MINISTRY OF HEALTH
THE REPUBLIC OF AZERBAIJAN

NO. 1

BASIC DESIGN STUDY REPORT
ON
THE PROJECT
FOR
IMPROVEMENT OF THE MEDICAL EQUIPMENT
IN
THE REPUBLIC OF AZERBAIJAN

MARCH 1999

JAPAN INTERNATIONAL COOPERATION AGENCY
BINKO LTD.

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PREFACE

In response to a request from the Government of the Republic of Azerbaijan, the Government of Japan decided to conduct a basic design study on the project for Improvement of the Medical Equipment in the Republic of Azerbaijan and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Azerbaijan a study team from October 20 to November 14, 1998.

The team held discussions with the officials concerned of the Government of Azerbaijan, and conducted a field study at the study area. After the team returned to Japan, further studies were made. Then, a mission was sent to Azerbaijan in order to discuss a draft basic design, and as this result, the present report was finalized.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Republic of Azerbaijan for their close cooperation extended to the teams.

March, 1999

Kimio Fujita
President
Japan International Cooperation Agency

March, 1999

Letter of Transmittal

We are pleased to submit to you the basic design study report on the project for Improvement of the Medical Equipment in the Republic of Azerbaijan.

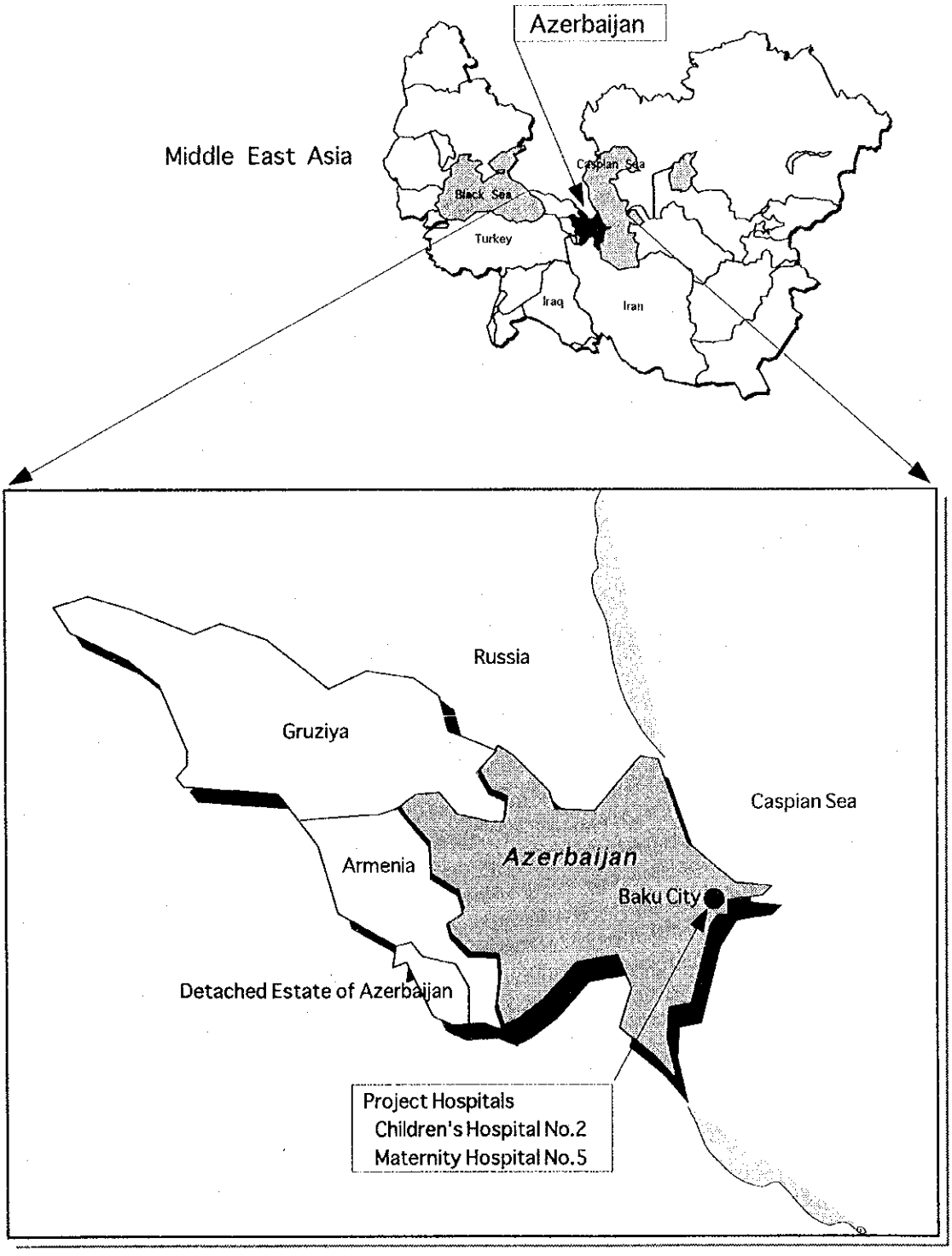
This study was conducted by Binko Ltd., under a contract to JICA, during the period from October 16, 1998 to March 31, 1999. In conducting the study, we have examined the feasibility and rationale of the project with due consideration to the present situation of Azerbaijan and formulated the most appropriate basic design for the project under Japan's grant aid scheme.

Finally, we hope that this report will contribute to further promotion of the project.

Very truly yours,

Nakajima Tatsuro
Project manager,
Basic design study team on the project
for Improvement of the Medical Equipment
in the Republic of Azerbaijan,
BINKO Ltd.

Location Map



ABBEREVIATIONS

A / P	Authorization to Pay
E / N	Exchange of Notes
ECG	Electrocardiograph
ICU	Intensive Care Unit
JICA	Japan International Cooperation Agency
OHP	Over Head Projector
PHC	Primary Health Care
UNICEF	United Nations International Children's Fund

CONTENTS

【Appendices】

Chapter 1. Background of the Request

CHAPTER 1 BACKGROUND OF THE REQUEST

The Republic of Azerbaijan is one of the three Caucasus republics (the other two are Georgia and Armenia) and was established as an independent country in August 1991. During the period from 1988 through 1994, Azerbaijan struggled for independence from the former Soviet Union and engaged in a territorial dispute with Armenia for the return of Nagorno-Karabakh. These conflicts caused political instability with a plummeting economy, resulting in a serious decline of the medical care and welfare system. Azerbaijani statistics on medical care show that infant mortality rate stands at 26/1000 newborn and maternity mortality rate at 43.8/100,000 births. Although these figures are lower than the average mortality rates for the developing countries, they have shown a tendency to increase in more recent years.

To address this problem policy measures are being considered and implemented by the Azerbaijan Ministry of Health, involving the Health and Medical System Reform. The main theme of this Reform is the streamlining of the medical care system, a review of the regional care services, and the introduction of a Medical Care and Welfare Insurance and a Fee-Based Medical Service System. In the area of mother and child health care, priority is given to improvement in the medical care system. A project designed to improve the mother and child health care services is already underway with the cooperation of UNICEF.

The Children's Hospital No.2 and the Maternity Hospital No.5 covered by the Project are both top-referral institutions located in Baku, the capital of Azerbaijan. Their patient intake is not limited to the population of Baku alone but the services are also extended to a large number of patient from all parts of the republic. They also functions as teaching hospitals for training medical staff and post-graduate physicians and are active as core institutions for mother and child health care in the republic. In view of the obsolescence of the medical equipment and the lack of essential materials and facilities at these hospitals, their service capability has shown a serious decline both in terms of the quality and capacity of their medical services.

Under these conditions, the Azerbaijan government has lodged a request for

Japan's grant aid regarding the updating of the medical equipment and facilities in the Children's Hospital No.2 and the Maternity Hospital No.5. This Project is intended as an integral part of the government's reform of the medical care and welfare system and its health care measures for mothers and children.

The government of Japan dispatched a preliminary study team to Azerbaijan in June 1998 to examine the above conditions and gather further related information. As a result, it has been ascertained that the Project meets the necessity and relevance criteria to qualify for Japan's grant aid. A basic design study has therefore been carried out and the findings are presented in this Basic Design Study Report.

Chapter 2. Contents of the Project

CHAPTER 2 CONTENTS OF THE PROJECT

2-1 Objectives of the Project

The health and medical system in Azerbaijan has worsened due to a large number of refugees amounting to approximately one million, and to disputes regarding return of autonomous province of Nagorno-Karabakh to the country, political instability and a deterioration of the economy, after independence in 1991. As a result, serious health problems have emerged among its people, especially the qualitative deterioration of health and medical services for pregnant women and children.

Under these circumstances, the Ministry of Health of Azerbaijan is planning to work out and implement a "Health and Medical System Reform." Its main themes include the rationalization of the health and medical system, review of regional medical services, introduction of health insurance system, etc., with a view to improving the health and medical system of the country. In this plan, priority is given to improvements in maternity health services.

The Project aims at contributing to the establishment of maternity health and a medical system in Azerbaijan, by implementing medical equipment improvement plans for the Children's Hospital No.2 and the Maternity Hospital No.5, which are top referral hospitals located in Baku City, the capital.

2-2 Basic Concept of the Project

The project facilities are principal hospitals of mother and child health (MCH) in Azerbaijan. Because of obsolete equipment and shortage of basic equipment, however, their capability of providing medical services has greatly deteriorated. Moreover, the mortality rate of pregnant women and the infant mortality rate, indicators of MCH, have grown worse in recent years, reflecting political

instability and deterioration of economic conditions in the country.

Under the above situation, the basic concept of the Project consists of improving the medical equipment and materials in the project facilities and improving the setup for systematically and effectively providing maternity health and medical services. It is strongly hoped that the implementation of this Project will facilitate smooth medical activities for MCH and lead to a drop in the mortality rate of pregnant women and the infant mortality rate and to improve the health situation of the people in the area.

(1) Study of the project facilities

The hospitals included in this project are representative public medical facilities providing maternity health and medical services in Azerbaijan and accepting patients not only from around Baku City but also from all over the country. Nonetheless, both hospitals can hardly discharge their essential functions satisfactorily because of deterioration of equipment and shortage of equipment. The current utilization rate of beds is as low as around 30% of original capacity, which forces the hospitals to entrust their patients to other hospitals.

