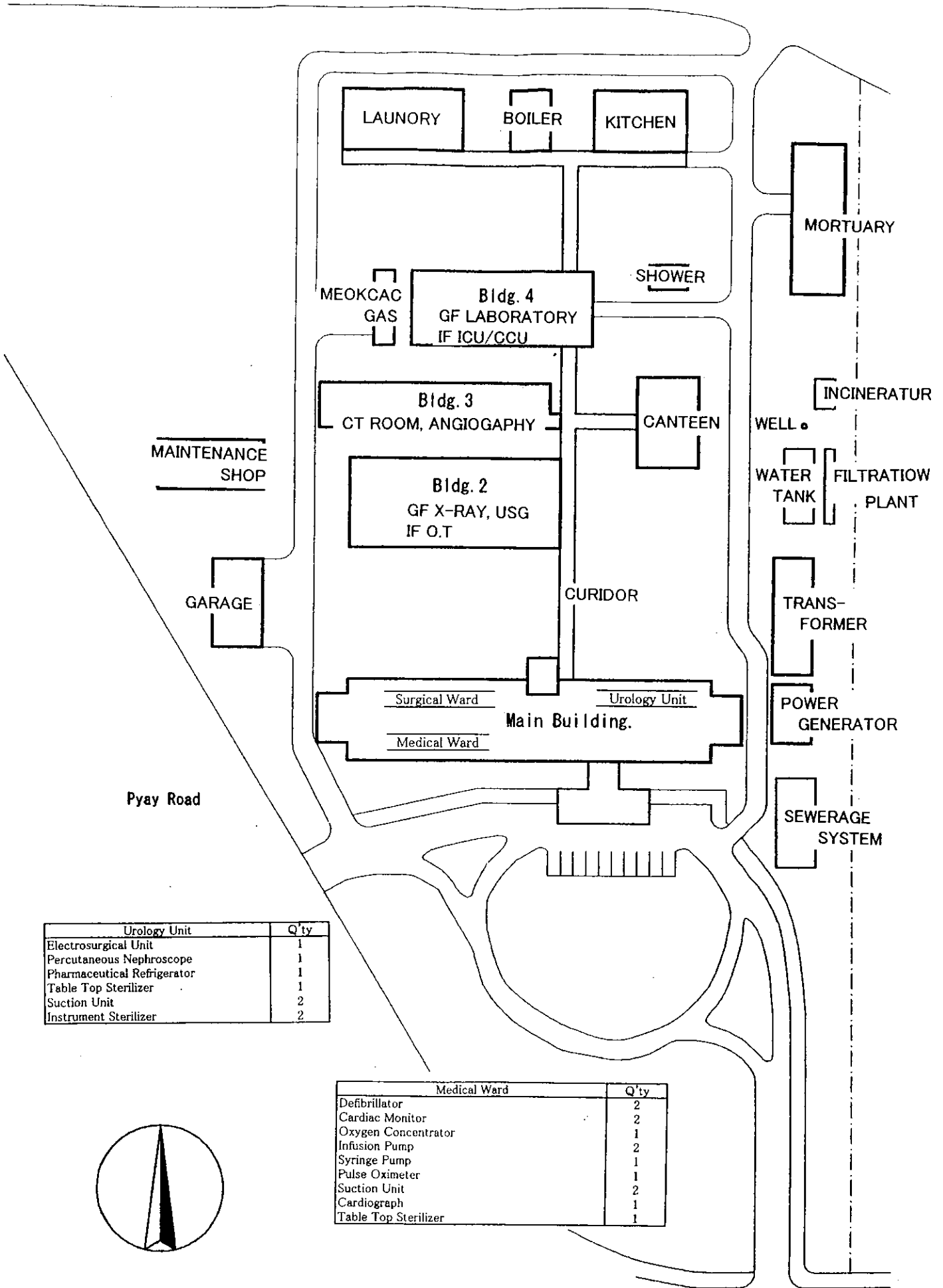


2-2-3 Basic Design Drawing

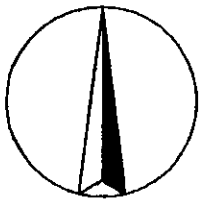
The layout of the main equipment for each project facility was confirmed through the field survey and the interview. The basic design drawings are attached in the following pages.

This project shall contribute to renewal of the existing equipment. Most of the equipment to be procured shall be disposed in the room where the existing equipment is now disposed.



Urology Unit	Q'ty
Electrosurgical Unit	1
Percutaneous Nephroscope	1
Pharmaceutical Refrigerator	1
Table Top Sterilizer	1
Suction Unit	2
Instrument Sterilizer	2

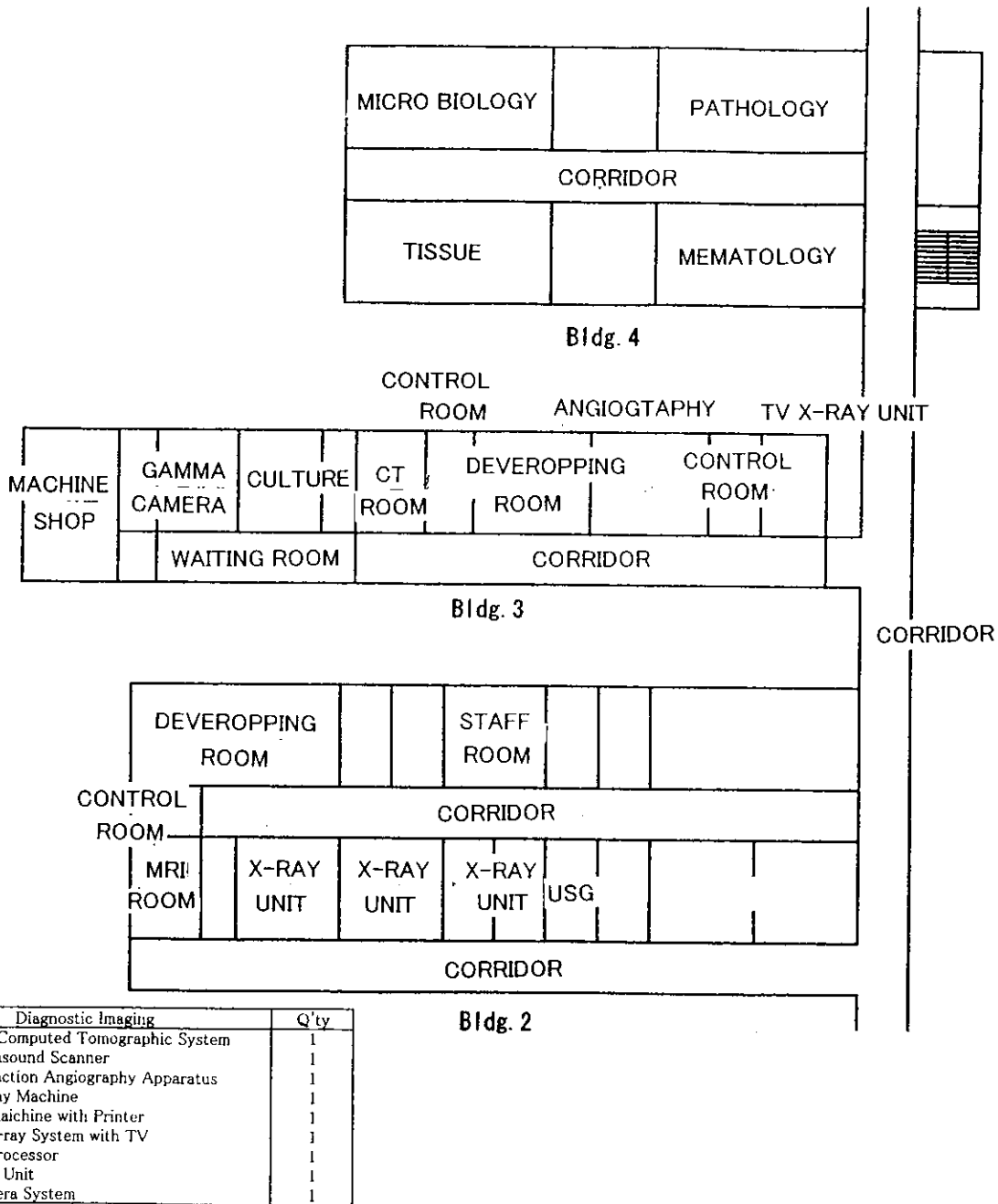
Medical Ward	Q'ty
Defibrillator	2
Cardiac Monitor	2
Oxygen Concentrator	1
Infusion Pump	2
Syringe Pump	1
Pulse Oximeter	1
Suction Unit	2
Cardiograph	1
Table Top Sterilizer	1



NEW YANGON GENERAL HOSPITAL

Bogyoke Aung San Street

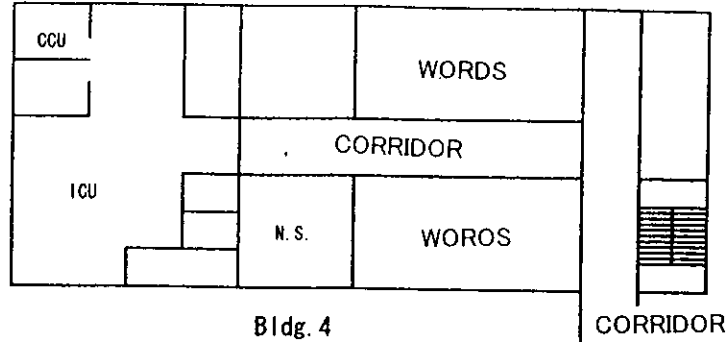
Clinical Laboratory	Q'ty
Auto Still Apparatus	1
Blood Cell Counter	1
Spectrophotometer	1
Microscope	2
Automatic Tissue Processor	1
Tissue TEK	1
Pharmaceutical Refrigerator	1
Centrifuge	1
Coagulometer	1



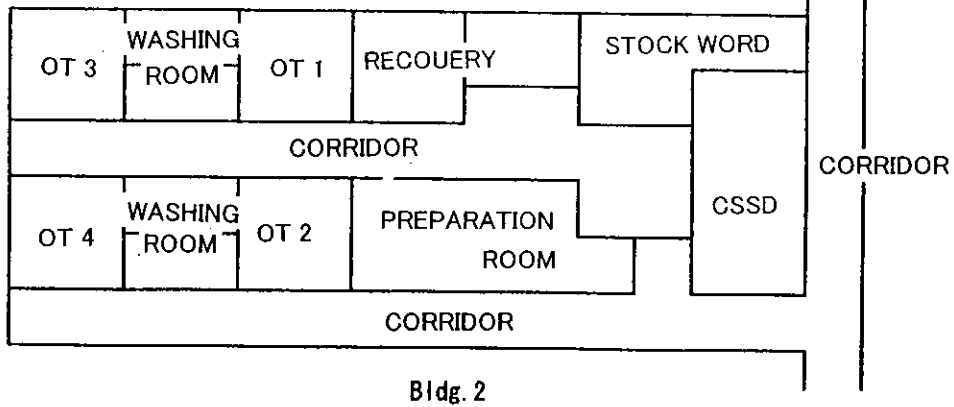
NEW YANGON GENERAL HOSPITAL - G FLOOR

Surgical Ward	Q'ty
Gastrointestinal Fiberscope Unit	1
Monitoring System	1
Duodenoscope Unit	1
Bronchofiberscope Unit	1
Light Source for Fiberscope	1
Pharmaceutical Refrigerator	1
Instrument Sterilizer	2
Table Top Sterilizer	1
Suction Unit	2
Syringe Pump	1
Infusion Pump	1
Bedside Monitor	2
Oxygen Concentrator	1