On the other hand, today 7 years after independence of the nation, there is a conspicuous increase in patient number because of the inflow of refugees and of a population drift from rural areas. Since the project facilities must cope with this changing situation, there is an urgent necessity of recovering the hospital's functions.

In this project, renewal and supplementation of equipment and materials will be implemented by giving priority to the restoration of essential functions by stopping the decline in function due to the deterioration of existing equipment in the project hospitals.

(2) Cooperation policies

The policies of cooperation (purpose, scale, scope, etc.) of the project have been set as follows, after examination by the study team of the contents of the request by Azerbaijan:

- To promote improvement of equipment in the two facilities, the Children's Hospital No. 2 and the Maternity Hospital No. 5, which are top referral hospitals for maternity health and medical services in Azerbaijan, with a view to improving maternity health and medical services in the country.
- The project facilities are top referral hospitals for maternity health and medical facilities in Azerbaijan. The equipment and materials to be selected for this Project shall be the minimum level of equipment necessary for providing tertiary medical services for diagnosis and treatment in the gynecology & obstetrics department and pediatrics department.
- The equipment and materials due for improvement are those which require renewal or supplementation due to deterioration, etc., and used for basic diagnosis and treatment, in principle.
- The hospitals under the Project also function as educational facilities for the development of human resources. For this reason, the equipment and materials to be supplied within the framework of this Project shall include educational and training equipment to permit the smooth execution of both theoretical and practical training.
- The equipment and materials to be procured shall be kept within the scope in which the prospects of autonomous development from financial and technological viewpoints can be secured in the respective project facilities.
- Considering after-sale services, etc., of the equipment in addition to price competitiveness, the equipment will be procured from Japan, third countries and the local market.

2-3 Basic Design for Preferred Embodiment of the Project

2-3-1 Design Concept

Considering the contents, purpose and implementation organization of this project, basic design will be elaborated according to the following design concepts.

[Design policies for current conditions of the project facilities]

1) In this project, the supply of equipment should be for renewal and supplementation.

2) Equipment, which makes it possible for the facilities to play their proper role as top referral hospitals for maternity health and medical services in Azerbaijan, shall be selected.

3) To develop an equipment plan providing a systematic linkage between the different sections of diagnosis, examination and treatment.

4) Equipment and materials to be supplied should include educational and training equipment considering their function as teaching hospitals for development of human resources.

5) To take into consideration that with the new equipment the project facilities can provide medical services in cooperation with the affiliated polyclinics.

[Design policies for financial analysis]

1) The scale of the project should be within a manageable scope for the current operating capacity of the facilities, and a scope which secures the development prospects from both the financial and technical viewpoints.

[Design policies for infrastructures, natural conditions]

1) The planned equipment and materials shall have performances

resistant to the natural conditions of the continental semidry climate of Azerbaijan.

2) For the ICU room (respirator, incubator, etc.), which continuously requires electric power, disposition of uninterruptible power supply unit, etc., will be planned to permit operation even in case of voltage drop or power failure.

[Design policies for equipment procurement plan]

1) For the planned equipment and materials, provision of minimum required consumables, necessary for operation in the early stage of the project should be included.

2) To confirm that the medical staff in local areas is thoroughly informed of operation through many years of experience and that maintenance and control setup by agencies is already established. Procurement from third countries (Europe, U.S.A.) will be planned if necessary.

3) Rational methods of equipment installation will be worked out to minimize the work load to be borne by the recipient country.

[Design policies for environmental problems]

1) Regarding radioactivity, medical wastewater, wastes, etc., from the X-ray system, clinical examination equipment, etc., consideration will be given to the need for avoiding negative influences on inhabitants in the region due to environmental pollution, change of ecological system, etc.

2) To introduce medical refrigerator to non-Freon gas standards.

[Design policies in respect of operation control & maintenance]

1) To promote procurement of equipment that can be sufficiently maintained within the current maintenance control capacity of the project facilities.

2) To provide additional maintenance budget for the new equipment

under this project to the operating budget of the project hospitals.

3) Operating manuals for the equipment should be basically prepared in Russian language

[Design policies in respect of work period]

1) The work period for implementation of this project should be within 12 months (single fiscal year) after conclusion of E/N, including procurement of equipment and materials and installation work.

2) It is essential for the responsible organizations on the Azerbaijan side to be thoroughly informed of the grant aid system of Japan.

2-3-2 Basic Design

(1) Overall plan

The situation and the purpose of use of the equipment and materials requiring installation work among those procured within the framework of the Project are as described below. As for the place of installation at the project hospitals, the preparatory work for receiving the equipment in principle will be carried out by Azerbaijan side.

The following preparatory work shall be covered by the Japan's Grant Aid.

<Children's Hospital No.2>

Dental treatment room, X-ray room I, X-ray room II, ICU, CSSD and Sterilizing room

<Maternity Hospital No.5>

ICU, Laundry, CSSD and Sterilizing room

1) Children's Hospital No.2

Planned equipment & materials	Situation of room planned for installation & measures to be taken for it
Operation lamp	Renewal of existing equipment. There is no particular problem about the height of ceilings, space, electric capacity, etc.
Electroencephalograph & ECG unit	Equipment sensitive to vibrations and noise. A quiet room shall be provided.
ICU-related equipment	Will be disposed in the respective concentrated treatment rooms in the general building and the infectious disease building. Protective measures against power failures are essential because of use of respirator. Emergency power supply unit 10 KVA will be supplied.
Various kinds of examination equipment	There is no particular problem about installation of the procured equipment, because there are 5 clinical & biochemical examination rooms in the general building and 4 bacterial examination rooms in the infectious disease building.
High-pressure steam sterilizer	Located on the 1st floor of the infectious disease building, but has a separate entrance. Easily accessible also from the general building. No particular problem about space and electric capacity.
X-ray unit	One unit each of fluoroscopic and Bucky type will be procured. There are some differences in floor surface level and irregularities in windows and doors, etc. Drawings for repair work and supplementary work (chargeable) based on equipment & materials B/Q are required as mentioned above in the article "2-3-2 Basic Design, Overall plan." Improvement of dark room.
Dental unit	The compressor will be installed outdoors for protection against noise. There is no particular problem about water supply and draining as well as floor space. The existing dental units (2 deteriorated units) will be removed, and new equipment will be installed in their place.

2) Maternity Hospital No.5

Planned equipment & materials	Situation of room planned for installation & measures to be taken for it
High-pressure steam sterilizer	Renewal of 2 existing sterilizer units. There is no particular problem about conditions (electric capacity, floor space, etc.) in the installation place. Elevator is used for access.
Laundry	Renewal of existing washing machine and spin-dryers. There is no particular problem about electric capacity, floor space, etc. Supply of hot water and steam can be covered with the existing boiler. The switchboard for the equipment needs replacement because it is badly deteriorated.
ICU-related equipment	An ICU room each is provided in the Obstetrics, Gynecology and Tumor Departments (3 rooms in total). In the Project, one room among them will be selected for special improvement, considering integration of protective equipment against power failure.

(2) Criteria for selecting equipment

Equipment for procurement was selected through standards; Criteria for Giving High/Low Priority, and Additional Criteria listed below. The selection results at the site are attached to the minutes of the study of basic plan (28/Oct/1998).

After analysis in Japan, necessity and relevance of requested equipment and the quantity of implementation were examined.

Table 2-1 shows the result of examination.

[Criteria for giving High Priority]

1.Basic Criteria

(1) Equipment that is to be replaced for existing old/decrepit equipment.

(2) Equipment that is to be a supplement for the equipment lacking distinctly in its quantity.

(3) Equipment that is required for basic hospital treatment/diagnosis.

(4) Equipment that is easy to operate and maintain.

(5) Equipment that may give much benefit/effect to hospital.

(6) Equipment that is highly cost-effective.

(7) Equipment that is proven for its medical usefulness (necessity).

2.Additional Criteria

(After field survey and considering Recipients condition)

(8) Equipment that can be operated by hospital's current technical capabilities.

(9) Equipment that can be operated/maintained by hospital staff.

(10) Equipment that matches with hospital's social

position/function (referral system, local needs).

(11) Equipment that can be expected to be useful with other donor's assistance.

[Criteria for giving Low Priority]

1.Basic Criteria

(1) Equipment that requires high operation and maintenance cost.

(2) Equipment that has limited benefit/effect to hospital.

(3) Equipment that is lowly cost-effective.

(4) Equipment that is not for treatment/diagnosis use, but for academic research purposes.

(5) Equipment that can be substituted with a simple one.

(6) Equipment that may cause environmental pollution by its medical waste, etc.

(7) Equipment that is not proven for its medical usefulness (necessity).

(8) Equipment that is for personal usage by hospital staff (not medical use).

(9) Equipment that has more than minimum required quantity (inefficient, repetitive equipment).

2.Additional Criteria

(After field survey and considering Recipients condition)

(10) Equipment that is difficult to locally procure its spare parts and consumables.

(11) Equipment that cannot be operated by hospital's current technical capability.

(12) Equipment that does not match with hospital's social position/function (referral system, local needs).

(13) Equipment that requires large scope of infrastructure work (water, electricity supply, drain, etc.) for its installation.

(14) Equipment that can be substituted by efficient usage of existing equipment.

After examination on the basis of the criteria shown above, a comprehensive assessment is given for each equipment.

○ : Equipment considered appropriate for installation after examination of the request.

× : Equipment not to be included in the project after examination of the request.

Table2-1 Result of examination for requested equipment

Children's Hospital No.2

Item No.	Description	Quantity Requested	Basic Criteria: Criteria for giving High Priority							Basic Criteria: Criteria for giving Low Priority									Additional Criteria: Criteria for giving High Priority				Additional Criteria: Criteria for giving Low Priority					Priority listed in Minutes			Result	
			1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	8	9	10	11	10	11	12	13	14	A	B	C	Evaluation	Quantity planned
C-1	Infant Incubator	5	○		○														○		○							3	2		○	5
C-2	Pediatric surgical Incubator	5	○		○													○	○		○							2	1	2	○	3
C-3	Infant transport incubator	3												○											○					3	×	-
C-4	Portable infant incubator	2	○		○														○		○							1	1		○	2
C-5	Infant warmer	2	○		○														○		○							2			○	2
C-6	Infant care unit	2	○		○														○		○							2			○	2
C-7	Phototherapy unit	5	○		○														○		○							3	2		○	5
C-8	Monitor stand with phototherapy unit	5																○												5	×	-
C-9	Phototherapy unit	5																○												5	×	-
C-10	Phototherapy unit	5																○												5	×	-
C-11	Head frame	2	○		○														○		○							2			○	2
C-12	Oxygen head box for infant	4	○		○														○		○							3	1		○	4
C-13 -1	Bilirubin meter	4	○		○													○	○		○							2		1	○	2
C-13 -2	Bilirubin meter	-	○		○														○		○							1			○	1
C-14	Heated humidifier	2												○													○			2	×	-
C-15	Neo-silver	2												○													○			2	×	-
C-16	Radiant shut off hood	2												○													○			2	×	-
C-17	Neonatal monitor	2	○		○														○		○							2			○	2
C-18	Neonatal patient stimulator	2												○													○			2	×	-
C-19	Interface	2												○											○		○			2	×	-
C-20	Soft-E (ECG electrode)	2									○														○		○			2	×	-
C-21	Syringe pump	5	○		○														○		○							4	1		○	5
C-22	Irrigator stand	4																							○		○			4	×	-
C-23 -1	Neonatal ventilator	-	○		○														○		○							1			○	1
C-23 -2	Infant Ventilator	4	○		○													○	○		○							2		1	○	2
C-24	Ultrasonic nebulizer	2	○		○														○		○							2			○	2
C-25	Pediatric examining table	2																									○			2	×	-
C-26	Weighning scales for neonate	6	○		○													○	○		○							2		4	○	2
C-27	Baby scale	10																									○			10	×	-
C-28	Infant bassinet stand	10																									○			10	×	-
C-29	Hi-Lo infant bassinet stand	5												○													○			5	×	-
C-30	Stretcher	20	○		○													○	○		○							5		15	○	5
C-31	Dimpossible blood transfusion set	10									○																			10	×	-
C-32	Baby stethoscope	20																									○			20	×	-
C-33	Miller's laryngoscope set	4	○		○													○	○		○							2		2	○	2
C-34	Infant feeding tube	50									○																○			50	×	-
C-35	Infant nail scissors	20																									○			20	×	-
C-36	Oxygen monitor	2	○		○														○		○							2			○	2
C-37	Oxygen meter	2																									○			2	×	-
C-38	Resuscitator for both neonate and adult	3	○		○														○		○							2	1		○	3
C-39	Resuscitation bag	3	○		○														○		○							2	1		○	3

Children's Hospital No.2

Item No.	Description	Quantity Requested	Basic Criteria															Additional Criteria									Priority listed in Minutes			Result	
			Criteria for giving High Priority							Criteria for giving Low Priority								Criteria for giving High Priority				Criteria for giving Low Priority								Evaluation	Quantity planned
			1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	8	9	10	11	10	11	12	13	14	A	B	C		
C-40	Resuscitator for neonate and infant	3																○											3	×	-
C-41	Jackson reset resuscitation bag	10												○													○			10	×	-
C-42	Oxygen tent	10	○		○													○	○		○							2		8	○	2
C-43	Oxylator	2									○																			2	×	-
C-44	Oxygen face mask	10									○																			10	×	-
C-45	Nasal oxygen cannula	20									○																			20	×	-
C-46	Suction tube	50									○																			50	×	-
C-47	Oxygen flowmeter	2	○		○														○		○							2			○	2
C-48	Measuring rod	5																									○			5	×	-
C-49	Baby rule	10																									○			10	×	-
C-50	Automatic weighing scale	10												○											○		○			10	×	-
C-51	Weighing scale	10												○											○		○			10	×	-
C-52	Examining couch	5												○											○		○			5	×	-
C-53	Instrument cabinet	5												○											○		○			5	×	-
C-54	Stethoscope	20												○											○		○			20	×	-
C-55	Stethoscope	20												○											○		○			20	×	-
C-56	Sphygmomanometer, mercurial	10	○		○													○	○		○							5		5	○	5
C-57	Sphygmomanometer	5												○											○		○			5	×	-
C-58	Diagnostic set	10	○		○													○	○		○							4		6	○	4
C-59	Percussion hammer	30												○											○		○			30	×	-
C-60	Laryngoscope	5	○		○													○	○		○							2		3	○	2
C-61	Medicine cabinet	10												○											○		○			10	×	-
C-62	Insulin syringe	4,000									○			○											○		○			4,000	×	-
C-63	Microspirometer	2												○											○		○			2	×	-
C-64	Metabolic measurement system	1								○	○			○											○		○			1	×	-
C-65 -1	Gastrointestinal fiberscope	4			○		○											○	○		○							1		3	○	1
C-65 -2	Accessory for fiber scopic device	-			○		○													○	○							1			○	1
C-66	Duodenofiberscope	5												○											○		○			5	×	-
C-67	Rhino-laryngofiberscope	4			○		○											○	○		○							1		3	○	1
C-68	Bronchofiberscope	4			○		○											○	○		○							1		3	○	1
C-69	Video-endoscope system	1			○		○												○		○							1			○	1
C-70	Laparoscope for cholecystectomy set	2												○											○		○			2	×	-
C-71	Laparoscope set	2																							○		○			2	×	-
C-72	Surgical CO2 insulator	1																							○		○			1	×	-
C-73	Endoscopic table	1																							○		○			1	×	-
C-74	ENT Surgical Instrument set	1	○		○														○		○							1			○	1
C-75	Operating instrument set in metal case	1																							○					1	×	-
C-76	Throidotomy instrument set in metal case	2	○		○														○		○							2			○	2
C-77	Neurosurgery instrument set in metal case	1																							○					1	×	-
C-78	Electroencephalograph	1	○		○														○		○							1			○	1
C-79	Tonography system	1																							○					1	×	-
C-80	Electroencephalograph	1			○		○																					1			○	1

Item No.	Description	Quantity Requested	Basic Criteria															Additional Criteria									Priority listed in Minutes			Result	
			Criteria for giving High Priority							Criteria for giving Low Priority									Criteria for giving High Priority				Criteria for giving Low Priority							Evaluation	Quantity planned
			1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	8	9	10	11	10	11	12	13	14	A	B	C		
C-81	Patient monitor	6	○		○														○		○							6			○	6
C-82	Central monitor	1																							○		○			1	×	-
C-83	Defibrillator	1	○		○														○		○							1			○	1
C-84	Operating table	2	○		○														○		○							2			○	2
C-85	Micro-Neuro surgery operating table	2																							○					2	×	-
C-86	General operating table	1	○		○														○		○							1			○	1
C-87	Operating light(selfcontain type)	1	○		○														○		○							1			○	1
C-88 -1	Examination light(normal)	-	○		○													○	○		○							4		3	○	4
C-88 -2	Examination light(shadowless)	10	○		○													○	○		○							2		1	○	2
C-89	Suction unit	4	○		○														○		○							4			○	4
C-90	Suction unit(for 1 bottle)	12																										7	5		○	12
C-91	Electric suction unit	2																○												2	×	-
C-92	Portable suction unit	2	○		○														○		○							2			○	2
C-93	Electric suction unit	2																○												2	×	-
C-94	Continuous suction unit	2																							○					2	×	-
C-95	Anesthesia apparatus	2	○		○														○		○							1	1		○	2
C-96	Ventilator	2	○		○														○		○							2			○	2
C-97	Face mask	2									○																			2	×	-
C-98	Airway	2									○																			2	×	-
C-99	Operation microscope	2																							○					2	×	-
C-100	Electro-surgical unit	2	○		○													○	○		○							1		1	○	1
C-101	Sliding stretcher	1												○											○		○			1	×	-
C-102	Recovery stretcher	1												○											○		○			1	×	-
C-103	Instrument cabinet	5	○		○														○		○							3	2		○	5
C-104	Dressing receptacle	10									○																○			10	×	-
C-105	Stand	5									○																○			5	×	-
C-106	Ultra-vileter water sterilizer	2												○													○			2	×	-
C-107	Brush sterilizer box	2	○		○													○	○		○							1		1	○	1
C-108	Soap dispenser	2												○													○			2	×	-
C-109	Examining table	5	○		○																○							5			○	5
C-110	Three panel screen	5																○									○			5	×	-
C-111	Double screen	5																○									○			5	×	-
C-112	Single screen	5																○									○			5	×	-
C-113	Cloth basket	10																○									○			10	×	-
C-114	Chair	5																○									○			5	×	-
C-115	Stethoscope	20																○									○			20	×	-
C-116	X-ray film illuminator	2	○		○														○		○							2			○	2
C-117	Arm rest stand for infusion	2																○									○			2	×	-
C-118	Medicine cabinet	2																○									○			2	×	-
C-119	Blood transfusion warmer	10	○		○													○	○		○							2		8	○	2
C-120	Infusion warmer	20																○												20	×	-
C-121	1-crank standard bed	5																									○			5	×	-