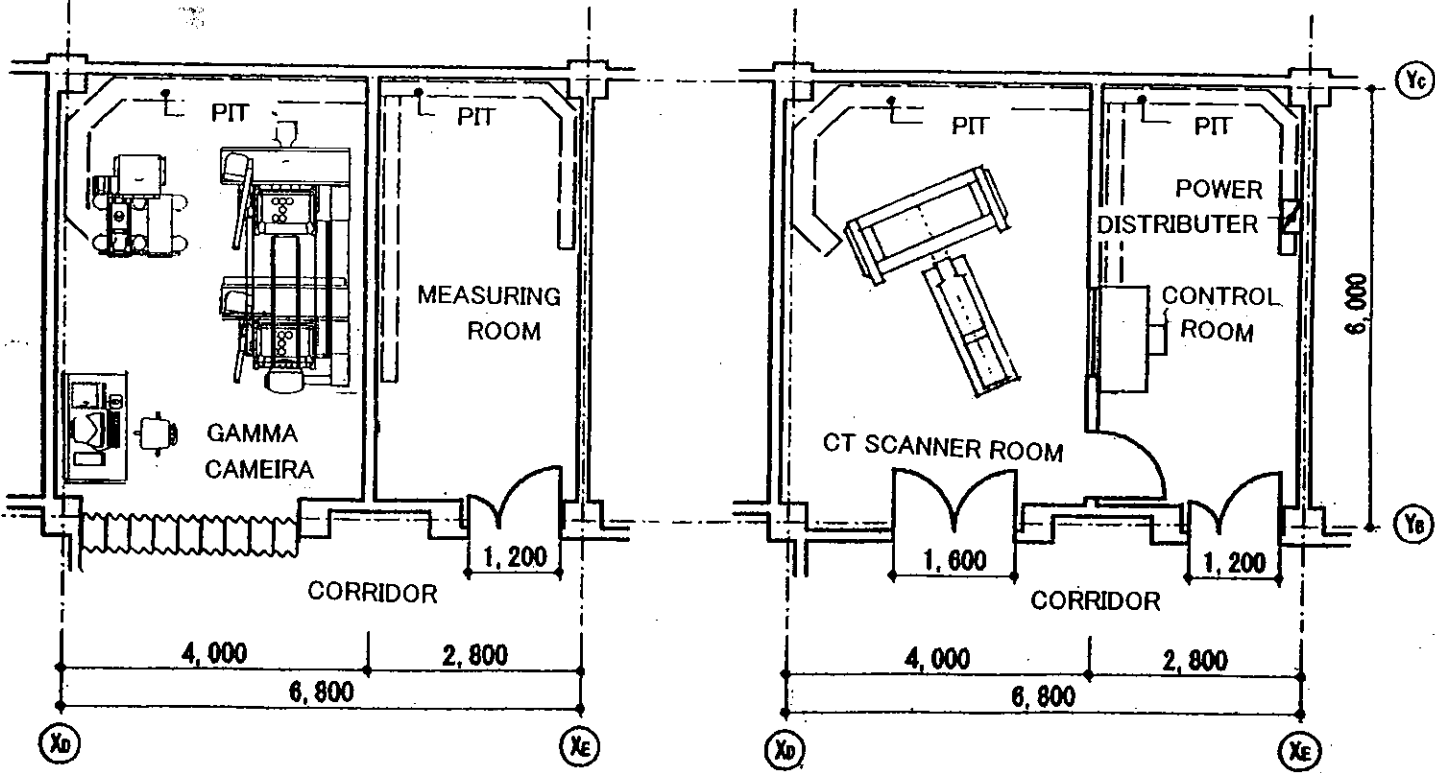
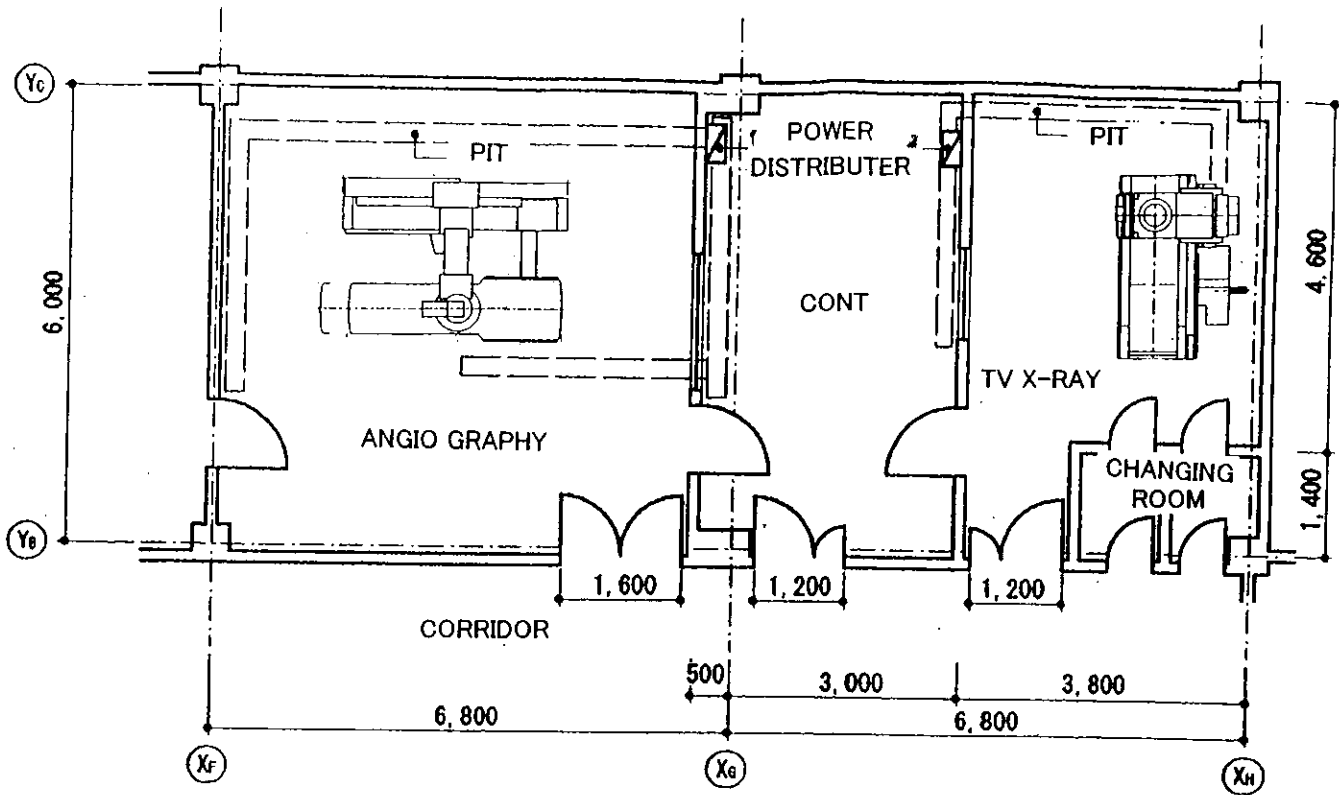
Intensive Care Unit	Q'ty
ICU Ventilator	2
Suction Unit	4
Cardiograph	2
Pharmaceutical Refrigerator	1
Arterial Blood Gas Analyzer	1
Defibrillator with Synchronizaion	1
Bedside Monitor	3
Oxygen Concentrator	2



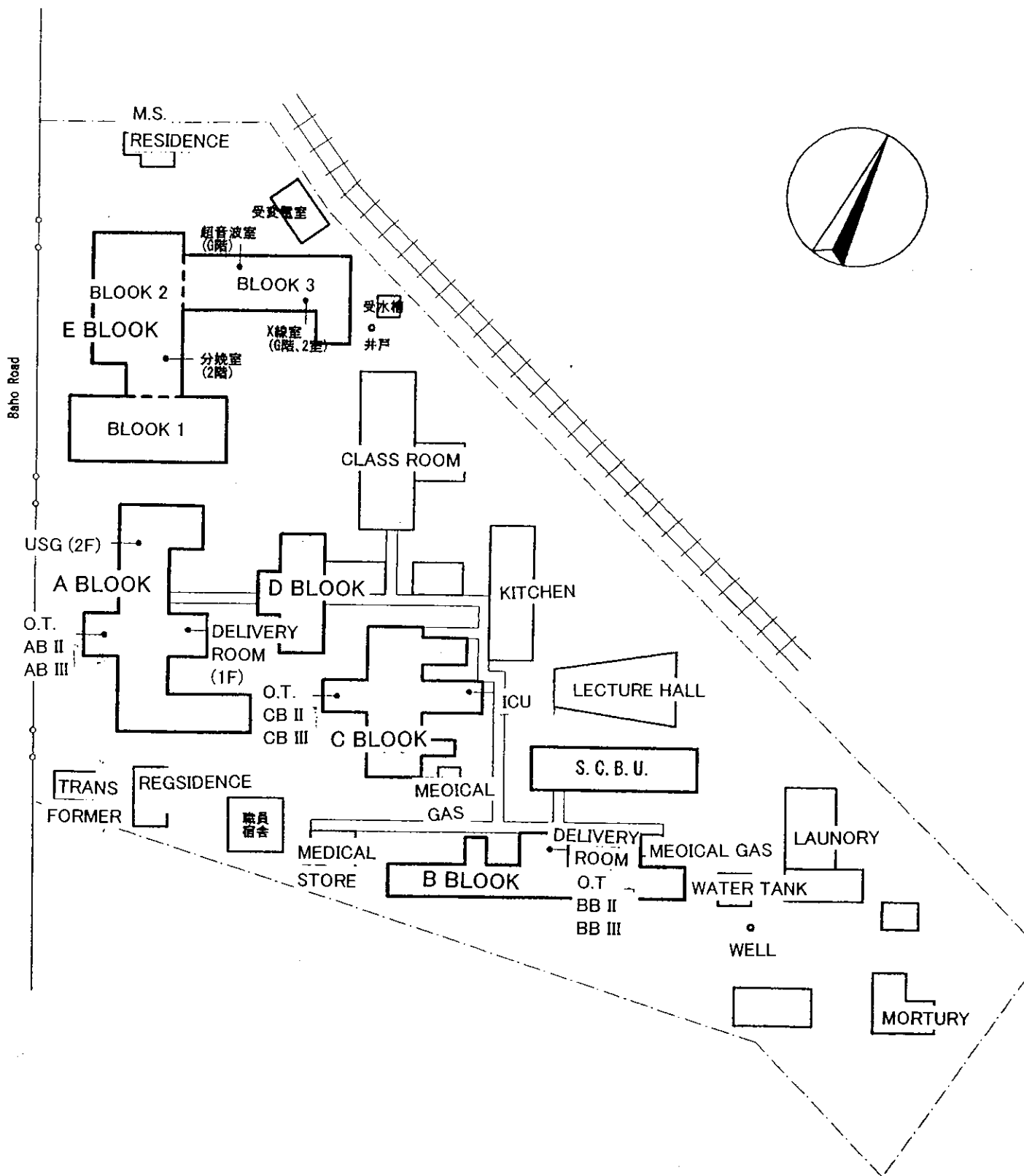
Operation Theatre	Q'ty
Operating Table	3
Diathermy (Bipolar)	3
Ceiling Lamp, Combination Type	3
Anaesthetic Apparatus w/ventilator	3
Bedside Monitor	3
Suction Unit	4
Infusion Pump	3
Syringe Pump	2
Defibrillator	2
Cardiograph	2
Table Top Sterilizer	3
Instrument Sterilizer	4
Pharmaceutical Refrigerator	1



NEW YANGON GENERAL HOSPITAL - FIRST FLOOR

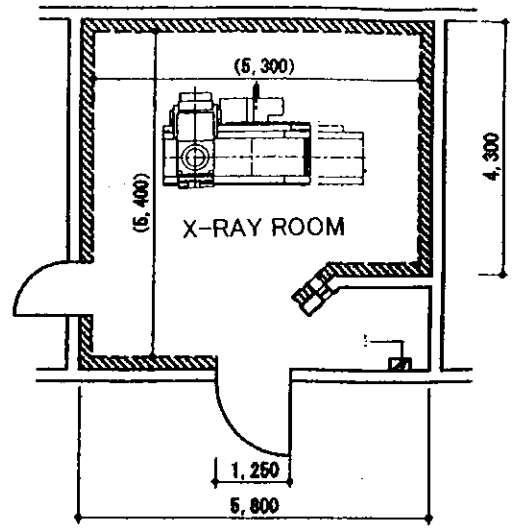
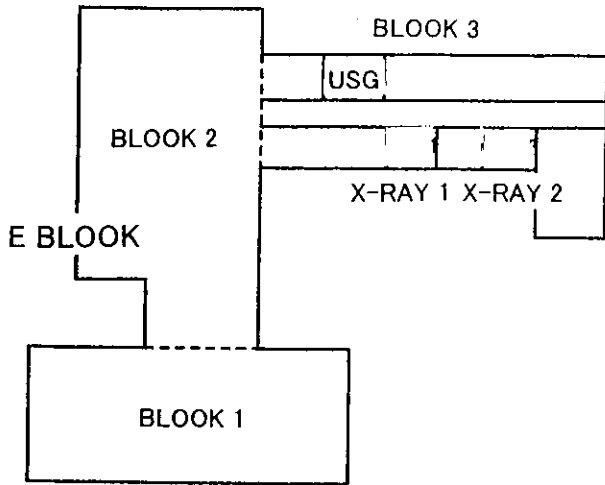


NEW YANGON GENERAL HOSPITAL
 ANGIOGRAPHY, TV X-RAY UNIT GAMMA CAMERA, CT SCANNER

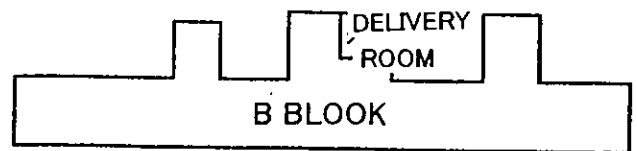
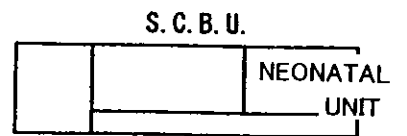
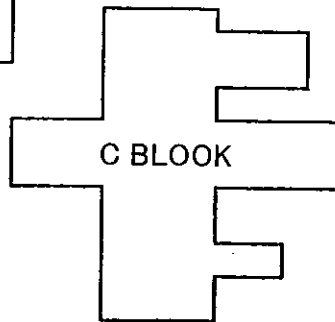
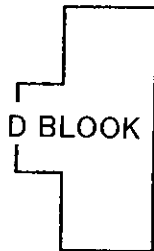
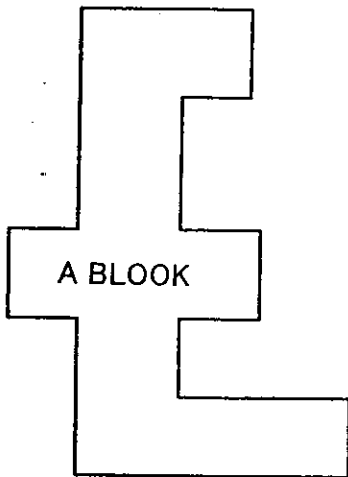


YANGON CENTRAL WOMEN HOSPITAL N. T. S.