Item No.	Description	Quantity Requested	Basic Criteria															Additional Criteria									Priority listed in Minutes			Result	
			Criteria for giving High Priority							Criteria for giving Low Priority								Criteria for giving High Priority				Criteria for giving Low Priority								Evaluation	Quantity planned
			1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	8	9	10	11	10	11	12	13	14	A	B	C		
C-122	Pediatrics bed	1																○									○			1	×	-
C-123	Air mattress	5	○		○													○	○		○							1		4	○	1
C-124	Bedside cabinet	2																○									○			2	×	-
C-125	Laundry cart	10																									○			10	×	-
C-126	Instrument table	5	○		○														○		○							5			○	5
C-127	Dressing carriage	5																									○			5	×	-
C-128	I.V. hanger stand	50																○									○			50	×	-
C-129	Folding canvas bed	20																○									○			20	×	-
C-130	Wheel chair	2	○		○																○							2			○	2
C-131	Hi-Lo hair shampooing basin trolley	2												○													○			2	×	-
C-132	Hair shampooing stand	2												○													○			2	×	-
C-133	Bedpan flushing and sanitizing apparatus set	2												○													○			2	×	-
C-134	Body cleaning towel trolley	5												○													○			5	×	-
C-135	Emergency cart	2	○		○															○		○						2			○	2
C-136	Clinical chart file cart	1	○		○									○						○		○			○		○			1	×	-
C-137	I.V. Hanger stand with 4 casters & double hoods	10																○							○		○			10	×	-
C-138	Instrument/dressing table	5			○																○							3	2		○	5
C-139	Sterilizing tray stand	10			○													○			○							3		7	○	3
C-140	Dressing jar	2												○													○			2	×	-
C-141	Instrument sterilizing tray	50																○									○			50	×	-
C-142	Dressing drum	50																○									○			50	×	-
C-143	Catheter tray	10	○		○													○		○		○						5		5	○	5
C-144	High pressure steam sterilizer	1												○				○												1	×	-
C-145	High pressure steam sterilizer	2												○				○												2	×	-
C-146	Autocalve	2	○		○															○		○						2			○	2
C-147	Ultrasonic cleaner	2												○																2	×	-
C-148	Drying cabinet	1	○		○															○		○						1			○	1
C-149	Tube dryer	1												○																1	×	-
C-150	Surgical glove conditioner	1												○																1	×	-
C-151	Transfer cart	1												○																1	×	-
C-152	Instrument sterilizer	4	○		○															○		○						4			○	4
C-153	Autopsy table	1											○												○					1	×	-
C-154	Autopsy shadowless light	4											○												○					4	×	-
C-155	Morgue refrigerator	1											○												○					1	×	-
C-156	Morgue cart	1											○												○					1	×	-
C-157	Autopsy instrument set	2											○												○					2	×	-
C-158	Tissue forceps	10											○												○					10	×	-
C-159	Universal research microscope	1											○	○											○					1	×	-
C-160	Binocular educational microscope	1											○	○											○					1	×	-
C-161	Full automatic photomicrographic system	1											○	○											○					1	×	-
C-162	High pressure steam sterilizer	2	○		○													○	○		○							1		1	○	1
C-163	Autoclave	1																○									○			1	×	-

Item No.	Description	Quantity Requested	Basic Criteria															Additional Criteria									Priority listed in Minutes			Result	
			Criteria for giving High Priority							Criteria for giving Low Priority								Criteria for giving High Priority				Criteria for giving Low Priority								Evaluation	Quantity planned
			1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	8	9	10	11	10	11	12	13	14	A	B	C		
C-164	Sterilizer, vertical	1																○								○			1	×	-
C-165	Water bath	2	○		○													○	○		○						1		1	○	1
C-166	Blood cell counter	2		○	○														○		○						2			○	2
C-167	Analyzer for Na,K,Cl	1			○														○		○						1			○	1
C-168	Hemoglobin analyzer	1												○										○		○			1	×	-
C-169	Calcium magnesium meter	1	○		○														○		○						1			○	1
C-170	Oximeter pulse	1												○										○		○			1	×	-
C-171	Spectrophotometer	1	○		○														○		○						1			○	1
C-172	Centrifuge(small)	1	○		○														○		○						1			○	1
C-173	Dental unit	1	○		○														○		○						1			○	1
C-174	Dental unit	1																○							○	○			1	×	-
C-175	Dental X-ray unit	1	○		○														○		○						1			○	1
C-176	Root canal instrument	5	○		○													○	○		○						3		2	○	3
C-177	Diamond bar instruments	2	○		○														○		○						2			○	2
C-178 -1	ENT Instruments set	1	○		○														○		○							1		○	1
C-178 -2	Audiometer	1	○		○														○		○						1			○	1
C-179	Kir of instruments for endomorphism of supplementary sinuses of the nose and	1	○		○														○		○							1		○	1
C-180	Kit of instruments for microlaryngology	1	○		○														○		○							1		○	1
C-181 -1	Roentgen Apparatuses	1	○		○														○		○						1			○	1
C-181 -2	General x-ray machine	1	○		○														○		○						1			○	1
C-181 -3	Manual developing tank and accessories	1	○		○														○		○						1			○	1
C-182	Roentgen mobile type	3	○		○													○	○		○						1		2	○	1
C-183	Anaesthetic apparatus	2																○							○				2	×	-
C-184	Ultrasound Apparatus	2			○													○	○		○						1		1	○	1
C-185	Tracheotomy set	1	○		○														○		○						1			○	1
C-186	Esophagoscopy Apparatus with forceps	1	○		○														○		○						1			○	1
C-187	Instruments for Adenoidectomy	1	○		○														○		○							1		○	1
C-188	Bipola Coagulation	1	○		○														○		○							1		○	1
C-189	Diagnostic Apparatsu for Laboratory	1																							○		○			1	×	-
C-190	Ambulance	1	○		○														○		○							1		○	1
C-191	Standby generator for ICU	1			○														○		○						1			○	1
C-192	Inhalar (system servo ventilator)	4																○							○	○			4	×	-
C-193	Portable Monitors	4																○								○			4	×	-
C-194	Personal computer	2		○	○														○		○						2			○	2
C-195	Printer	1		○	○														○		○						1			○	1
C-196	Overhead projecter	1		○	○														○		○						1			○	1
C-197	Screen	1		○	○														○		○						1			○	1
C-198	Speaker system	1	○		○														○		○						1			○	1

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Item No.	Description	Quantity Requested	Basic Criteria															Additional Criterial									Priority listed in Minutes			Result	
			Criteria for giving High Priority							Criteria for giving Low Priority									Criteria for giving High Priority				Criteria for giving Low Priority							Evaluation	Quantity Planned
			1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	8	9	10	11	10	11	12	13	14	A	B	C		
M-1	(Backhaus) towel forceps (curved 27cm)	1									○			○												○			1	×	-
M-2	Emergency cart	1												○												○			1	×	-
M-3	Examination lamp	3	○		○														○		○						2	1		○	3
M-4	Gynecological examination table	1																								○			1	×	-
M-5	Gynecological examination unit	1																								○			1	×	-
M-6	Instrument cabinet	1												○											○	○			1	×	-
M-7	Instrument set for diagnosis	2		○	○														○		○						2			○	2
M-8	Irrigator stand	1																								○			1	×	-
M-9	Resuscitation bag	2	○		○														○		○							2		○	2
M-10	Oxygen flowmeter	2	○		○														○		○							2		○	2
M-11	Stretcher	2	○		○														○		○							2		○	2
M-12	Suction unit	4	○		○													○	○		○						3		1	○	3
M-13	Wheel chair for adults	1																								○			1	×	-
M-14	X-ray film viewer	1																								○			1	×	-
M-15	Boiling sterilizer	1																								○			1	×	-
M-16	Doppler fetal detector	2	○		○														○		○						2			○	2
M-17	Dressing jar	2																								○			2	×	-
M-18	Examination lamp	1	○		○														○		○						1			○	1
M-19	Foot chair	2																								○			2	×	-
M-20	Forceps stand	2																								○			2	×	-
M-21	Gynecological Examination table	1	○		○														○		○						1			○	1
M-22	Gynecological examination unit	1	○		○														○		○						1			○	1
M-23	Height scale for adults	2																								○			2	×	-
M-24	Instrument set for treatment room	2	○		○														○		○						2			○	2
M-25	Sphygmomanometer	2																								○			2	×	-
M-26	Stethoscope	2																								○			2	×	-
M-27	Thermometer	5																								○			5	×	-
M-28	Vaginal speculum (Cusco, L &M)	10	○		○														○		○						10			○	10
M-29	Weighing scales for adults	2																								○			2	×	-
M-30	Cardiotocograph	4	○		○														○		○						4			○	4
M-31	Delivery table	6	○		○													○	○		○						4		2	○	4
M-32	Doppler fetal detector	4	○		○														○		○						4			○	4
M-33	Infusion pump set	4	○		○													○	○		○						2		2	○	2
M-34	Instrument cabinet	2	○		○														○		○						2			○	2
M-35	Instrument set for delivery	2	○		○														○		○						2			○	2
M-36	Irrigator stand	4																								○			4	×	-
M-37	Oxygen inhaler set (adult)	4	○		○														○		○						2	2		○	4
M-38	Oxygen inhaler set (infant)	4	○		○														○		○						2	2		○	4
M-39	Oxygen inhaler, suction set stand	2																○											2	×	-
M-40	Sphygmomanometer	1																								○			1	×	-
M-41	Vacuum Extractor	3	○		○													○	○		○						2		1	○	2

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Item No.	Description	Quantity Requested	Basic Criteria															Additional Criterial									Priority listed in Minutes			Result	
			Criteria for giving High Priority							Criteria for giving Low Priority									Criteria for giving High Priority				Criteria for giving Low Priority								
			1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	8	9	10	11	10	11	12	13	14	A	B	C	Evaluation	Quantity Planned
M-42	Weighing scales for neonate	3	○		○													○	○		○						3			○	3
M-43	Cardiotocograph	3																○											3	×	-
M-44	Irrigator stand	1																○								○			1	×	-
M-45	Oxygen inhaler se (adult)	4																○											4	×	-
M-46	Patient bed	10																								○			10	×	-
M-47	Sphygmomanometer	1																								○			1	×	-
M-48	General x-ray machine	1																								○			1	×	-
M-49	Mobile x-ray unit	1																								○			1	×	-
M-50	Automatic film development	1												○											○	○			1	×	-
M-51	Manual developing tank and accessories	1																								○			1	×	-
M-52	ECG unit	1	○		○														○		○							1			○	1
M-53	Examination table	6	○		○													○	○		○								2	4	○	2
M-54 -1	Ultrasound diagnostic equipment with colour dopler	1	○		○														○		○							1			○	1
M-54 -2	Ultrasound diagnostic equipment (B&W)	1	○		○														○		○							1			○	1
M-55	Scrub station	4																								○			4	×	-
M-56	Stretcher	2	○		○														○		○							2			○	2
M-57	Abdominal operation instrument set	2	○		○														○		○							2			○	2
M-58	Anesthesia apparatus with ventilator	3	○		○													○	○		○							2		1	○	2
M-59	Cesarean operation instrument set	2	○		○														○		○							2			○	2
M-60	Curettage operation instrument set	4	○		○													○	○		○							1	1	2	○	2
M-61	Defibrillator	1																○								○			1	×	-
M-62 -1	Electrosurgical unit with bipolor	1	○		○														○		○							1			○	1
M-62 -2	Electrosurgical unit for laparoscope	2	○		○													○	○		○							1		1	○	1
M-63	Endotracheal set (for adults)	3	○		○													○	○		○							2		1	○	2
M-64	Gynecological operation table	1	○		○														○		○							1			○	1
M-65	Instrument carriage	1																○								○			1	×	-
M-66	Instrument tray	1																								○			1	×	-
M-67	Irrigator stand	1																○								○			1	×	-
M-68	Operation light Portable	3	○		○														○		○							2	1		○	3
M-69	Operation chair	5	○		○													○	○		○								2	3	○	2
M-70	Oxygen inhaler set (wall hanging type, for infant)	3																							○					3	×	-
M-71	Oxygen inhaler, suction set stand	3	○		○														○		○							3			○	3
M-72	Patient monitor	3	○		○													○	○		○							2		1	○	2
M-73	Sphygmomanometer (stand type, mercury)	1												○											○		○			1	×	-
M-74	Stethoscope	1																○									○			1	×	-
M-75	Suction set (kick type)	1												○													○			1	×	-
M-76	Suction set (wall hanging type)	2																							○		○			2	×	-
M-77	Suction unit	6	○		○														○		○							3	3		○	6
M-78	Trash drum	1																									○			1	×	-
M-79	Uterus extraction operation instrument set	2	○		○														○		○							2			○	2
M-80	Vaginal operation instrument set	2	○		○														○		○							2			○	2

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Item No.	Description	Quantity Requested	Basic Criteria															Additional Criterial									Priority listed in Minutes			Result	
			Criteria for giving High Priority							Criteria for giving Low Priority									Criteria for giving High Priority				Criteria for giving Low Priority							Evaluation	Quantity Planned
			1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	8	9	10	11	10	11	12	13	14	A	B	C		
M-81	Dressing jar	20																								○			20	×	-
M-82	Drying Oven	2	○		○														○		○						2			○	2
M-83	High pressure steam sterilizer	3	○		○													○	○		○						2		1	○	2
M-84	Stainless shelf	4																								○			4	×	-
M-85	Tube dryer	1												○											○					1	×	-
M-86	Tube washer	1												○											○					1	×	-
M-87	Autoclave for laboratory	1	○		○														○		○						1			○	1
M-88	Binocular microscope	2	○		○														○		○						2			○	2
M-89 -1	Centrifuge(large)	1	○		○														○		○						1			○	1
M-89 -2	Centrifuge(small)	2	○		○													○	○		○						1		1	○	1
M-90	Drying oven	2	○		○													○	○		○						1		1	○	1
M-91	Flame photometer	1												○											○					1	×	-
M-92	Glassware set	2	○		○													○	○		○						1		1	○	1
M-93	Hematocrit centrifuge	1	○		○														○		○						1			○	1
M-94	HIV/HR test set	1									○			○																1	×	-
M-95	Blood cell counter	2			○														○		○						2			○	2
M-96	Spectrophotometer	1	○		○														○		○						1			○	1
M-97	Test tube rack	10																								○			10	×	-
M-98	Water distiller	1	○		○														○		○						1			○	1
M-99	Baby cot	20																○								○			20	×	-
M-100	Dressing jar	1																								○			1	×	-
M-101	Emergency cart	1																								○			1	×	-
M-102	Endotracheal set (for infants) with tube	2	○		○														○		○						2			○	2
M-103	Forceps stand	1																								○			1	×	-
M-104	Infant incubator	6	○		○													○	○		○						4		2	○	4
M-105	Infant care unit	6	○		○													○	○		○						4		2	○	4
M-106	Irrigator stand	3																								○			3	×	-
M-107	Manual resuscitator (Jackson Ree's type)	4	○		○														○		○						4			○	4
M-108 -1	Medical refrigerator	2	○		○														○		○						2			○	2
M-108 -2	Medical freezer	2	○		○														○		○						2			○	2
M-109	Oxygen inhaler set (infant)	6																								○			6	×	-
M-110	Phototherapy unit	2	○		○														○		○						2			○	2
M-111	Suction unit	4	○		○													○	○		○						2		2	○	2
M-112	Syringe pump	10	○		○													○	○		○						6		4	○	6
M-113	Towel forceps stand	1									○															○			1	×	-
M-114	Trash drum	2																								○			2	×	-
M-115	X-ray film viewer	1																								○			1	×	-
M-116	Boiling sterilizer	2	○		○														○		○						2			○	2
M-117	Chart wagon	1													○												○			1	×	-
M-118	Instrument cabinet	2	○		○														○		○						2			○	2
M-119	Instrument sterilizing tray	1																								○			1	×	-

Maternal Hospital No.5

Item No.	Description	Quantity Requested	Basic Criteria															Additional Criterial									Priority listed in Minutes			Result	
			Criteria for giving High Priority							Criteria for giving Low Priority									Criteria for giving High Priority				Criteria for giving Low Priority							Evaluation	Quantity Planned
			1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	8	9	10	11	10	11	12	13	14	A	B	C		
M-120	Irrigator stand	3																○							○				3	×	-
M-121	Medical refrigerator	2	○		○													○	○		○						1		1	○	1
M-122	Sphygmomanometer (Aneroid type)	1																○								○			1	×	-
M-123	Stethoscope	1																○								○			1	×	-
M-124	Stretcher	2	○		○														○		○						2			○	2
M-125	Thermometer (mercury type)	10												○				○								○			10	×	-
M-126	Thermometer stand	1												○				○								○			1	×	-
M-127	Weighing scales for adults	2	○		○														○		○						2			○	2
M-128	Weighing scales for neonate	4	○		○														○		○						4			○	4
M-129	Wheel chair for adults	4	○		○													○	○		○						2		2	○	2
M-130	X-ray film viewer	1																								○			1	×	-
M-131	Personal computer	2		○	○		○												○		○						2			○	2
M-132	Photocopy machine	1			○		○												○		○						1			○	1
M-133	Printer	1		○	○		○												○		○						1			○	1
M-134	Medical refrigerator	2	○		○														○		○						2			○	2
M-135	Medicine rack	12																								○			12	×	-
M-136	Overhead projector	1		○	○		○												○		○						1			○	1
M-137	Screen	2		○	○		○											○	○		○						1		1	○	1
M-138	Speaker system	1	○		○		○												○		○						1			○	1
M-139	Training doll or simulator	1		○	○		○												○		○						1			○	1
M-140	TV monitor	1												○															1	×	-
M-141	Video camera	1												○															1	×	-
M-142	Video player	1												○															1	×	-
M-143	Video projector	1												○											○				1	×	-
M-144	Photocopy machine	1																○											1	×	-
M-145	Neonatal ventilator	2	○		○															○		○					2			○	2
M-146	Spirometer	1	○		○															○		○					1			○	1
M-147	Glucose meter	2	○		○															○		○					2			○	2
M-148	Bilirubinmeter	2	○		○															○		○					2			○	2
M-149	"Butterfly" needles	10,000									○																		10,000	×	-
M-150	Guides-catheters for intravenous infusions	700									○																		700	×	-
M-151	Sets for intravenous drop infusion	20									○																		20	×	-
M-152	Special devices	10														○													10	×	-
M-153	Endotracheal tubes for intubation	2																							○				2	×	-
M-154	Automatic volumetric respirators	3																							○				3	×	-
M-155	Heaemosorption unit	1																							○				1	×	-
M-156	Laryngoscopes	2																									○		2	×	-
M-157	Ultraviolet irradiation unit	1																									○		1	×	-
M-158	Bronchoscopes	2																							○				2	×	-
M-159	BIOLAM standard microscopes	2																									○		2	×	-
M-160	Electronic scales for weighing reagents	2																							○		○		2	×	-

Maternal Hospital No.5

Item No.	Description	Quantity Requested	Basic Criteria															Additional Criterial									Priority listed in Minutes			Result	
			Criteria for giving High Priority							Criteria for giving Low Priority									Criteria for giving High Priority				Criteria for giving Low Priority								
			1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	8	9	10	11	10	11	12	13	14	A	B	C	Evaluation	Quantity Planned
M-161	Drum-type washing machine for laundry	4	○		○													○	○		○							2		2	○	2
M-162	Wring centrifuge for laundry	2	○		○														○		○							2			○	2
M-163	Ironing machine for laundry	1																									○			1	×	-
M-164	Drier for laundry	4																									○			4	×	-
M-165	Iron for laundry	4																									○			4	×	-
M-166	Automatic autoclave for steam sterilization	1																									○			1	×	-
M-167	Laparoscope with video camera(endoscopic apparatus for plague)	1	○		○														○		○							1			○	1
M-168	Hysteroscope (interruterus)	1	○		○														○		○							1			○	1
M-169	Colposcope(diagnostics in cell forms)	1	○		○														○		○							1			○	1
M-170	Patient monitor	6	○		○														○		○							6			○	6
M-171	Anazyzer for Na/k/Cl	1	○		○														○		○							1			○	1
M-172	Biochemical analyzer(25 parameter)	1												○											○					1	×	-
M-173	Car for transportation of carge (food, oxygen, balloon, medicament)	1																							○					1	×	-
M-174	Ambulance	1	○		○														○		○								1		○	1
M-175	Device for ultrasound therapy	1	○		○														○		○								1		○	1
M-176	Device for galvanic therapy	1	○		○														○		○								1		○	1
M-177	Analyzer for determination of hormones in blood	1												○																1	×	-
M-178	Continius blood Auto Transfusion system	1																	○	○	○								1		○	1
M-179	Anesthesia tube set	20.000									○																			20.000	×	-
M-180	Continius blood Auto Transfusion system	500									○																			500	×	-
M-181	Stand-by generator for ICU	1			○														○		○							1			○	1

1) List of equipment planned

Based on the examination and evaluation above, the planned equipment for the project is listed in Table 2-2 and 2-3.