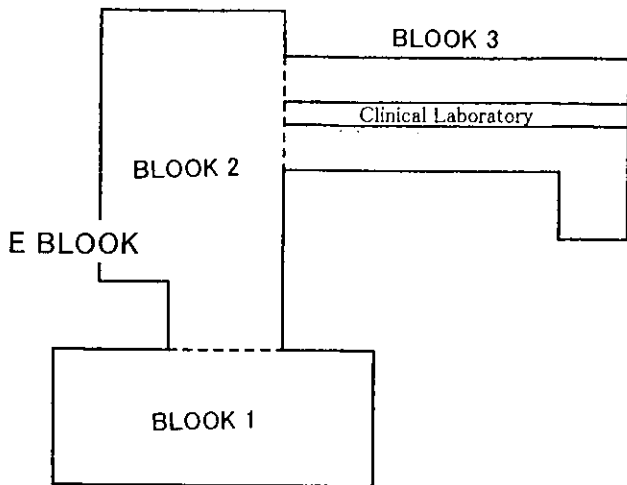
Diagnostic Imaging		Q'ty
Ultrasound Scanner		1
Diagnostic X-ray System w/Fluoroscopy		1
Ultrasound Scanner, Portable		1



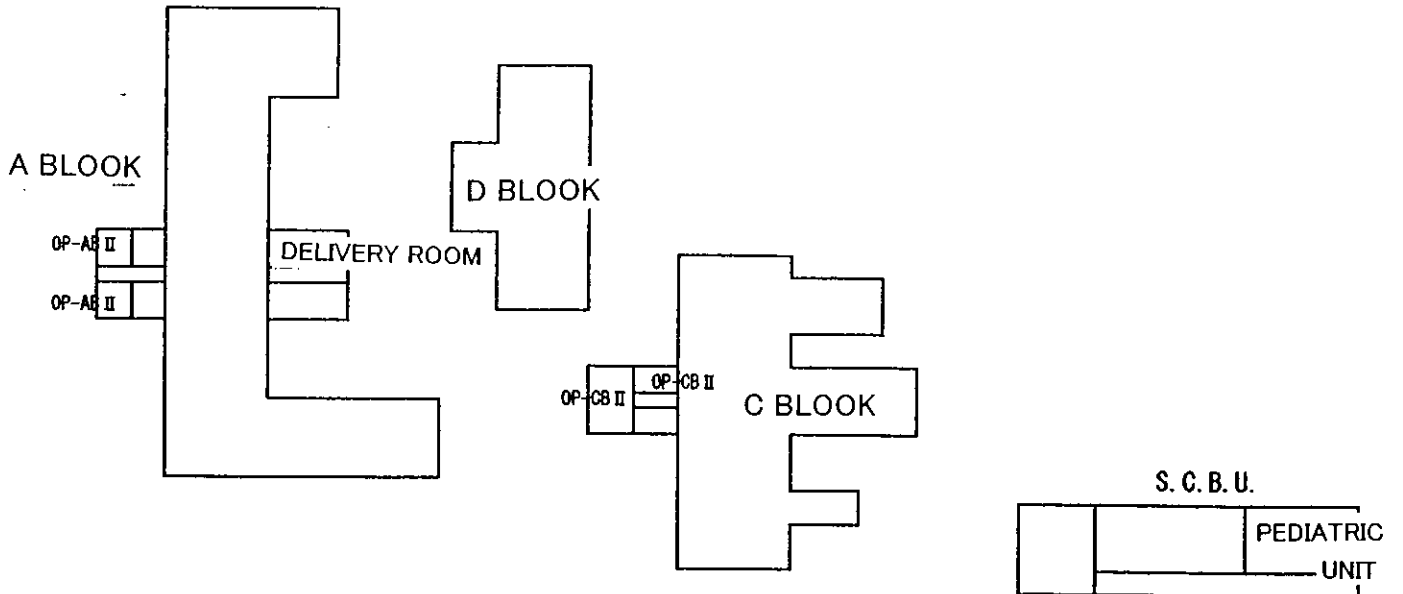
Neonatal Intensive Care Unit		Q'ty
Oxygen Flowmeter Set		5
Bilirubinometer, Percutaneous Type		3
Intensive Care Warmer		1
Continuous Positive Airway Pressure Ventilator		1
Infusion Pump		2
Syringe Pump		2
Suction Unit		2
Infant Incubator		4
Oxygen Concentrator		2
Electrocardiograph		1
Portable X-ray Unit		1



YANGON CENTRAL WOMEN HOSPITAL - GRAND FLOOR

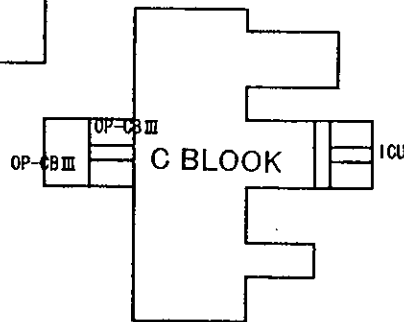
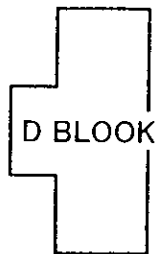
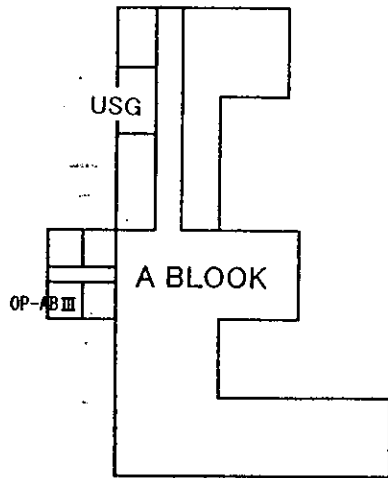
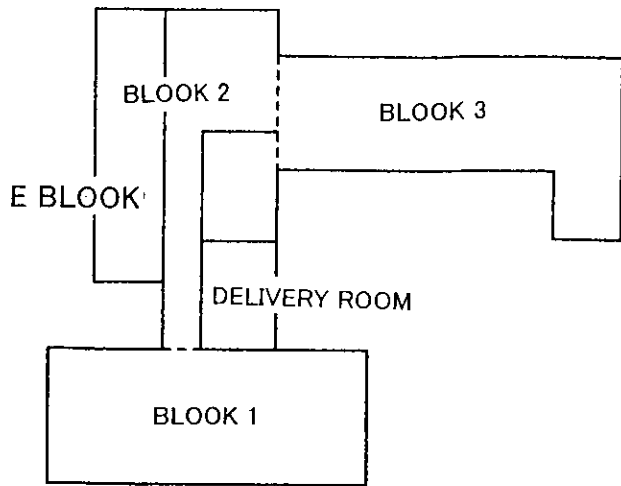


Clinical Pathology and Blood Bank	Q'ty
Spectrophotometer	1
Auto Still Apparatus	1
Automatic Tissue Processor	1
Paraffin Section Mounting Water Bath	1

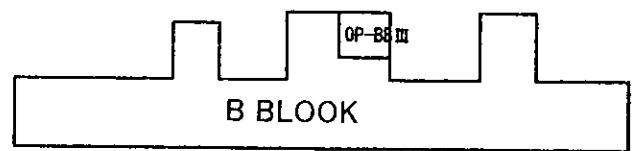
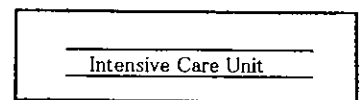


Operation Theatre	Q'ty
Universal Operating Table for Obs./Gyne.	4
Cardiotonogram	3
Doppler Fetal Heart Detector	2
Laparoscope with Light Source	1
Electric Vacuum Extractor	4
Diathermy	4
Hysteroscope set with Light Source	1
Delivery Bed	6
Suction Unit	4
Electrocardiograph	2

YANGON CENTRAL WOMEN HOSPITAL - FIRST FLOOR



Intensive Care Unit	Q'ty
ICU Ventilator	2
Defibrillator	2
Bedside Monitor	2
Syringe Pump	2
Infusion Pump	2
Suction Unit	1
ICU Bed	2

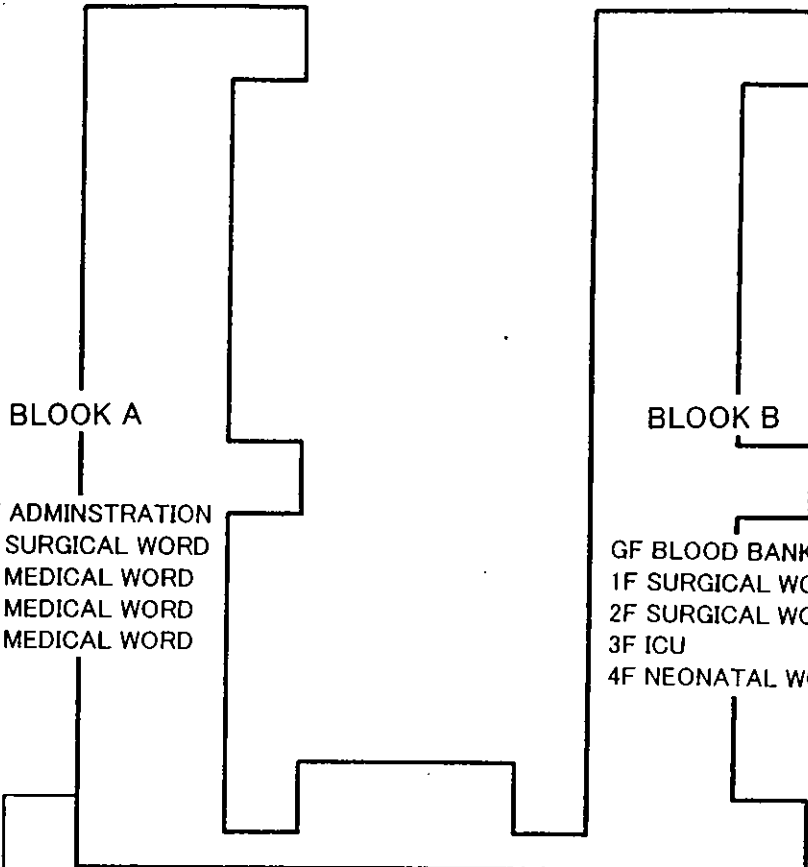



YANGON CENTRAL WOMEN HOSPITAL - 2 FLOOR

Pyi Daung Su Yetha Road

INCINERATOR 

POWER GENERATOR 



TRANS FORMER 

Neonatal Unit	Q'ty
Infant Incubator	5
Apnea Alarm	4
Bedside Monitor	4
ICU Ventilator for Infant	2

BLOOK C

GF USG X-RAY
1F O.T. (4 ROOM)

WELL

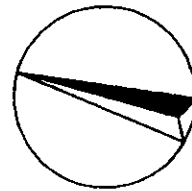


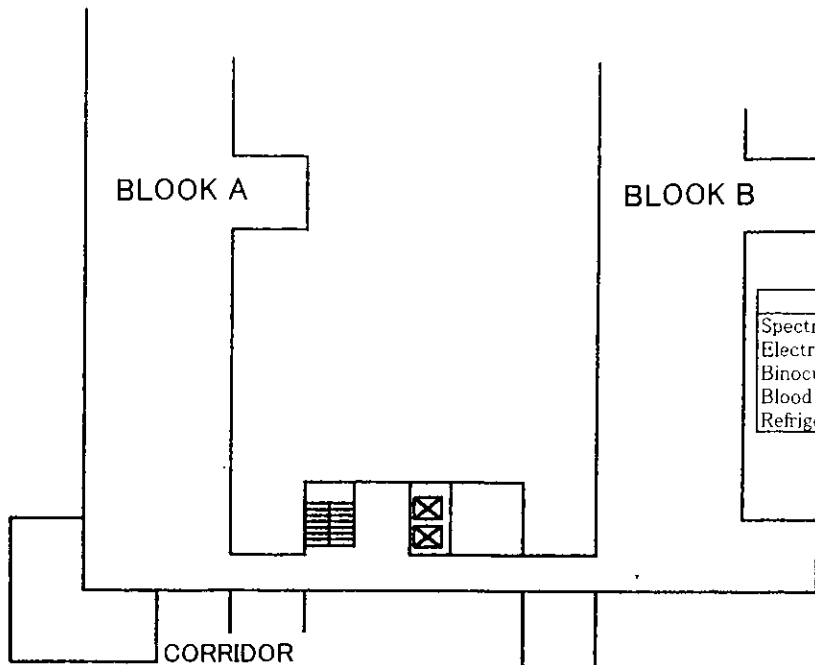
WATER TANK 



OUT PATIENT UNIT

YANGON CHILDREN HOSPITAL





Clinical Laboratory	Q'ty
Spectrophotometer	1
Electrophoresis Apparatus	1
Binocular Microscope	3
Blood Storage Refrigerator	1
Refrigerated Centrifuge	1

CORRIDOR

CSSD

DOCTORS OFFICE

CORRIDOR

USG

X-RAY 1

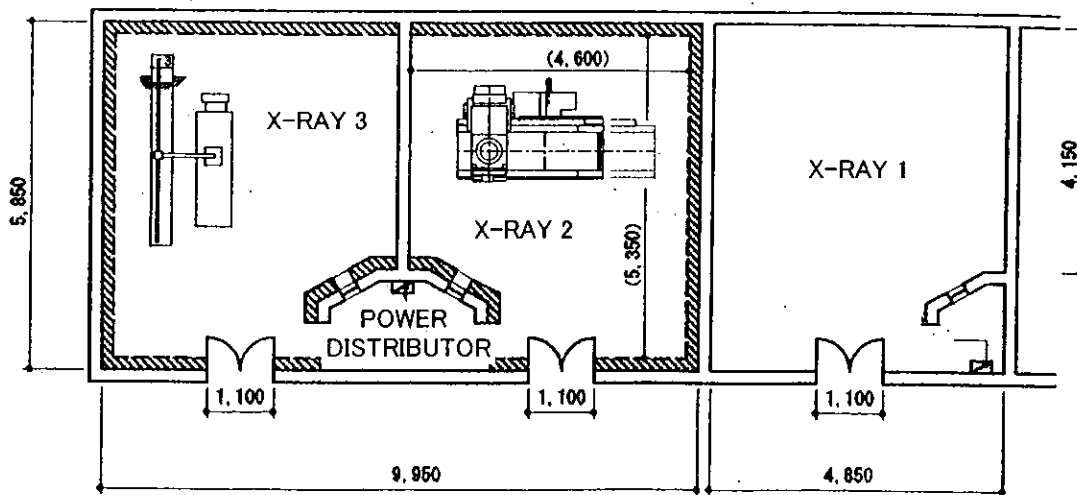
X-RAY 2

X-RAY 3

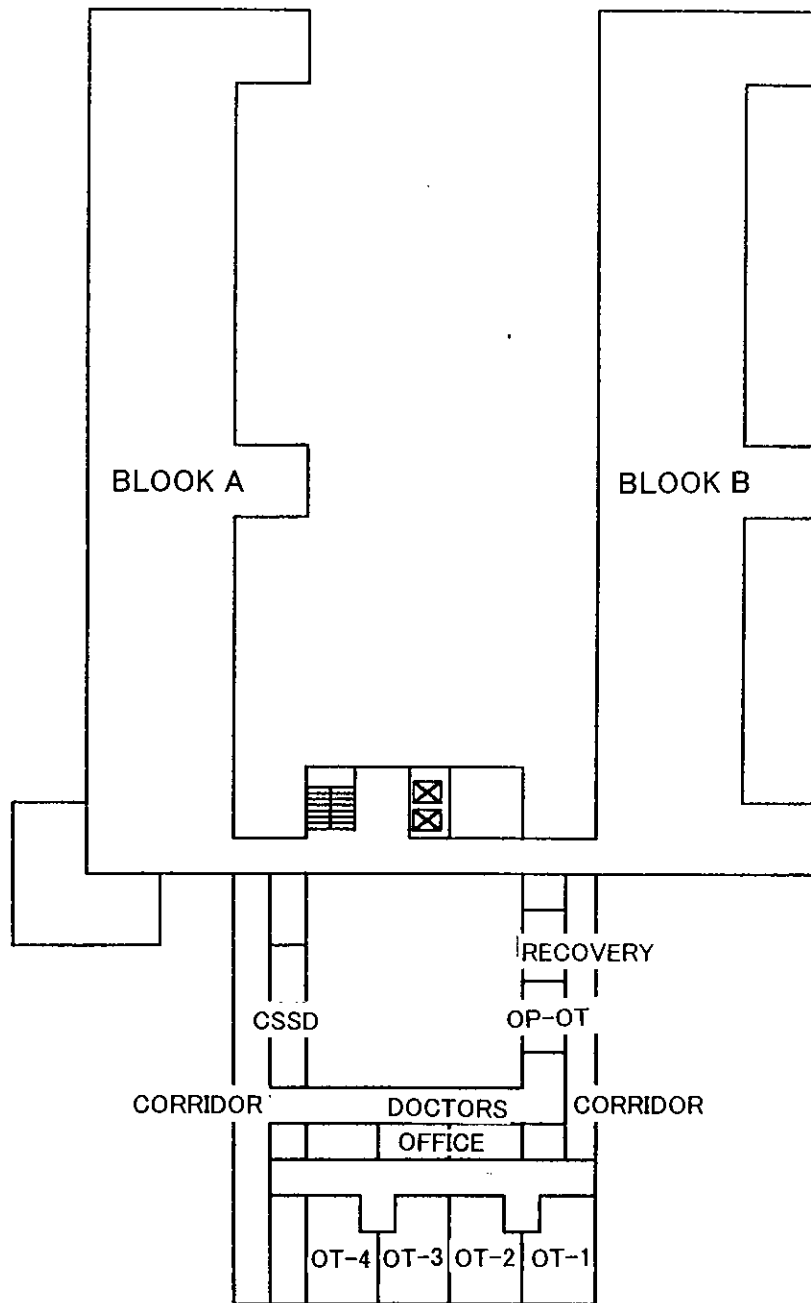
LECTURE ROOM

BLOCK C

Diagnostic Imaging	Q'ty
Diagnostic X-ray System w/TV & Simple X-ray	1
Ultrasound System	1
Mobile X-ray Unit	1



YANGON CHILDREN HOSPITAL - G FLOOR

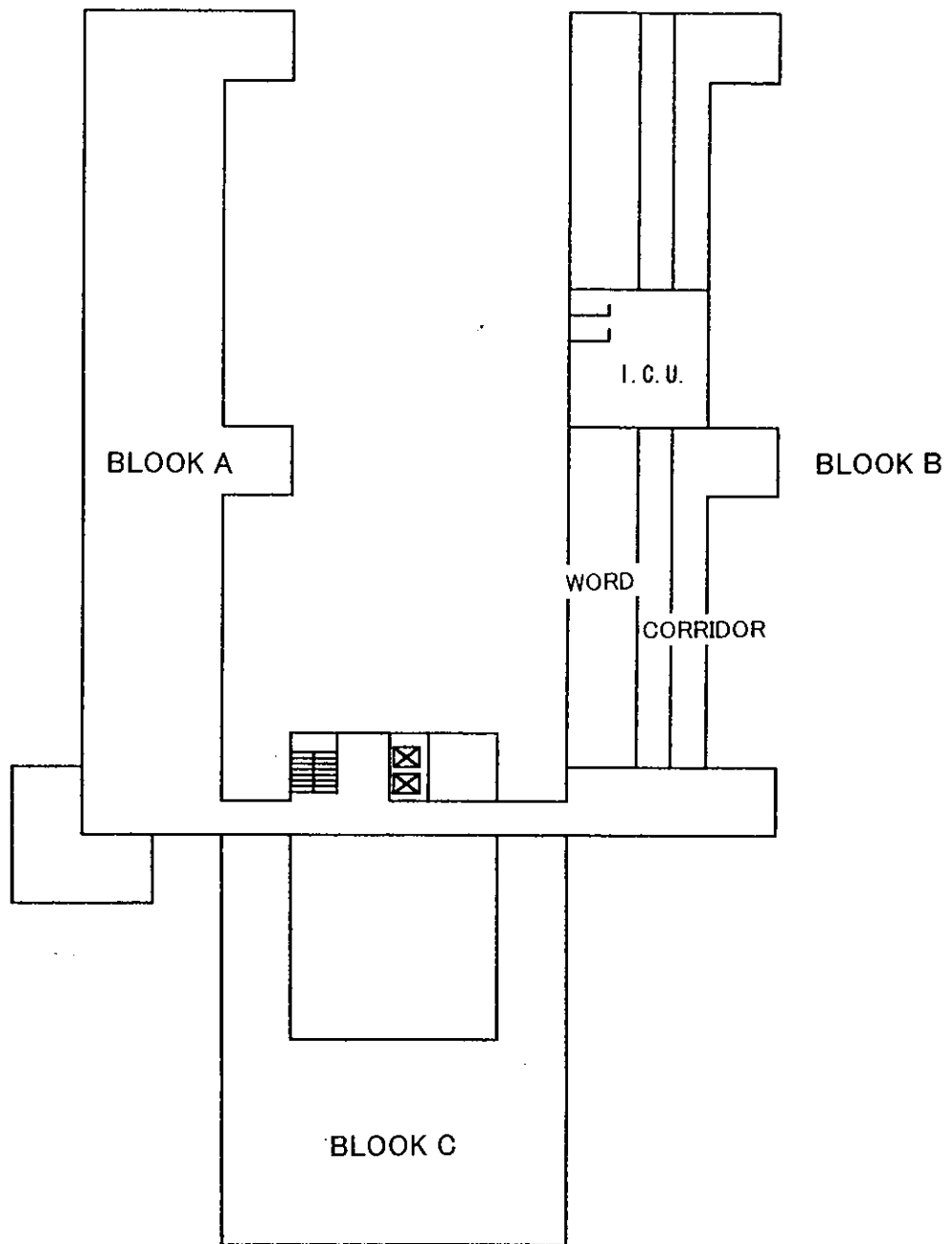


BLOCK C

Operation Theatre	Q'ty
Universal Operating Table w/Baby Attachment	2
Ceiling Lamp, Combination Type	2
Autoclave	1
Diathermy	2
Anaesthesia Apparatus w/ventilator	2
Bedside Monitor	2
Infusion Pump	2
Blood Transfusion Warmer	2

YANGON CHILDREN HOSPITAL - 1 FLOOR

Intensive Care Unit	Q'ty
ICU Ventilator for Paediatric	1
ICU Ventilator for Infant	2
Bedside Monitor	2
Infant Incubator	2
Oxygen Concentrator	2



YANGON CHILDREN HOSPITAL - 3 FLOOR

2-2-4 Implementation Plan

2-2-4-1 Implementation Concept

This project will be implemented officially in accordance with the grant aid framework of the Government of Japan after approval of both Japanese and Myanmar Governments and the conclusion of the Exchange of Notes (E/N). Prior to the implementation, the Myanmar side will select a Japanese consulting company, and the company will commence their work for the approval of tender documents for equipment procurement. After completion of tender documents, a Japanese trading company which will be chosen by tender for the project will implement actual work of equipment procurement and installation. The contracts on the consultation and the equipment procurement will come into effect after verification of the Government of Japan.

For the implementation of the project conducted within the framework of the Japan's grant aid, the following items should be considered:

- 1) The work schedule should be confirmed by both Japanese and Myanmar staff in charge. Both sides should clarify the scope of work and the starting and completion dates of each task to avoid confusion in mutual work plans.
- 2) In order to shorten the work period as much as possible, the trading company must investigate the project facilities by 2 months before delivery of the equipment. The company also must check delivery routes, power supply, water supply and drainage, and prepare a delivery plan and schedule.
- 3) It is considered to take about 2.4 months for delivery and installation.
- 4) As for the medical equipment such as CT scanner, angiographies, ultrasound scanner and high pressure steam sterilizer, which needs regular maintenance, sales engineers of the manufacturer of each equipment or the local agent will give instructions for its operation and maintenance of each facility.
- 5) As for the equipment procured in Japan, Japanese engineer or Myanmar engineer (local agent) specializing in each electronic medical equipment and general medical equipment will give instructions for its operation.

2-2-4-2 Implementation Conditions

Taking into account that the project facilities are the medical facilities in practice, the delivery and installation procedures, such as installation schedule, delivery routes and depository of equipment, should be duly considered through the consultation with each project facility so that the daily medical activities may not be disturbed.

2-2-4-3 Scope of Works

The scope of responsibility of the Japanese side for this project covers the procurement and subsequent set-up/installation of medical equipment for the 3 medical facilities, in accordance with the grant aid scheme. As the set-up/installation works and operating guidance are required at the respective facilities, the equipment shall not be delivered en bloc to the Ministry of Health. The scope is limited to as described below:

1. The equipment that is shown in the requested equipment list aforementioned.
2. Expenses for ocean transport, land transport and domestic transport to the project facilities.
3. Expenses for installation of equipment (expenses for dispatch of engineers, local workers, tools and measuring meters).
4. Expenses for test runs and guidance on operation, inspections and maintenance management relating to all the procured equipment.

2-2-4-4 Consultant Supervision s

1) Implementation system

The following four parties implement this project:

a) Project implementing bodies

The executing agency for this project is the Ministry of Health. And the Health Division of the Ministry of Health is the responsible agency for the implementation of the project. The designated facilities are 3 medical facilities.

b) Consultant

Since the project is implemented under the Japanese grant aid program, it is stipulated by its rule that a Japanese consultant gives instructions, advises and coordinates from a fair standpoint at each stage of the project, according to the contract with the executing agency of Myanmar. Besides, the consultant performs necessary works for smooth implementation of the project.

The specific tasks are as follows:

- Approval of tender document

Confirmation of tender documents for procurement (documents on tender

conditions, equipment specifications and budget reports).

- Promotion of tender and supply contract

Decision on the supply contract system, preparation of supply contract draft, examination on the contents of the report for equipment installation work, and selection of suppliers (public announcement of tender, tender and tender evaluation, contract negotiation and contract witnessing).

- Inspection and approval of work execution drawings

Inspection and approval of equipment specification reports, work execution drawings, and work execution plans submitted by the suppliers.

- Report on work progress

Report on progress of work execution to the implementing bodies and the related organizations.

- Cooperation in payment approval procedures

Investigation on bills relating to the remuneration to be paid after shipment, and cooperation in these procedures.

- Consulting work

Witnessing of various works from the beginning through the completion.

c) Supplier

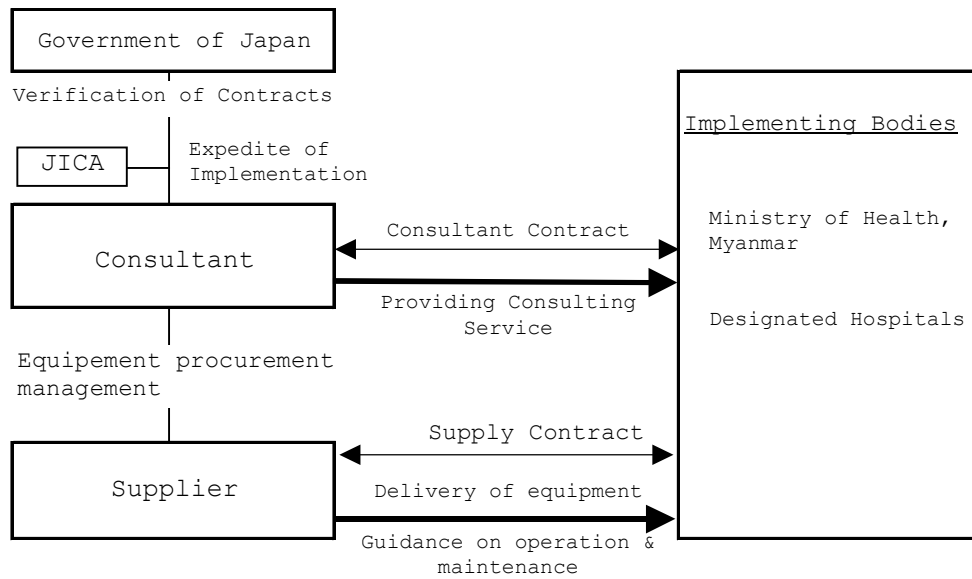
A Japanese supplier (trading company) who will be selected by tender implements procurement of the equipment. The supplier, based upon the contract with the Myanmar side, is responsible for manufacturing, supply, delivery and installation of equipment, and gives instructions on equipment operation and maintenance to the Myanmar side before hand-over.

d) JICA

Japan International Cooperation Agency (JICA) leads the consultant and the supplier so that the project can be implemented properly in accordance with the Japan's grant aid system. Moreover, JICA discusses with the project implementing bodies in order to further the project, if necessary.