Table 2-2 Request and final allocation of equipment

	Final Request	At Consultation for B/D		Final Quantity (by analysis in Japan)
		In the Minutes of Discussion for B/D (with priority)	In theMinutes of Discussion for D-B/D	
Children's Hospital No.2				
Pediatrics	73 types (535 pieces)	73 types (535 pieces)	31 types (77 pieces)	31 types (77 pieces)
Surgery	4 〃 (4 〃)	4 〃 (5 〃)	2 〃 (3 〃)	2 〃 (3 〃)
Monitoring Room	6 〃 (6 〃)	6 〃 (11 〃)	3 〃 (8 〃)	3 〃 (8 〃)
Operating Room (for ENT)	25 〃 (71 〃)	26 〃 (80 〃)	13 〃 (39 〃)	13 〃 (39 〃)
Ward·Nurse Station	35 〃 (347 〃)	35 〃 (347 〃)	10 〃 (32 〃)	10 〃 (32 〃)
CSSD	9 〃 (15 〃)	9 〃 (15 〃)	4 〃 (8 〃)	4 〃 (8 〃)
Clinical Laboratory	20 〃 (36 〃)	20 〃 (36 〃)	6 〃 (7 〃)	6 〃 (7 〃)
Dental	5 〃 (10 〃)	5 〃 (10 〃)	4 〃 (7 〃)	4 〃 (7 〃)
ENT	54 〃 (293 〃)	2 〃 (2 〃)	4 〃 (4 〃)	4 〃 (4 〃)
Others	--- (---)	22 〃 (33 〃)	16 〃 (17 〃)	16 〃 (17 〃)
Sub Total	231 types (1,317 pieces)	202 types (1,074 pieces)	93 types (202 pieces)	93 types (202 pieces)
Maternity Hospital No.5				
Clinic (Outpatients)	29 types (38 pieces)	29 types (60 pieces)	12 types (31 pieces)	12 types (31 pieces)
Delivery Room	18 〃 (39 〃)	18 〃 (62 〃)	10 〃 (31 〃)	10 〃 (31 〃)
Monitoring Room	7 〃 (7 〃)	8 〃 (13 〃)	4 〃 (5 〃)	4 〃 (5 〃)
Operating Room	32 〃 (60 〃)	33 〃 (92 〃)	18 〃 (39 〃)	18 〃 (39 〃)
Clinical Laboratory	12 〃 (14 〃)	13 〃 (27 〃)	10 〃 (12 〃)	10 〃 (12 〃)
Ward·Nurse Station	32 〃 (84 〃)	33 〃 (111 〃)	16 〃 (43 〃)	16 〃 (43 〃)
Administration Office	3 〃 (4 〃)	3 〃 (4 〃)	3 〃 (4 〃)	3 〃 (4 〃)
Pharmacy	2 〃 (13 〃)	2 〃 (14 〃)	1 〃 (2 〃)	1 〃 (2 〃)
Lecture Room	8 〃 (12 〃)	8 〃 (9 〃)	4 〃 (4 〃)	4 〃 (4 〃)
Others	23 〃 (78 〃)	38 〃 (91 〃)	16 〃 (26 〃)	16 〃 (26 〃)
Sub Total	166 types (349 pieces)	185 types (483 pieces)	94 types (197 pieces)	94 types (197 pieces)
Training Service Center				50 types (90 pieces)
Grand Total	397 types (1,666 pieces)	387 types (1,557 pieces)	187 types (399 pieces)	237 types (489 pieces)

Table 2-3 List of Equipment to be procured

No.	Description	Quantity			Total Quantity
		Children's Hospital No.2	Maternity Hospital No.5	Training · Service Center	
1	Infant Incubator	5	4	-	9
2	Paediatric surgical Incubator	3	0	-	3
3	Portable infant incubator	2	0	-	2
4	Infant warmer	2	0	-	2
5	Infant care unit	2	4	-	6
6	Phototherapy unit	5	2	-	7
7	Head frame	2	0	-	2
8	Oxygen head box for infant	4	0	-	4
9	Billrubin meter	1	0	-	1
10	Neonatal monitor	2	0	-	2
11	Syringe pump	5	6	-	11
12	Neonatal ventilator	1	2	-	3
13	Infant Ventilator	2	0	-	2
14	Ultrasonic nebulizer	2	0	-	2
15	Stretcher	5	6	-	11
16	Miller's laryngoscope set	2	0	-	2
17	Oxygen monitor	2	0	-	2
18	Resuscitator for both neonate and adult	3	0	-	3
19	Resuscitation bag	3	0	-	3
20	Oxygen tent	2	0	-	2
21	Oxygen flowmeter	2	2	-	4
22	Sphygmomanometer, mercurial	5	0	-	5
23	Diagnostic set	4	0	-	4
24	Laryngoscope with fiber optic illumination	2	0	-	2
25	Gastrointestinal fiberscope	1	0	-	1
26	Accessory for fiber-scopic device	1	0	-	1
27	Rhino-laryngofiberscope	1	0	-	1
28	Bronchofiberscope	1	0	-	1
29	Video-endoscope system	1	0	-	1
30	ENT Surgical Instrument set	1	0	-	1
31	Throidotomy instrument set in metal case	2	0	-	2
32	Electroencephalograph	1	0	-	1
33	Defibrillator	1	0	-	1
34	Operating table	2	0	-	2
35	General operating table	1	0	-	1
36	Operating light(selfcontain type)	1	0	-	1
37	Examination light(normal)	4	0	-	4
38	Examination light(shadowless)	2	0	-	2
39	Suction unit	4	0	-	4
40	Suction unit(for 1 bottle)	12	0	-	12
41	Portable suction unit	2	0	-	2
42	Anaesthesia apparatus	2	0	-	2
43	Ventilator	2	0	-	2
44	Electro-surgical unit	1	1	-	2
45	Instrument cabinet	5	4	-	9
46	Brush sterilizer box	1	0	-	1
47	Examining table	5	2	-	7
48	X-ray film illuminator	2	0	-	2
49	Blood transfusion warmer	2	0	-	2
50	Air mattress	1	0	-	1
51	Instrument table	10	0	-	10
52	Wheel chair	2	0	-	2
53	Emergency cart	2	0	-	2
54	Sterilizing tray stand	3	0	-	3
55	Catheter tray	5	0	-	5
56	Autoclave	2	1	-	3
57	Drying cabinet	1	3	-	4

No.	Description	Quantity			Total Quantity
		Children's Hospital No.2	Maternity Hospital No.5	Training · Service Center	
58	Instrument sterilizer	4	2	–	6
59	High pressure steam sterilizer	1	2	–	3
60	Water bath	1	0	–	1
61	Blood cell counter	2	2	–	4
62	Analyser for Na,K,Cl	1	1	–	2
63	Calcium magnesium meter	1	0	–	1
64	Spectrophotometer	1	1	–	2
65	Centrifuge(small)	1	1	–	2
66	Dental unit	1	0	–	1
67	Dental X-ray unit	1	0	–	1
68	Root canal instrument	3	0	–	3
69	Diamond bar instruments	2	0	–	2
70	ENT Instruments set	1	0	–	1
71	Audiometer	1	0	–	1
72	Kit of instruments for endomorphism of supplementary sinuses of the nose and instruments for microsurgery	1	0	–	1
73	Kit of instruments for microlaryngology	1	0	–	1
74	Roentgen Apparatuses	1	0	–	1
75	General x-ray machine	1	0	–	1
76	Manual developing tank and accessories	1	0	–	1
77	Roentgen mobile type	1	0	–	1
78	Ultrasound Apparatus	1	0	–	1
79	Tracheotomy set	1	0	–	1
80	Esophagoscopy Apparatus with forceps	1	0	–	1
81	Instruments for Adenoidectomy	1	0	–	1
82	Bipolar Coagulation	1	0	–	1
83	Ambulance	1	1	–	2
84	Standby generator for ICU	1	1	–	2
85	Personal computer	2	2	–	4
86	Printer	1	1	–	2
87	Screen	1	1	–	2
88	Speaker system	1	1	–	2
89	Examination lamp	0	4	–	4
90	Instrument set for diagnosis	0	2	–	2
91	Resuscitation bag	0	2	–	2
92	Suction unit	0	11	–	11
93	Doppler fetal detector	0	6	–	6
94	Gynaecological Examination table	0	1	–	1
95	Gynaecological examination unit	0	1	–	1
96	Instrument set for treatment room	0	2	–	2
97	Vaginal speculum (Cusco, L &M)	0	10	–	10
98	Cardiotocograph	0	4	–	4
99	Delivery table	0	4	–	4
100	Infusion pump set	0	2	–	2
101	Instrument set for delivery	0	2	–	2
102	Oxygen inhaler set (adult)	0	4	–	4
103	Oxygen inhaler set (infant)	0	4	–	4
104	Vacuum Extractor	0	2	–	2
105	Weighing scales for neonate	2	7	–	9
106	ECG unit	0	1	–	1
107	Ultrasound diagnostic equipment with colour Doppler	0	1	–	1
108	Ultrasound diagnostic equipment (B&W)	0	2	–	2
109	Abdominal operation instrument set	0	2	–	2
110	Anaesthesia apparatus with ventilator	0	2	–	2
111	Caesarean operation instrument set	0	2	–	2
112	Curettage operation instrument set	0	2	–	2
113	Electrosurgical unit for laparoscope	0	1	–	1
114	Endotracheal set (for adults)	0	2	–	2
115	Gynaecological operation table	0	1	–	1

No.	Description	Quantity			Total Quantity
		Children's Hospital No.2	Maternity Hospital No.5	Training · Service Center	
116	Operation light Portable	0	3	-	3
117	Operation chair	0	2	-	2
118	Oxygen inhaler, suction set stand	0	3	-	3
119	Patient monitor	6	8	-	14
120	Uterus extraction operation instrument set	0	2	-	2
121	Vaginal operation instrument set	0	2	-	2
122	Binocular microscope	0	2	-	2
123	Centrifuge(large)	0	1	-	1
124	Glassware set	0	1	-	1
125	Hematocrit centrifuge	0	1	-	1
126	Water distiller	0	1	-	1
127	Endotracheal set (for infants) with tube	0	2	-	2
128	Manual resuscitator (Jackson Ree's type)	0	4	-	4
129	Medical refrigerator	0	5	-	5
130	Medical freezer	0	2	-	2
131	Weighing scales for adults	0	2	-	2
132	Wheel chair for adults	0	2	-	2
133	Photocopy machine	0	1	-	1
134	Overhead projector	1	1	-	2
135	Training doll or simulator	0	1	-	1
136	Spirometer	0	1	-	1
137	Glucose meter	0	2	-	2
138	Bilirubinmeter	2	2	-	4
139	Drum-type washing machine for laundry	0	2	-	2
140	Wring centrifuge for laundry	0	2	-	2
141	Laparoscope with video camera(endoscopic apparatus for plague)	0	1	-	1
142	Hysteroscope (interrupters)	0	1	-	1
143	Coloposcope(diagnostics in cell forms)	0	1	-	1
144	Device for ultrasound therapy	0	1	-	1
145	Device for galvanic therapy	0	1	-	1
146	Continues blood Auto Transfusion system	0	1	-	1
147	Maintenance tool set	0	0	1	1

2) Specification of major equipment

The specifications of major equipment due to be procured under this project are in Table 2-4.

Table 2-4 Specifications of major equipment

Equipment	Main specifications	Purpose of use	Qty.
Pediatric surgical incubator	Temperature control Automatic/Manual Skin temperature indication Heater selector Humidity control: 70% or over (at 50% humidity in the room) Range of oxygen feed regulation: 21-70%	Open type incubator used for nurturing a newborn baby who has undergone a surgical treatment.	3
Neonatal monitor	Indicating function Display: 7" Number of indications: 4 traces Monitored items: Electrocardiogram, pulses, respiration, indirect blood pressure, SPO_2 Alarm: Upper limit and lower limit of pulses, respiration, indirect blood pressure, and SPO_2 respectively, apnea, frustrane, electrode check, agreement between pulses and respiration, cardiac standstill Others: A complete set of accessories	A system for continuously monitoring respiration and pulses of low-weight, premature or morbid newborn baby with NICU, and giving warning with sound or light signals in case of occurrence of apnea or brachycardia.	2
Neonatal ventilator	Specifications: Sustainable forced excitation, regulatory mechanical excitation, negative pressure respiration at end of respiration, apneustic positive pressure respiration in respiratory tract Number of times of respiration: 0 ~ 18 times or so Inhalation time: 0.1 ~ 0.3 sec, switchable Suction to respiration ratio: 1:05 ~ 1:99 Volume: 0 ~ 999 ml/min	Used for auxiliary respiration to patients having spontaneous respiration and for regulatory respiration to patients requiring forced respiration. Also used for supporting respiration of infants having difficulty in breathing by own strength.	3
Gastro-intestinal fiberscope	Optical system: Angle of view: 120° (direct viewing) Depth of observation: 3 ~ 100 mm (fixed focus) Tip: Outside diameter: 9.0 mm Curved portion: Curving angle: Upward 210°, downward 90°, right 100°, left 100°, max. angle 240° Soft portion: Outside diameter: 9.0 mm Effective length: 1,025 mm Overall length:	Used for diagnosing abdominal diseases.	1

	1,345 mm Forceps: Min. visible distance; 2 mm from tip Channel: Inside diameter: 2.2 mm		
Rhino-laryngofiber-scope	Optical system: Angle of view; 85° (direct viewing), 0° Depth of observation; 5 ~ 50 mm (fixed focus) Terminal: Outside diameter: 3.4 mm Curved portion: Curving angle: Upward 130°, downward 130° Inserting portion: Outside diameter: 3.6 mm Effective length: 255 mm Overall length: 485 mm	Special fiberscope for throat, used for diagnosing narrow inner parts.	1
Bronchofiber-scope	Optical system: Angle of view; 120° (direct viewing), 0° Depth of observation; 3 ~ 50 mm (fixed focus) Terminal: Outside diameter: 5.8 mm Curved portion: Curving angle: Upward 180°, downward 130° Inserting portion: Outside diameter: 6 mm Effective length: 550 mm Overall length: 840 mm Forceps provided	Used for observation in bronchial tubes, biopsy by forceps, and discovery or sampling of foreign matters in bronchial tubes, for the purpose of diagnosing lungs and bronchial tube diseases such as lung cancer, tuberculosis, etc.	1
Video-endoscope system	Color system: NTSC/PAL Resolution: 600 TV Video deck, TV monitor provided	Constructed with video deck and TV monitor, and connectable to endoscope. Enables diagnosis on the TV monitor screen and simultaneous observation by a large number of persons.	1
Electroence-phalograph	Number of channels: More than 10 channels Sensitivity control: 15 stages of OFF, 200 ~ 1 μV/mm High-speed filter: 6 stages of 15 ~ 300 Hz Display: LCD (40x8) Recording system: Ink system	An auxiliary diagnostic equipment for checking the state of function of central nervous system, including trouble of cerebral blood tubes, injury to head, cerebral tumor, epilepsy, etc.	1
Patient monitor	Parameters: Electrocardiogram, respiration, temperature, SPO_2 Signal transmission system: Cable system Method of indication:	Used for monitoring heart functions of post-operation patients and monitoring heart functions for a certain period of time in ICU.	14

	CRT 7" Measurement of electrocardiogram: 3 or 5 electrodes Recorder: Built-in type Power source: Built-in battery		
Defibrillator	Output: Minimum (1 ~ 9J) and 10, 20, 30, 50, 100, 150, 100, 150, 200, 300, 400J Charge time: Possibility of 400J within 10 sec CRT display: 6" (monochrome) Huddle: Direct heart discharge test function for adults and children provided Indication of heart rate: 20 ~ 240 BPM Heart rate alarm: 70 ~ 240 BPM Recording: Recorder provided Power source: AC power source & chargeable battery	Equipment used to recover normal heartbeat of heart, by applying electric shock to patients with cardiac arrest or cardiac fibrillation with irregular pulsation.	1
Operating table	Control: Oil pump Dimensions of supporting table: 45 cm(W) × 190 cm(L) Vertical working range: 75 cm ~ 100 cm Horizontal working range: 25° Lateral tilt: 25° Sliding width: 20° (left, right) Back section: 90° up and 5° down Accessories: Screen frame, head fixing base, leg fastener, operating table for newborn baby	An operating table available for taking proper posture when operating a patient.	2
General operating table	Table: 45 cm(W) × 190 cm(L) Vertical working range: 75 cm ~ 100 cm Horizontal working range: 25° Lateral tilt: 25° Sliding width: 20° (left, right) Back section: 90° up and 5° down Accessories provided	An operating table available for taking proper posture when operating a patient.	1
Operating lamp (ceiling	Body: Main lamp, 100 cm, round, 5-lamp	Heat-free lighting lamps, not producing any shadow	1

type) with emergency power source	type; Auxiliary lamp, 60 cm, round, 5-lamp type Luminance: Main lamp 85,000 lux or over; Auxiliary lamp 85,000 lux or over Electric bulb: Halogen lamp, with emergency power source	when illuminating the operated portion.	
Anesthesia apparatus	Flowmeter: N_2O, O_2, Min. oxygen content: Around 30% Oxygen flush: Function provided Hemodynamometer: Attached In-circuit pressure gauge: Attached Canister: Attached Auxiliary bomb: O_2, N_2O (with pressure gauge) attached Cart: Attached Oxygen monitor: Attached	A system for injecting an anesthetic in patients during operation without feeling pain. Respiration control is made during the operation by using the attached respirator.	2
Ventilator	System: Volume control & pressure control type C-95 attached respirator Operation modes: Sustainable forced excitation, regulatory mechanical excitation, negative pressure respiration at end of respiration, apneustic positive pressure respiration in respiratory tract Volume of ventilation by single respiration: 6 ~ 40 times/min Volume of respiration: 50 ~ 1300 ml (Max.: 100-2600 ml) Max. flow rate: 5 ~ 65 liters/min Accessories: Humidifier	Used for auxiliary respiration for patients having spontaneous respiration and for regulatory respiration to patients requiring forced respiration.	2
Electro-surgical unit	Unipolar & bipolar type Output circuit: Functions: Cutting, coagulation, mixing, bipolar system Output: Cut opening: 350W, coagulation: 130W, mixing: 250W, bipolar system: 50W High frequency: Max. 150 mA Low frequency: Max. 1 μA Electrode for newborn baby	An operating system used for performing incision (hemostatic incision) and coagulation of biological tissues.	2

High-pressure steam sterilizer	Horizontal type Inner volume: Approx. 150 liters, square chamber Material: Stainless steel Control: Automatic Sterilizing temperature: 132°C or over Built-in steam generator	Equipment for sterilizing the instruments used in the hospital by utilizing high-pressure steam to prevent hospital infection.	3
Blood cell counter (4-parameter)	Measured items: WBC, RBC, HGB, MCH Dimensions: 280 × 378 × 270 mm	Diseases of blood such as anemia, hemophilia, leukemia, etc., can be found by checking the number of respective blood cells as well as types and proportion of cells.	4
Analyzer for N_a, K	Electrode: Sodium, potassium, chloride Sample size: 95 µl Sample type: Total blood, serum, plasma, dialysate Sample application: Injector, cup, tube, capillary tube Analyzing time: 50 sec/body Analyzing capacity: 60 bodies/hr Recording: Heat transfer printer provided	Equipment necessary for measuring electrolytes which are important components of the blood such as sodium, potassium and chlorine ion concentration. Used for checking metabolic abnormality through inspection of electrolytes in the patient.	2
Ca, Mg meter	Sample size: 20 ~ 100 µl (serum) Measuring range: 2 ~ 10.00 m Eq/l (Ca), 2 ~ 20.00 m Eq/l (Ca+Mg) Analyzing time: 20 ~ 40 sec.(Ca); 20 ~ 50 sec.(Ca+Mg) Analyzing capacity: 30 samples/hr One cell refill: 20 samples (Ca+Mg)	The measurement of Ca, Mg is necessary for checking the state of the patient, because Ca in the serum exists in the form of ion and acts as a factor which affects the permeability of the cell membrane, excites nerves and muscles, causes coagulation of blood and activates enzymes.	1
Spectro-photometer	Measured wavelength range: 200 ~ 1100 nm Spectral band width: 5 nm Wavelength indication: 0.1 nm Wavelength accuracy: ±0.1 nm Wavelength reproducibility: ±0.3 nm Wavelength setting speed: Approx. 6000 nm/min Stray light:	While routine biochemical inspections in clinical examination rooms are performed efficiently by using an automatic chemical analyzer, a spectrophotometer is used in place of the chemical analyzer when the number of samples to be inspected is small.	2