The implementation system is shown as follows.

Flowchart of Implementation System



2) Implementation design and supervision

The consultant, based on the contract with the Myanmar side, performs implementation design and supervision for the project. The implementation design is made, in accordance with the basic design study, to determine detailed specifications of the equipment and to prepare the tender documents comprised of such specifications, tender guidance and a draft of a supply contract, etc.

The supervision is made to assure that the work of the supplier is implemented in accordance with the contract, and to give instructions, advice and coordination from a fair standpoint to promote the project.

The supervision consists of the following:

a) Stage of implementation design

Confirmation of tender documents, and preparation for tender and contract documents.

b) Stage of tender

Prior screening of applicants for tender, implementation of tender, evaluation of the contents of tender, and conclusion of contract.

c) Stage of work execution

Supervision of work execution (inspection and approval of equipment specifications, supervision of shipment/ocean-transport/domestic-transport,

instruction and supervision of installation, and supervision of work to be covered by the Myanmar side), report on the work execution progress, and issuance of certificates.

Upon confirming that the equipment installation is completed and the contract conditions are conformed, the consultant witnesses delivery of the equipment and completes its duty after obtaining acknowledgement of receipt of the equipment from the Myanmar side.

Besides the above-mentioned work, the consultant reports on the work progress, payment procedures, completion of delivery, etc., to those concerned of the Government of Japan.

3) Personnel plan

Those who will be engaged in the consulting work for the implementation design and the supervision of the work execution are as follows:

- Project manager : 1 person
Japanese consultant
- Medical equipment planner I : 1 person
Japanese consultant
- Medical equipment planner II : 1 person
Japanese consultant

2-2-4-5 Procurement Plan

1) Procurement of equipment

The equipment to be procured in this project shall be restricted to those to be procured from Japan or Myanmar as a rule. The equipment can be selected considering the reliability of delivery date and the appropriateness of procurement price.

The equipment applied to the following conditions shall be procured from a third country.

- a) The equipment to be procured is not manufactured in Japan.
- b) While the equipment is manufactured in Japan, the competing principle can not be expected in tender and the fairness of tender may not be secured by restricting the procurement of equipment to the Japanese products.
- c) If the equipment is restricted to the Japanese product, the cost of transportation shall be remarkably expensive and the effect of aid may lessen.

Or, the equipment manufacturer and its local agent do not have their own maintenance network and the equipment cannot be maintained properly. It may lessen the effect of this project.

d) Or, unavoidable circumstances, such as urgency of procurement, are admitted.

2) Method of delivery of the medical equipment

The equipment will be transported to Yangon port in Myanmar by sea, and all the shipment will pass the custom at Yangon, and then to each site ahead by land. In order to protect from damage and robbery, the equipment will be packed in container site by site.

2-2-4-6 Implementation Schedule

1) Implementing process

When the Cabinet of the Government of Japan approves this project and the Exchange of Notes (E/N) relating to the implementation is concluded between both relevant countries, the project will be carried out in the following procedures:

1. Conclusion of the E/N between both governments.
2. Conclusion of a contract between the executing agency and an authorized foreign exchange bank in Japan on payment of the grant aid fund from the Japanese side required for implementation of this project (Banking Arrangements).
3. Conclusion of a consultant contract between the executing agency and the Japanese consultant.
4. Issuance, by the executing agency, of authorization to pay (A/P) according to the consultant contract.
5. Verification of the above contract by the Government of Japan.
6. Implementation design and preparation of tender documents by the consultant.
7. Approval of the tender documents by the executing agency and preparation of tender by the consultant.
8. Tender and evaluation of tender documents.
9. Conclusion of a supply contract (sales contract) relating to equipment procurement between the executing agency and a Japanese trading company.
10. Verification of the above contract by the Government of Japan.

11. Issuance, by the executing agency, of authorization to pay (A/P) according to the supply contract (sales contract).
12. Approval of equipment manufacture and work execution drawings. (The consultant examines and approves the equipment specifications submitted by the suppliers, gives necessary instructions, and coordinates the procedure for smooth implementation of the project by making close contacts with the executing agency.)
13. Witnessing for equipment inspection. (The consultant witnesses factory inspection before shipment, if necessary, and approves the inspection as the proxy of the executing agency.)
14. Supervision of work execution. (In accordance with the contract, the consultant, as the proxy of the executing agency, scrutinizes and approves the equipment specifications, inspects and approves the equipment, supervises shipment and inland transportation, and supervises work execution covered by the partner county.)
15. Progress management. (The consultant supervises work progress so that the supply contract can be completed within the period stated in the E/N, and gives necessary directions to the supplier.)
16. Final inspection and test runs. (The consultant conducts final inspection and test-run to the procured equipment after all works are completed, confirms that the performance is as described in the specifications, and submits a certificate of the work completion to the executing agency.)
17. Completion and hand-over.

(2) Period of implementation

After conclusion of the E/N, the period required for each task on the Japanese side is roughly as follows:

Table 2-11 Period of implementation and content of work

Content of Work	Work Period
1. Confirmation of tender document draft	1.0
2. Approval of tender documents	0.5
3. Tendering, conclusion of contract and approval	2.5
4. Manufacture of equipment	4.0
5. Delivery	1.5
6. Installation (including an initial test, adjustment, operation guidance, training, maintenance instruction and confirmation of hand-over, etc.)	0.9
TOTAL	10.4 months

The work progress chart is the following:

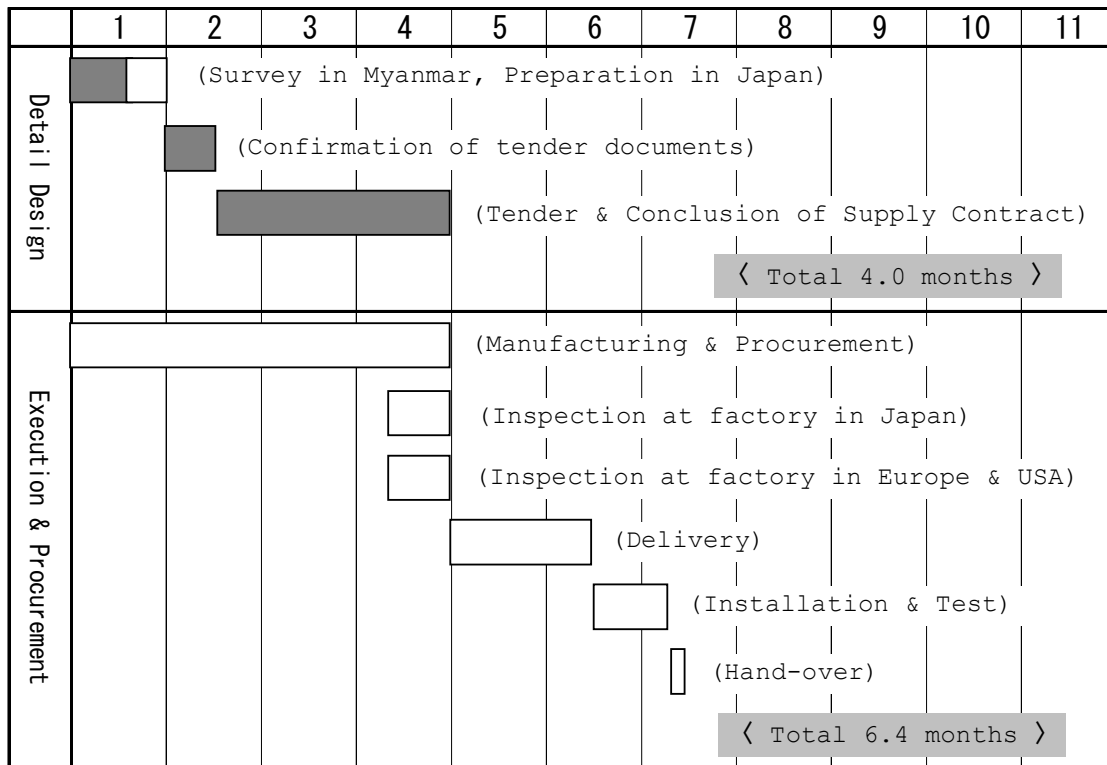


Figure 2-1 Work Execution

2-3 Obligations of Recipient Country

For the implementation of this project, the Myanmar side is required to undertake the following necessary measures:

- (1) During the implementation period of the project, the Myanmar side should accommodate a place used as a temporary office for this project in each designated facility.
- (2) The peripheral conditions (supply of electricity and water, drainage and other facilities) necessary for this project should be prepared and supplied before disposition of the equipment. Also, the existing equipment should be removed from places where the new equipment will be installed before the disposition.
- (3) The equipment imported for this project should be unloaded without delay, and necessary conveniences for customs clearance and inland transportation of the equipment should be provided.
- (4) Payments of customs duties and other taxes should be exempted for the Japanese nationals who stay therein for the performance of their work on this project.
- (5) For the Japanese nationals whose services may be required in connection with the supply of the equipment and necessary services for implementation of this project, necessary conveniences for their stay in Myanmar should be accorded and sufficient considerations should be taken for their security as well.
- (6) In accordance with the Banking Arrangement (B/A), the Myanmar side should pay the banking commission and the commission for the issuance of "the Authorization to Pay (A/P)" to a bank in Japan.
- (7) The equipment to be procured under the Grant Aid should be maintained properly and used effectively. For this purpose, necessary budget and personnel should be secured.
- (8) For the X-ray rooms of the Yangon Central Women Hospital and the Yangon Children Hospital among the three (3) project facilities, the radiation shielding work and which expenses should be shouldered by the Myanmar side.
Allotment of Myanmar side for project cost.

Table 2-12 Cost of construction for renovation of x-ray room (for X-ray leakage protection works)

Hospitals required renovation works	Cost estimation of construction
	Kyat (thousand)
Yangon Central Women Hospital	2,221
Yangon Children Hospital	4,442
TOTAL	6,663

- (9) The equipment to be procured under the Grant Aid should be maintained properly and used effectively. And condition of the equipment should be reported to the Government of Japan on a regular basis.
- (10) All the expenses, other than those covered by Japan's Grant Aid within the scope of this project, should be borne.

2-4 Project Operation Plan

- (1) Operation and maintenance cost

The costs required for the operation and maintenance, such as spare parts and consumables, for the medical equipment newly procured under this project, are shown in the following table 2-13.

This project aims at renewal of the existing equipment, so operation and maintenance cost are estimated for the ones newly procured.

Table 2-13 Cost estimation additionally required for operation and maintenance

Project site	Additionally required operation and maintenance cost for replaced and supplied equipment under the project
	Kyat (million)
New Yangon General Hospital	19.22
Yangon Central Women Hospital	9.72
Yangon Children Hospital	8.05
TOTAL	36.99

Source: Department of Health

The actual budget of MOH for medical care services was 5,706 million kyats in 2001. The maintenance costs newly required after implementation of the project will be 37 million kyats, and it is only 0.648% of the budget. The budget of MOH has been increased by more than 50 ~ 60% on an average in the past two years.

(2) Cost of maintenance contract

The Central Medical Supply Department (CMSD) affiliated to the Ministry of Health controls the maintenance of the medical equipment in the public medical institutions. Approximately ten (10) technologists are stationed at the CMSD, and they make the maintenance management for most of the equipment except for the advanced medical equipment. As for the equipment to be procured in this project, all of the equipment is renewal or supplementation of which is now in service at the project facilities. Therefore, it is deemed that no problem is to be occurred for the maintenance management. However, the expertise should be necessary for the maintenance of the following equipment. In order to use the equipment in good condition for a long time, it is deemed indispensable to conclude a maintenance contract with a local agent of the manufacturer. Each project facility is recommended to secure the cost for such contract.

New Yangon General Hospital

(million kyat)

Equipment	Q'ty	Maintenance service contract	Contract condition	Contract amount/year
Whole body computed tomographic system	1	Periodrical maintenance for each 3 months including on-call services.	Engineering fee only.	5.00
Diagnostic x-ray system with TV	1	Periodrical maintenance for each 6 months including on-call services.	Engineering fee only. Free for replacement parts under US\$30.00.	2.50
Digital subtraction angiography apparatus	1	Periodrical maintenance for each 4 months including on-call services.	Engineering fee only.	4.44
Gammer camera	1	Periodrical maintenance for each 4 months including on-call services.	Engineering fee only.	3.61
Doppler ultrasound scanner	1	Periodrical maintenance for each 6 months.	Engineering fee only.	1.11
TOTAL				16.66

Yangon Central Women Hospital

(million kyat)

Equipment	Q'ty	Maintenance service contract	Contract condition	Contract amount/year
Diagnostic x-ray system with TV	1	Periodrical maintenance for each 6 months including on-call services.	Engineering fee only. Free for replacement parts under US\$30.00.	2.50
Ultrasound scanner	1	Periodrical maintenance for each 6 months.	Engineering fee only.	1.11
TOTAL				3.61

Yangon Children Hospital

(million kyat)

Equipment	Q'ty	Maintenance service contract	Contract condition	Contract amount/year
Diagnostic x-ray system with TV	1	Periodrical maintenance for each 6 months including on-call services.	Engineering fee only.	3.88
Ultrasound scanner	1	Periodrical maintenance for each 6 months.	Engineering fee only.	1.11
TOTAL				4.99

Chapter 3 Project Evaluation and Recommendations

Chapter 3 Project Evaluation and Recommendations

3-1 Project effect

1) Direct effect

- ① No overall provision has been made for the equipment of the New Yangon General Hospital due to the financial problem since the provision was made by the Japan's Grant Aid in 1985, and which equipment is too old and malfunctioning. The improvement shall be made for such medical equipment. Accordingly, it enables to provide annually about 700 serious patients (the year of 2000) with proper, prompt and cheap medical services.
- ② The Yangon Central Women Hospital is a top medical facility in Myanmar as to the obstetric and gynecologic diseases. The improvement shall be made for the medical equipment relevant to the obstetrics and gynecology, which is too old and insufficient in quantity. Accordingly, the enhancement of the medical service system shall be made. The medical services of high quality shall be provided to approximately 27,000 patients with serious obstetric or gynecologic disease in a year, and to approximately 4,500 immature babies in a year.
- ③ The Yangon Children Hospital is a top medical facility in Myanmar as to the pediatric diseases. The improvement shall be made for the medical equipment relevant to the pediatrics, which is too old and insufficient in quantity. Accordingly, the enhancement of the medical service system shall be made. The medical services of high quality shall be provided to approximately 2,000 patients with serious pediatric disease in a year.
- ④ These project hospitals are educational facilities for the medical personnel. The improvement of equipment enables to provide the effective medical trainings to approximately 500 interns in a year.

2) Indirect effect

- ① These project hospitals are ranked as top medical facility in Myanmar, which provides the medical services for the urologic diseases, the obstetric and

gynecologic diseases, the pediatric diseases, and so on. The improvement of equipment shall contribute to the enhancement of medical welfare for the residents (approximately 5 million people) of the Lower Burmese area, where the residents may be able to attend each project hospital.

- ② The improvement of equipment shall contribute for raising the quality of medical care and inspection, and for restoring the reliance of the patients to the hospitals. It can be expected to recover a flow of patients who have been to private hospital thus far.

3-2 Recommendations

The great effect can be expected by this project as mentioned above, and it is believed that implementation of this project is significant. In order to realize and continue this project effect more, it is important to improve and prepare for the following points.

- 1) This project is to supply the medical equipment which is now deficient, to promote enhancement of the medical activities in each project facility, and to support improvement of the health and medical situation in Myanmar. However, this plan cannot achieve only by making arrangements on the hardware (equipment) side. It is believed indispensable to make arrangements on the soft side by Myanmar, such as the solution of deficiency of the medical personnel (especially the medical doctors), and the improvement of quality of medical services. Also, it is urgently necessary to promote the residents' understanding of the health and medical care and to establish such a medical system that does not cost too much by early diagnosis and early therapy.
- 2) In order to make the effect and the problems of this project clear, Myanmar is required to submit a management report to the Government of Japan in every four (4) months on the performance record of each project section, the working state of the equipment, and the conditions of the maintenance contract for the major equipment.

3) While the equipment procured by Japan in 1985 is now too old, the Ministry of Health of Myanmar has used such equipment under the proper maintenance and management. A high valuation can be set on their maintenance and management system. Therefore, it is judged that neither technical cooperation nor cooperation with other donors are especially required. The Ministry of Health is planning an organizational restructuring, such as reorganization of the Maintenance Department under the Central Medical Supply Department as the Biomedical Engineering Department, and increase of the technologists and engineers. In order to use the equipment to be procured under this project more effectively over a long period of time, early establishment of the Biomedical Engineering Department is required.

Appendices

1. Member List of the Study Team

Members List of the Study Team

Basic Design Study

Mr. Kazumi JIGAMI	Team Leader	Director, Second Project Management Division, Grand Aid Management Department, JICA
Mr. Yasuo SUGIURA	Technical Advisor	International Medical Center of Japan Ministry of Health, Labor and Welfare
Mr. Shin-ichi KIMURA	Project Manager	BINKO Ltd.
Mr. Koichi MURAO	Equipment Planner	BINKO Ltd.
Mr. Hideaki KANAYAMA	Facilities and Utilities Planner	BINKO Ltd.
Mr. Hiroaki NARITA	Procurement and Cost Planner	BINKO Ltd
Mr. Isao ENOMOTO	Baseline Surveyor	BINKO Ltd

Explanation on Draft Report

Mr. Yasuo SUGIURA	Team Leader/ Technical Advisor	International Medical Center of Japan Ministry of Health, Labor and Welfare
Mr. Shin-ichi KIMURA	Project Manager	BINKO Ltd.
Mr. Koichi MURAO	Equipment Planner	BINKO Ltd.
Mr. Hiroaki NARITA	Procurement and Cost Planner	BINKO Ltd

2. Study Schedule

Basic Design Study Schedule

Code: EOM: Embassy of Japan
 MOH: Ministry of Health
 NYG: New Yangon General Hospital
 YCH: Yangon Children Hospital
 NRT: Narita Airport BKK: Bangkok Airport

JICA: JICA Myanmar Office
 PDMOH: Pharmaceutical Division of Ministry of Health
 CWH: Yangon Central Women Hospital
 VBDC: Vector Borne Disease Control in MOH
 RGN: Yangon Airport / City

No.	Date	Site Survey	Official		Consultant				
			Team Leader	Technical Adviser	Kimura Project Manager	Murao Equipment Planner	Kanayama Facilities & Utilities Planner	Narita Procurement & Cost Planner	Enomoto Baseline Surveyor
1	Nov. 04 (Sun)				•NRT (10:30) TG641→BKK (15:30/18:00) → RNG (18:45)				
2	Nov. 05 (Mon)	RNG			•Courtesy Call (EOJ, JICA, MOH) •Meeting with PDMOH				
3	Nov. 06 (Tue)	RNG			•Site Survey & Discussion with NYG				
4	Nov. 07 (Wed)	RNG			•Site Survey & Discussion with YCH				
5	Nov. 08 (Thu)	RNG	•NRT(10:30) TG641→BKK (15:30)		•Site Survey & Discussion with CWH				
6	Nov. 09 (Fri)	RNG			•Similar Sites Survey (Yangon General Hospital etc)			•Market Research	•Equal to P.Manager
7	Nov. 10 (Sat)	RNG	•BKK(18:00) TG305→ RNG(18:45)	•NRT (10:30) TG641 → BKK(15:30/18:00) TG305 → RNG (18:45)	•Team Meeting				
8	Nov. 11 (Sun)	RNG	•Team Meeting						
9	Nov. 12 (Mon)	RNG	•Courtesy Call (EOJ, JICA, MOH) •Meeting with PDMOH					•Market Research	•Survey in PDMOH
10	Nov. 13 (Tue)	RNG	•Discussion with NYG & CWH					•Market Research	•Survey in PDMOH
11	Nov. 14 (Wed)	RNG	•Discussion with YCH & VBDC			• Site Survey & Discussion with YCH		•Market Research	•Survey in PDMOH
12	Nov. 15 (Thu)	RNG	•Discussion on Minutes in MOH					•RNG(19:50) TG306→ BKK(21:35/ 22:50) JL718	•Market Research
13	Nov. 16 (Fri)	RNG	•Signing on Minutes in MOH •Report to EOJ & JICA					→NRT(06:25)	•Survey in PDMOH
14	Nov. 17 (Sat)	RNG	•RNG(10:25) TG304→BKK (12:05)	•Team Meeting					•Equal to Official
15	Nov. 18 (Sun)	RNG	•BKK(11:20) TG640→ NRT(19:00)	•Team Meeting					•Equal to Official
16	Nov. 19 (Mon)	RNG	•Site Survey & Discussion (NYG)					•RGN(19:00) TG306→ BKK(21:35/ 22:50) JL718	
17	Nov. 20 (Tue)	RNG	•Site Survey & Discussion (YCH)					→NRT(06:25)	
18	Nov. 21 (Wed)	RNG	•Site Survey & Discussion (CWH)						
19	Nov. 22 (Thu)	RNG	•Site Survey & Discussion (NYG) •RGN(19:50) TG306→BKK (21:35/ 22:50) JL718	•Site Survey & Discussion (NYG)			•RGN(19:50) TG306→ BKK(21:35/22:50) JL718		
20	Nov. 23 (Fri)	RNG	→NRT(06:25)	•Site Survey & Discussion (YCH)		→NRT(06:25)			
21	Nov. 24 (Sat)	RNG	•Team Meeting						
22	Nov. 25 (Sun)	RNG	•Team Meeting						
23	Nov. 26 (Mon)	RNG	•Site Survey & Discussion (CWH)						
24	Nov. 27 (Tue)	RNG	•Meeting with PDMOH (Spec. etc)						
25	Nov. 28 (Wed)	RNG	•Meeting with PDMOH (Spec. etc)						
26	Nov. 29 (Thu)	RNG	•Report (EOJ, JICA) •RGN(19:50) TG306→ BKK(21:35/2250) JL718						
27	Nov. 30 (Fri)		→NRT(06:25)						

Explanation on Draft Report Schedule

	Date		Site Survey	Official Team Leader	Consultant		
					Project Manager	Equipment Planner	Procurement & Cost Planner
1	21-Jan	Mon		•NRT (10:30) TG641→BKK (15:30/18:00) → RNG (18:45)			
2	22-Jan	Tue	RGN	•Courtesy Call (EOJ, JICA, MOH) •Meeting with PDMOH			
3	23-Jan	Wed	RGN	Explanation on Draft Report and Discussion •in NGH, and Site Survey •in CWH, and Site Survey •in YCH, and Site Survey			
4	24-Jan	Thu	RGN	•Discussion on Minutes in MOH			
5	25-Jan	Fri	RGN	•Signing on Minutes in MOH •Report to EOJ & JICA			
6	26-Jan	Sat	RGN	•RGN(19:50) TG306 → BKK(21:35/22:50) JL718	•Team Meeting		
7	27-Jan	Sun	RGN	→ NRT (06:25)	•Team Meeting		
8	28-Jan	Mon	RGN		•Site Survey in NYG		
9	29-Jan	Tue	RGN		•Site Survey in CWH and YCH		
10	30-Jan	Wed	RGN		•Site Survey & Discussion (Specification) with NYG		
11	31-Jan	Thu	RGN		•Site Survey & Discussion (Specification) with YCH,		
12	1-Feb	Fri	RGN		•Site Survey & Discussion (Specification) with CWH,		
13	2-Feb	Sat	RGN		•Report (EOJ, JICA) •RGN (19:50) TG306 → BKK (21:35/2250) JL718		
14	3-Feb	Sun			→NRT (06:25)		

3. List of Parties Concerned in the Recipient Country

List of Parties Concerned in the Recipient Country

*MINISTRY OF HEALTH

Major General Ket Sein	Minister	
Prof. Dr. Mya Oo	Deputy Minister	
Dr. Kyaw Myint	Deputy Minister	
Dr. Pe Thet Htoon	Director	International Division
U Thet Lwin	Assistant Director	International Division
Dr. Wann Maung	Director General	Department of Health
Dr. Kyi Soe	Director General	Dept. of Health Planning
Dr. Maung Maung Win	Deputy Director General	Dept. of Medical Science
Dr. Soe Thein	Deputy Director General	Dept. of Medical Research
Dr. Myat Moe	Deputy Director General	Dept. of Traditional Medicine
Dr. Hla Pe	Deputy Director General	(Medical Care)
Dr. Tin Win Maung	Director	(Medical Care)
Dr. Myint Thoung	Deputy Director,	Central Medical Stores Depot.
Dr. Sai San Win	Assistant Director	(Medical Care)
U Tint Sann	Assistant Director	(Engineer)
Dr. Min Zaw Oo	Personel Staff Officer	
Lt. Col. Naw Weih	Secretary	Minister's Office

*NEW YANGON GENERAL HOSPITAL

Dr. Aung Htut	Medical Superintendent
Dr. Nyunt Nyunt Thein	Deputy Medical Superintendent
Dr. Khin Soe Soe Kyu	Assintant Medical Superintendent
Dr. Thant Zin	First Assistant Surgeon
Dr. Ohnmar Myint	Lecturer/Consultan Pathologist
Dr. Thet Naing	Lecturer/Consultan Radiologist
U Kyaw Kyaw Oo	Assintant Director (Construction)
Myint Htun	M.S. Staff
Daw Khin Mama	Electric Engineer

*YANGON CENTRAL WOMEN HOSPITAL

Dr. Shwe Oh	Medical Superintendent
Dr. Daw San San Hlaine	Deputy Medical Superintendent
Dr. Daw Thinn Thinn Aye	Assistant Medical Superintendent
Dr. Daw Than Than Tin	Professor and Head of Department Obsterics & Gynecology
Dr. Daw San San Myint	Professor of Special Care Baby Unit
Dr. Daw Yin New	Consultant Anaesthetist
Dr. Daw Thi Thi Aye	Head of Department of Pathology
Dr. Daw Khin Mar Oo	Consultant Radiologist
Daw Mya Kywe	Matron
U Myo Chit	Assistant Engineer
Cho Cho Mar	Senior Assistant Engineer

*YANGON CHILDREN HOSPITAL

Dr. Mya Thein	Medical Superintendent
Dr. Khin Aye Thin	Pathologist
Dr. Saw Doo	Consultan Anaesthesiologist
Dr. Kyaw Zin Wai	Consultan Paediatrician
Dr. Aye Thoung	Consultan Neonatogist
Dr. Kyaw Myint	Radiologist
Dr. Myo Kyi Tha	Assistant Surgeon (SHO)

***YANGON GENERAL HOSPITAL**

Dr. Taik Wan	Medical Superintendent
Dr. Myint Kyu	Professor and Head, Dept. of Radiology
Dr. Tin Myint	Professor and Head, Dept. of Anaesthesiology

***NATIONAL HEALTH LABORATORY**

Dr. Tin Nyunt	Director(Lab.)/Pathologist
Dr. Khin Myat New	Consultant Microbiologist
Dr. Soe Lwin	Head/Consultant Virologist

***Embassy of Japan**

Mr. Rokuichiro Michii	Counselor
Mr. Masamichi Hashimoto	Second Secretary

***JICA Office**

Mr. Toshimichi Aoki	Resident Representative
Mr. Masayuki Kitaki	Project Formulation Advisor
Maung Maung Than	Programme Officer

4. Minutes of Discussion

MINUTES OF DISCUSSIONS
ON THE BASIC DESIGN STUDY
ON THE PROJECT FOR IMPROVEMENT OF MEDICAL EQUIPMENT
FOR HOSPITALS IN YANGON
IN THE UNION OF MYANMAR

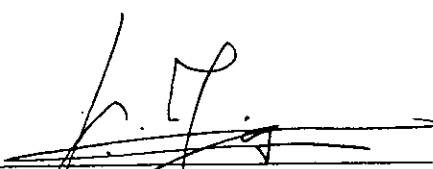
In response to a request from the Government of the Union of Myanmar (hereinafter referred to as "Myanmar"), the Government of Japan decided to conduct a Basic Design Study on the Project for Improvement of Medical Equipment for Hospitals in Yangon (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent the Basic Design Study Team (hereinafter referred to as "the Team") headed by Mr. Kazumi JIGAMI, Director, Second Project Management Division, Grant Aid Management Department, JICA, and is scheduled to stay in Myanmar from November 4 to November 29, 2001.

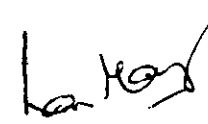
The Team held discussions with the officials concerned of the Government of Myanmar and conducted a field survey at the study area.

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.

Yangon, November 16, 2001



Mr. Kazumi JIGAMI
Leader
Basic Design Study Team
JICA



Dr. Wann Maung
Director General
Department of Health
Ministry of Health
Union of Myanmar

ATTACHMENT

1. Objective of the Project

The objective of the Project is for improvement of medical services for the hospitals mentioned below.

2. Project sites

The sites of the Project are:

1. New Yangon General Hospital
2. Central Women Hospital
3. Yangon Children Hospital

3. Responsible Agency and Implementing Agency

3-1. The Responsible Agency is Ministry of Health.

3-2. The Implementing Agency is Department of Health.

4. Items requested by the Government of Myanmar

After discussions with the Team, the items described in Annex-1 were finally requested by the Myanmar side. JICA will assess the appropriateness of the request and will recommend to the Government of Japan for approval.

5. Japan's Grant Aid Scheme

5-1. The Myanmar side understands the Japan's Grant Aid Scheme explained by the Team, as described in Annex-2.

5-2. The Myanmar side will take the necessary measures, as described in Annex-3 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 Myanmar until November 29, 2001.

6-2. JICA will prepare a draft report in English and dispatch a mission in order to explain its contents around January, 2002.

6-3. In case that the contents of the report is accepted in principle by the Government of Myanmar, JICA will complete a final report and send it to the Government of Myanmar around March, 2002.

7. Other relevant issues

Necessary renovation works for installation of equipment should be furnished by the Myanmar side.

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NEW YANGON GENERAL HOSPITAL

Operation Theatre Equipment		Priority
1	Operating Table	A
2	Pulse Oximeter	A
3	Capnometer	C
4	Diathermy (Bipolar)	A
5	Anaesthetic Ventilator	A
6	Datascope (Pass Port)	C
7	Hot Air Sterilizer	A
8	Ceiling Lamp	A
9	Anaesthesia Apparatus	A
10	Bedside Monitor	A
11	Suction Unit	A
12	Infusion Pump	A
13	Syringe Pump	A
14	Defibrillator	A
15	Cardiograph	A
16	Table Top Sterilizer	A
17	Instrument Sterilizer	A
18	Automatic Ultrasound Washer Apparatus	C
19	Ultraviolet Hand Washer	C
20	Sphygmomanometer	C
21	Pharmaceutical Refrigerator	A
I.C.U. Equipment		
1	ICU Ventilator	A
2	Suction Unit	A
3	Cardiograph	A
4	Ultraviolet Hand Washer	C
5	Sphygmomanometer	C
6	Pharmaceutical Refrigerator	A
7	Spirometer	C
8	Blood Gas Analyzer	A
9	Pulse Oximeter	A
10	Life Scope (Portable Monitor)	C
11	Capnometer	C
12	Datascope	C
13	Defibrillator with Synchronization	A
14	Bedside Monitor	A
15	Oxygen Concentrator	A
Urology Unit		
1	Electrosurgical Unit with Patient Plate/ Foot Switch	B
2	Video System	B
3	Percutaneous Nephroscope	A
4	Pharmaceutical Refrigerator	B
5	Table Top Sterilizer	A
6	Suction Unit	A
7	Defibrillator	B
8	Ultraviolet Hand Washer	C

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9	Sphygmomanometer	C
10	Instrument Sterilizer	A
Diagnostic Imaging		
1	Whole Body Computed Tomographic System	A
2	Doppler Ultrasound Scanner with Printer	B
3	Digital Subtraction Angiography Apparatus	B
4	Portable X-ray Machine	A
5	Ultrasound Machine with Printer	A
6	Mammography Unit with Stereotactic Biopsy Apparatus	C
7	Diagnostic X-ray System with TV	A
8	X-ray Film Processor	A
9	Laser (Imager) Printer for X-ray System	C
10	C' Arm X-ray Unit with TV System	B
11	Digital Film for Imaging System (10packs/case)	C
Laboratory		
1	Biochemistry Analyzer	B
2	Blood Cell Counter	B
3	Dry Chemistry Analyzer	C
4	Eliza Reader	C
5	Coagulation Analyzer	B
6	Auto Still Apparatus	A
7	Adjustable Pipettes and Pipette Tips	B
8	Automatic Chemistry Analyzer	B
9	Electrolyte Analyzer	C
10	Blood Cell Counter	B
11	Spectrophotometer	A
12	Microscope	A
13	Automatic Tissue Processor	A
14	Microtome	A
15	Tissue TEK	A
16	Pharmaceutical Refrigerator	B
17	Centrifuge	A
18	Coagulometer	A
19	Plasma Sterilizer	C
Medical Ward		
1	Defibrillator	A
2	Cardiac Monitor	B
3	Bedside Monitor	C
4	Oxygen Concentrator	A
5	Infusion Pump	A
6	Syringe Pump	A
7	Pulse Oxymeter	A
8	Spirometer (Portable)	A
9	Suction Unit	A
10	Cardiograph	A
11	Table Top Sterilizer	B
12	Ultraviolet Hand Washer	C
13	Pharmaceutical Refrigerator	B
14	Sphygmomanometer	C

Surgical Ward		
1	Gastrointestinal Fiberscope Unit	A
2	Monitoring System (with Camera Head and Monitor)	A
3	Duodenoscope Unit	C
4	Bronchofiberscope Unit	A
5	Light Source for Fibrescope	A
6	Sphygmomanometer	C
7	Pharmaceutical Refrigerator	B
8	Instrument Sterilizer	A
9	Table Top Sterilizer	A
10	Ultraviolet Hand Washer	C
11	Cardiograph	B
12	Suction Unit	A
13	Syringe Pump	A
14	Infusion Pump	A
15	Bedside Monitor	A
16	Oxygen Concentrator	A
Vehicle		
1	Ambulance with Emergency Resuscitating Equipment	B

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CENTRAL WOMEN HOSPITAL

Operation Theatre Equipment		Priority
1.	Universal Operating Table for Obs./Gyne.	A
2.	Cardiotonogram	A
3.	Doppler Fetal Heart Detector	A
4.	Stereo Colposcope	C
5.	Laparoscope with light source	A
6.	Electric Vacuum Extractor	A
7.	Suction Curettage with Curettes	C
8.	Diathermy (Unipolar & Bipolar)	A
9.	Operating Microscope	C
10.	Hysteroscope with light source	A
11.	Fowler's Bed	C
12.	Delivery Bed with Baby Shelf	B
13.	Suction Unit	A
14.	Electrocardiograph	A
I.C.U. Equipment		
1.	ICU Ventilator	A
2.	Pulse Oximeter	A
3.	Defibrillator	A
4.	Oxygen Monitor	C
5.	Bedside Monitor	A
6.	Syringe Pump	A
7.	Infusion Pump	A
8.	Capnometer	C
9.	Na/K/Cl Analyzer	C
10.	Bronchoscope	B
11.	Osmometer	C
12.	Suction Unit	A
13.	Disposable CVP Measuring Set and Cannula	C
14.	I.C.U. Bed	B
Neonatal Intensive Care Unit		
1.	Oxygen Flow meter Set	A
2.	Bilirubinometer, Percutaneous type	A
3.	Pulse Oximeter for Neonate	B
4.	Intensive Care Warmer with Resuscitating platform	A
5.	Continuous positive airway pressure ventilator complete with O ₂ Blender & Humidifier	A
6.	Disposable Endotracheal tubes Size 3mm & 3.5mm for resuscitation	C
7.	Infusion Pump	A
8.	Syringe Pump	A
9.	Suction Unit	B
10.	Infant Incubator with Phototherapy Unit	A
11.	Oxygen Concentrator	A
12.	Electrocardiograph	A
13.	Portable X-ray Unit	B
Diagnostic Imaging		
1.	Ultrasound Scanner with Video Printer (Transabdominal & Endovaginal probe)	A
2.	Diagnostic X-ray Unit with Fluoroscopy	A
3.	Automatic X-ray Film processor	C
4.	Ultrasound Scanner, Portable	A
Clinical Pathology and Blood Bank		
1.	Urea & Electrolyte Analyzer	C
2.	Spectrophotometer	A
3.	Auto still apparatus (1.8 L/hr.)	A
4.	Automatic Tissue Processor	A

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Annex-1
(5/6)

5.	Rotary Microtome with Disposable Knives	C
6.	Paraffin Section Mounting Water Bath	A

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YANGON CHILDREN HOSPITAL

		Priority
Operation Theater Equipment		
1.	Universal Operating Table with Baby attachment	A
2.	Ceiling Lamp, Combination Type	A
3.	Autoclave	A
4.	Diathermy (Unipolar & Bipolar)	A
5.	Anaesthesia Apparatus	A
6.	Cystoscope	B
7.	Bedside Monitor (ECG/Temp/SpO ₂ /NIBP)	A
8.	Bedside Monitor (ECG/Temp/SpO ₂ /IBP)	C
9.	Infusion Pump	A
10.	Blood Transfusion Warmer	C
I.C.U Equipment		
1.	ICU Ventilator for Paediatric	B
2.	ICU Ventilator for Infant	A
3.	Bedside Monitor (ECG/SpO ₂ /NIBP/Temp.)	A
4.	Bedside Monitor (ECG/SpO ₂ /IBP/Temp.)	C
5.	Capnometer	B
6.	ICU Bed	B
7.	Infant Incubator	A
8.	Air Compressor, Oilless & Silent Type	B
9.	Oxygen Concentrator	A
Neonatal Unit		
1.	Infant Incubator	A
2.	Apnea Alarm	A
3.	Bedside Monitor (ECG/SpO ₂ /NIBP/Temp.)	A
4.	Bedside Monitor (ECG/SpO ₂ /IBP/Temp.)	C
5.	Capnometer	B
6.	ICU Ventilator for Paediatric	A
Diagnostic Imaging		
1.	Diagnostic X-ray Unit with Fluoroscopy and Paediatric Assy.	A
2.	Ultrasound System (3.5-5 MHz Probe)	A
3.	Mobile X-ray Unit	B
4.	Automatic X-ray Film processor	B
Laboratory Equipment		
1.	Haematology Analyzer	B
2.	Blood Chemistry Analyzer	C
3.	Spectrophotometer	A
4.	Electrolyte Analyzer	B
5.	Electrophoresis Apparatus	A
6.	Binocular Microscope	A
7.	Blood Storage Refrigerator	A
8.	Refrigerated Centrifuge, Variable Speed	A
9.	Binocular Microscope	B

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Japan's Grant Aid Program

1. Japan's Grant Aid Procedures

(1) The Japan's Grant Aid Program is executed by 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 the Cabinet of Japan)

Determination of Implementation (Exchange of Notes between both Governments)

Implementation (implementation of the Project)

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

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

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

Fourth, the project approved by the cabinet becomes official with the Exchange of Notes signed by the Government of Japan and the recipient country.

Finally, for the implementation of the Project, JICA assists the recipient country in preparing contracts and so on.

2. Contents of the Study

(1) Contents of the Study

The purpose of the Basic Design Study conducted by JICA on a requested project is to provide a basic document necessary for appraisal of the project by the Japanese Government. The contents of the Study are as follows:

- a) confirmation of the background, objectives, benefits of the project and also institutional capacity of agencies concerned of the recipient country necessary for project implementation,
- b) evaluation of the appropriateness of the project for the Grant Aid Scheme from a technical, social and economical point of view,
- c) confirmation of items agreed on by the both parties concerning a basic concept of the project,
- d) preparation of a basic design of the project,
- e) estimation of cost 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.

Final project components are subject to approval by the Government of Japan and therefore may



differ from an original request. Implementing the project, the Government of Japan requests the recipient country to take necessary measures involved which are itemized on Exchange of Notes.

(2) Selection of Consultants

For smooth implementation of the study, JICA uses (a) registered consulting firm(s). JICA selects (a) firm(s) based on the proposals submitted by the interested firms. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA.

The consulting firm(s) used for the study is (are) recommended by JICA to a recipient country after Exchange of Notes, in order to maintain technical consistency and also to avoid any undue delay in implementation should the selection process be repeated.

3. Japan's Grant Aid Scheme

(1) What is Grant Aid?

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

(2) Exchange of Notes (E/N)

Both Governments concerned extend Japan's Grant Aid in accordance with the Exchange of Notes in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid etc., are confirmed.

(3) "The period of the Grant Aid" means one Japanese fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedure such as Exchange of Notes, concluding a contract with (a) consulting firm(s) and (a) contractor(s) and a final payment to them must be completed.

(4) Under the Grant, in principle, products and services of origins of Japan or the recipient country are to be purchased.

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

However the prime contractors, namely, consulting, contractor 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.)

(5) Necessity of the "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. The Government of Japan shall verify those contracts. The "Verification" is deemed necessary to secure accountability to Japanese tax payers.



(6) 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 the following:

- a) to secure land necessary for the sites of the project prior to the installation work in case the project is providing equipment,
- 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 installation work in case the project is providing 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 purchased under the Grant Aid,
- e) to exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts,
- f) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(7) Proper Use

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

(8) Re-export

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

(9) Banking Arrangement (B/A)

- a) The Government of the recipient country or its designated authority shall open an account in the name of the Government of the recipient country in a bank in Japan. The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by Government of the recipient country or its designated authority under the Verified Contracts.
- b) The payments will be made when payment requests are presented by the bank to the Government of Japan under an Authorization to Pay issued by the Government of the recipient country or its designated authority.



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 bank of 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 customs 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		●

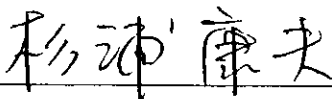
**MINUTES OF DISCUSSIONS
ON THE BASIC DESIGN STUDY
ON THE PROJECT FOR IMPROVEMENT OF MEDICAL EQUIPMENT
FOR HOSPITALS IN YANGON
IN THE UNION OF MYANMAR
(EXPLANATION ON DRAFT REPORT)**

In November 2001, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team on the Project for Improvement of Medical Equipment for Hospitals in Yangon (hereinafter referred to as "the Project") to the Union of Myanmar (hereinafter referred to as "Myanmar"), and through discussion, field survey, and technical examination of the results in Japan, JICA prepared a draft report of the study.

In order to explain and to consult the Myanmar on the components of the draft report, JICA sent to Myanmar the Draft Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Dr. Yasuo Sugiura, International Medical Center of Japan, Ministry of Health, Labor & Welfare, from January 21 to February 2, 2002.

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

Yangon, January 24, 2002



Dr. Yasuo Sugiura
Leader
Draft Report Explanation Team
Japan International Cooperation Agency



Dr. Wann Maung
Director General
Department of Health
Ministry of Health
Union of Myanmar

ATTACHMENT

1. Components of the Draft Report

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

2. Japan's Grant Aid Scheme

Myanmar side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Myanmar as explained by the Team and described in Annex-2 and Annex-3 of the Minutes of Discussions signed by both parties on November 16, 2001.

3. Schedule of the Study

JICA will complete a final report in accordance with the confirmed items and send it to the Government of Myanmar around March 2002.

4. Other relevant issues

4-1 After discussion of the Draft Report, the Myanmar side requested items described in Annex-1 finally. JICA will assess the appropriateness of the final request.

4-2 The Myanmar side should furnish necessary renovation works for installation of equipment considered in the Project. The outline of the renovation works is mentioned below.

- 1) Sites required renovation works: Yangon Central Women Hospital and Yangon Children Hospital.
- 2) Contents of the renovation works: Additional walls construction and lead sheet coating of entrance door for X-ray room in accordance with the regulation for X-ray leakage protection in Myanmar.
- 3) Time limit of the renovation works: By the end of October 2002.

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New Yangon General Hospital

Item No.	Name of Equipment	Quantity
G1: Operation Theatre		
G1-1	Operating Table	4
G1-4	Diathermy (Bipolar)	4
G1-8	Ceiling Lamp, Combination Type	4
G1-9	Anaesthetic Apparatus w/ventilator	5
G1-10	Bedside Monitor	5
G1-11	Suction Unit	5
G1-12	Infusion Pump	5
G1-13	Syringe Pump	2
G1-14	Defibrillator	2
G1-15	Cardiograph	2
G1-16	Table Top Sterilizer	3
G1-17	Instrument Sterilizer	6
G1-21	Pharmaceutical Refrigerator	1
G2: Intensive Care Unit		
G2-1	ICU Ventilator	4
G2-2	Suction Unit	4
G2-3	Cardiograph	2
G2-6	Pharmaceutical Refrigerator	1
G2-8	Arterial Blood Gas Analyzer	1
G2-13	Defibrillator with Synchronizaion	2
G2-14	Bedside Monitor	6
G2-15	Oxygen Concentrator	2
G3: Urology Unit		
G3-1	Electrosurgical Unit	1
G3-3	Percutaneous Nephroscope	1
G3-4	Pharmaceutical Refrigerator	1
G3-5	Table Top Sterilizer	2
G3-6	Suction Unit	2
G3-10	Instrument Sterilizer	2
G4: Diagnostic Imaging		
G4-1	Whole Body Computed Tomographic System	1
G4-2	Doppler Ultrasound Scanner	1
G4-3	Digital Subtraction Angiography Apparatus	1
G4-4	Portable X-ray Machine	1
G4-5	Ultrasound Machine with Printer	1
G4-7	Diagnostic X-ray System with TV	1
G4-8	X-ray Film Processor	1
G4-10	C-arm X-ray Unit	1
G4-12	Gamma Camera System	1
G5: Clinical Laboratory		
G5-6	Auto Still Apparatus	2
G5-10	Blood Cell Counter	1
G5-11	Spectrophotometer	1
G5-12	Microscope	2
G5-13	Automatic Tissue Processor	1
G5-15	Tissue TEK	1
G5-16	Pharmaceutical Refrigerator	1
G5-17	Centrifuge	1
G5-18	Coagulometer	1

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New Yangon General Hospital

Item No.	Name of Equipment	Quantity
G6: Medical Ward		
G6-1	Defibrillator	2
G6-2	Cardiac Monitor	3
G6-4	Oxygen Concentrator	6
G6-5	Infusion Pump	4
G6-6	Syringe Pump	6
G6-7	Pulse Oximeter	2
G6-9	Suction Unit	2
G6-10	Cardiograph	1
G6-11	Table Top Sterilizer	2
G7: Surgical Ward		
G7-1	Gastrointestinal Fiberscope Unit	2
G7-2	Monitoring System	1
G7-3	Duodenoscope Unit	1
G7-4	Bronchofiberscope Unit	1
G7-5	Light Source for Fiberscope	3
G7-7	Pharmaceutical Refrigerator	1
G7-8	Instrument Sterilizer	2
G7-9	Table Top Sterilizer	1
G7-12	Suction Unit	2
G7-13	Syringe Pump	2
G7-14	Infusion Pump	2
G7-15	Bedside Monitor	2
G7-16	Oxygen Concentrator	2

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Yangon Central Women Hospital

Item No.	Name of Equipment	Quantity
W1: Operation Theatre		
W1-1	Universal Operating Table for Obs./Gyne.	6
W1-2	Cardiotocogram	4
W1-3	Doppler Fetal Heart Detector	3
W1-5	Laparoscope set with Light Source	1
W1-6	Electric Vacuum Extractor	4
W1-8	Diathermy	4
W1-10	Hysteroscope set with Light Source	1
W1-12	Delivery Bed	6
W1-13	Suction Unit	4
W1-14	Electrocardiograph	4
W2: Intensive Care Unit		
W2-1	ICU Ventilator	2
W2-3	Defibrillator	2
W2-5	Bedside Monitor	5
W2-6	Syringe Pump	4
W2-7	Infusion Pump	2
W2-12	Suction Unit	2
W2-14	ICU Bed	4
W3: Neonatal Intensive Care Unit		
W3-1	Oxygen Flowmeter Set	10
W3-2	Bilirubinometer, Percutaneous Type	3
W3-4	Intensive Care Warmer	3
W3-5	Continuous Positive Airway Pressure Ventilator	2
W3-7	Infusion Pump	4
W3-8	Syringe Pump	2
W3-9	Suction Unit	2
W3-10	Infant Incubator	8
W3-11	Oxygen Concentrator	10
W3-12	Electrocardiograph	1
W3-13	Portable X-ray Unit	1
W4: Diagnostic Imaging		
W4-1(1)	Ultrasound Scanner	4
W4-1(2)	Ultrasound Scanner, w/Dopper	1
W4-2	Diagnostic X-ray System w/Fluoroscopy	1
W4-4	Ultrasound Scanner, Portable	1
W5: Clinical Pathology and Blood Bank		
W5-2	Spectrophotometer	2
W5-3	Auto Still Apparatus	1
W5-4	Automatic Tissue Processor	1
W5-6	Paraffin Section Mounting Water Bath	1

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Yangon Children Hospital

Item No.	Name of Equipment	Quantity
C1: Operation Theatre		
C1-1	Universal Operating Table w/Baby Attachment	3
C1-2	Ceiling Lamp, Combination Type	3
C1-3	Autoclave	1
C1-4	Diathermy	3
C1-5	Anaesthesia Apparatus w/ventilator	3
C1-7	Bedside Monitor	4
C1-9	Infusion Pump	3
C1-10	Blood Transfusion Warmer	3
C1-11	Electrocardiograph	3
C1-12	Suction Unit	8
C2: Intensive Care Unit		
C2-1	ICU Ventilator for Paediatric	2
C2-2	ICU Ventilator for Infant	2
C2-3	Bedside Monitor	2
C2-7	Infant Incubator	4
C2-9	Oxygen Concentrator	2
C3: Neonatal Unit		
C3-1	Infant Incubator	7
C3-2	Apnea Alarm	5
C3-3	Bedside Monitor	4
C3-6	ICU Ventilator for Infant	2
C3-7	Syringe pump	4
C3-8	Bilirubinometer, Percutaneous Type	2
C4: Diagnostic Imaging		
C4-1	Diagnostic X-ray System w/TV & Simple X-ray	1
C4-2	Ultrasound System	1
C4-3	Mobile X-ray Unit	1
C5: Clinical Laboratory		
C5-3	Spectrophotometer	1
C5-5	Electrophoresis Apparatus	1
C5-6	Binocular Microscope	3
C5-7	Blood Storage Refrigerator	1
C5-8	Refrigerated Centrifuge	1

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5. Cost Estimation Borne by the Recipient Country

Cost estimation borne by the recipient country

For x-ray leakage protection works.

To extend the Brick Work to 18" thickness from existing 9" thickness by means of additional two layers of standard brick with cement plastering.

1. Yangon Central Women Hospital

① Cost of brick with cement plasting works: 2,500 kyats/sqft	
X approve effective area: 636 sqft :	1,590,000
② For tiling = 350 kyats/8" x 10"	
X number of tiles : 925 =	323,750
③ Lead sealing for door : 12,300 kyats/sqft	
X 25 sqft =	307,500

Sub Total	2,221,250
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2. Yangon Children Hospital

① Cost of brick with cement plasting works: 2,500 kyats/sqft	
X approve effective area: 1,272 sqft :	3,180,000
② For tiling = 350 kyats/8" x 10"	
X number of tiles : 1,850 =	647,500
③ Lead sealing for door : 12,300 kyats/sqft	
X 50 sqft =	615,000

Sub Total	4,442,500
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Total renovation cost	6,663,750
	(Round 6,663,000)

6. Operation Report (Draft)

Management Report (Draft)

Name of Hospital
Date

(1) Operating state of the procured equipment

Major Equipment	Q'ty	Frequency in use /Month	Equipment's Repair History			Reason in case of not using equipments	Consumable			Maintenance Service Contract			The Number of Engineer		
			the time of year	Maker (Agent)	Maintenance Cost		Parts name	the time of year	Parts Cost	Contract Condition	Period	Amount	Now	Future	
		(Example)													
Whole body computed tomographic sys.		60 persons													
Digital Subtraction Angiography		45 persons													
Gamma Camera		30 persons													
Diagnostic X-ray system with TV		50 times													
C-arm X-ray Unit		40 hour													
Dopplar Ultrasound Scanner		90 hour													
Operating Table		4 times													
Ceiling Lamp, Combination Type		35 hour													
Diathermy		8 times													
Anaesthetic apparatus		30 persons													
ICU Ventilator		25 times													
Arterial Blood Gas Analyzer		90 persons													
Defibrillator		65 times													
Patient Monitor		150 hour													

- 1) According to the examples, the frequency in use shows the monthly record of the number of medical examinee, the usage count, or the service time.
- 2) If the equipment is not used, the particular reason is explained, such as "out of order", "labor shortage", and "tight budget", and the measure that is now taken should be set forth.
- 3) Maintenance Service Contract: Record is entered on the frequency of regular maintenance and the kind of contract (① Contract that includes the cost for repair parts, ② Contract that is only for technical fee and separately charges the cost for repair parts).
- 4) The number of engineer shows the current number of personnel and the prospective number of personnel after 4 months.

(2) Financial Condition

Income of medical care service	April~July	August~December	January~March	Total
Cost Sharing				
Trust Fund etc.				
Expenditure for operation and maintenance of equipment				
Equipment Operating Cost (X-Ray Film, Gas etc.)				
Maintenance Cost (Maintenance Service Cost Periodically Spare Parts Cost)				

- 1) Cost Sharing : This shows the doctor's fee that is charged to the patients, such as the fee for first medical examination of outpatients, and the fee for X-ray examination and echography.
- 2) Trust Fund : Include donation