	0.05% or under, at 340 nm Light measuring system: Monitor double beam Light measuring range: Absorbency: -0.3 ~ 3 ABS Auto zero function: One-touch setting		
Dental unit	Basic fixtures: Dental treating chair (hydraulic type); Compressor Accessories: Various kinds of high-speed air turbine hand piece; Standard accessories; Dental treatment tools set	Equipment used for basic treatment in dentistry.	1
Dental X-ray unit	Bulb capacity: 60 KV Exposure time: 0.04 ~ 2.54 sec (Head) Service power source: 0.9 KVA Spot photographing type	Used for the purpose of photographing teeth and peridental tissues in dental diagnosis.	1
Roentgen apparatus	Body: X-ray high voltage generator (500 mA/125 KV) Fluoroscopic table 90/-15 examination table Floor travelling X-ray retainer X-ray tube: 2-bulb type Remote controller Bucky stand CRT X-ray TV	A system generally disposed in medical facilities, for general photographing and fluoroscopic photographing of skeleton, head, chest and abdomen.	1
General X-ray unit	Bucky table with floating top: Approx. ±50 cm in longitudinal direction, ±12 cm in transversal direction Voltage generator: Approx. 40 KW, 150 KV, 500 mA or over, high frequency X-ray tube: 200 KHU or over Bucky stand included Beam limiter Automatic exposure control	A system generally disposed in medical facilities, for general photographing of skeleton, head, chest and abdomen.	1
X-ray unit (mobile type)	Inverter type: High-voltage unit Vessel current: Approx. 50 ~ 400 mA X-ray tube: 90 ~ 120 KHU Travelling: Manual/Electric Max. rating: Approx. 30 KW X-ray setting range: 0.5 ~ 100 mAs/20 stages min.	Used for patients with advanced disease having difficulty walking from bed to X-ray room. All portions of the patient's body are photographed.	1

Ultrasound apparatus (monochrome, general)	Scanning method: Convex, linear, sector Indication modes: B, M, Doppler mode, Depth of view in B mode - 24 cm (max.), Size - 8 steps; Image indication, Zoom, left-right, top-bottom, lateral tilt Monitor: Monochrome 12" Probe: Convex 3.5 MHz, 50° Linear 3.5 MHz, Width of view 114 mm Doppler probe 7.5 MHz Sector probe 3.75 MHz	By irradiating ultrasound waves, analyzing and visualizing the reflected waves in the system, the unit makes it possible to check the organs or parts and make various kinds of diagnosis. For ease of observation, the observation monitor is of 12" size and provided with 4 different kinds of probe.	1
Ambulance car	Type: 1-box Seats: 3 (including attendant) Displacement: 2,000 cc or over Engine: Water-cooled, 4-cylinder, gasoline Drive: 2-wheel drive Wheel length: 2,650 mm or over Speed change gear: 5 stages for advance, 1 stage for retreat Horsepower: 100 HP or over Fixtures: Beacon lamp, motor siren, siren amplifier, speaker, roof signboard, rear step, stretcher, rear lamp, first-aid set	Used for transportation of patients to lower referral hospitals and specialized hospitals. Covers the entire national territory as the service area.	2
Gynecological examination table	Back direction: 0 ~ 50°/6 stages Inclination of table: -5 to +10° Dimensions: Length 107 cm; Seats: 33 cm (Height); 50 cm (Width): Back: 72 cm (Height); 50 cm (Width) Stepping stand	A gynecological examination table essential for internal examination.	1
Cardiotocho-graph(=Fetus monitor)	Measured items: Fetal heart beat, labor pains Measuring system: Pulse Doppler Oscillating frequency: Approx. 1 ~ 2 MHz Heart beat counting range: Approx. 50 ~ 210 ppm Recording range: 50 ~ 210 ppm	Used for diagnosing the fetus during pregnancy and monitoring onset of labor at the time of delivery, as well as for judging evolution of labor pains in case of imminent miscarriage or premature delivery.	4

Delivery table	Lifting system: Hydraulic Table tilt: -15 ~ +15° Lateral tilt: -15 ~ +15° Vertical moving range: 65 ~ 95 cm (pedal operated)	Used for assisting normal delivery. A model adjustable in height and tilt will be selected considering the working environments of doctors and nurses.	4
Ultrasound diagnostic equipment (with color Doppler)	Scanning method: Convex, linear, sector Indication modes: B, M, Doppler mode, Depth of view in B mode: 24 cm (max.), Size: 8 steps Image indication, Zoom, left-right, top-bottom, lateral tilt Monitor: Color 12" Probe: Convex 3.5 MHz, 50° Linear 3.5 MHz, Width of view 114 mm Doppler probe 7.5 MHz Sector probe 3.75 MHz	By irradiating ultrasound waves, analyzing and visualizing the reflected waves in the system, makes it possible to check the organs or parts and make various kinds of diagnosis. For ease of observation, the observation monitor is of 12" size and provided with 4 different kinds of probe.	1
Anesthesia machine (with ventilator)	Flowmeter: N_2O, O_2 Oxygen flush: Function provided Hemodynamometer: Attached In-circuit pressure gauge: Attached Canister: Attached Auxiliary bomb: O_2, N_2O (with pressure gauge) attached Cart: Attached Oxygen monitor: Attached Respirator: Attached	A system for injecting an anesthetic in patients during operation without feeling pain. Respiration control is made during the operation by using the attached respirator.	2
Gynecological operation table	Dimensions: 45 cm(W) × 190 cm(L) Lifting range: 75 cm ~ 100 cm Longitudinal turning angle: 25° each Transversal turning angle: 20° each Back plate working angle: 90° up and 5° down Hydraulic system Options: Spreading screen, pectoral limb stand, limb & leg stand, waste can, mattress	An operating table available for taking proper posture when operating a female patient.	1

Operation light portable (with emergency power source)	Body: Main lamp, 27 cm, round, 4-lamp type Bulb: 12V, 20W Luminance: Main lamp 43,000 lux or over Power source: Battery for emergency power supply	Equipment which enables smooth execution of operation by accurately illuminating the operated portion during operation and supplying proper illumination, color temperature and heat-free lighting.	3
Infant care unit	Warmer Power source: AC 100V Weight measuring function: Weighing capacity 20 kg, Scale 5 g; Operating range 100 g ~ 20 kg Height measuring function: Measuring range 42 ~ 90 cm Effective dimensions: Width 93 cm × Depth 52 cm	A table for taking care of newborn babies after delivery, to measure weight, height, etc., of the infant.	6
Washing machine (drum type)	Capacity: Approx. 30 kg × 2 sets Content of treatment: Washing Steam & hot water system	Used for water-washing white linen for operation and patients, etc.	2
Wring centrifuge (NB-22)	Dehydrating capacity: Approx. 30 kg Volume: Approx. 550 mm (diameter) × 250 mm (depth) Rotating capacity: Approx. 1,500 rpm	Machine for spin-drying washed clothes.	2
Laparoscope with video camera (endoscopic apparatus for plague)	Optical viewing tube: Field of view: Approx. 0°; Diameter: Approx. 3.0 mm; Length: Approx. 250 mm Outside diameter of thoracic: Approx. 4.0 mm One set of video monitor accessories	Used for diagnosis and simple operations of diseases in abdominal cavity in the fields of internal medicine and gynecology.	1
Colposcope	Magnification: 4.7 ~ 20 times Diameter of visual field: 12.4 ~ 53.2 mm Focal distance: 285.0±10 mm Image pick-up element: 1/2" CCD individual image pick-up element Weight: Body 14.5 kg Stand approx. 27.5 kg	Permits observation inside womb and vagina in expanded stereoscopic view, early discovery of uterine cancer and observation in expanded view of disease in vaginal wall.	1
Continuous blood auto transfusion system	Blood pump: 20 ~ 200 ml/min Heparin pump: 0.10 ml/hr, PVC 1 × 0.5 mm Venous pressure alarm: 50t ~ 500 mmHg	A system for separating and eliminating plasma from the blood of the patient and replacing it with substitute plasma, to remove the underlying disease including such	1

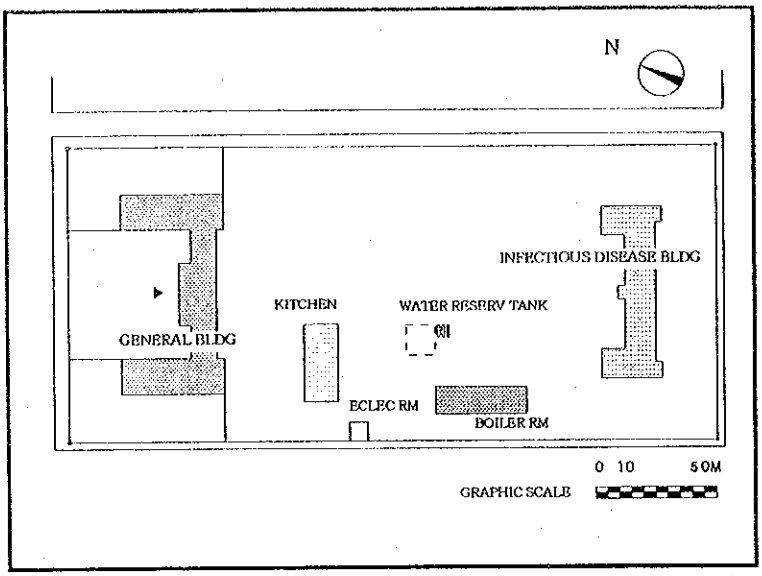
	Single-needle type Venous pressure: -50t ~ +400 mmHg ±10 mmHg Air sensing system: Max. 0.2 ml	diseases as acute hepatic insufficiency, drug poisoning, etc.	

3) Equipment layout drawing

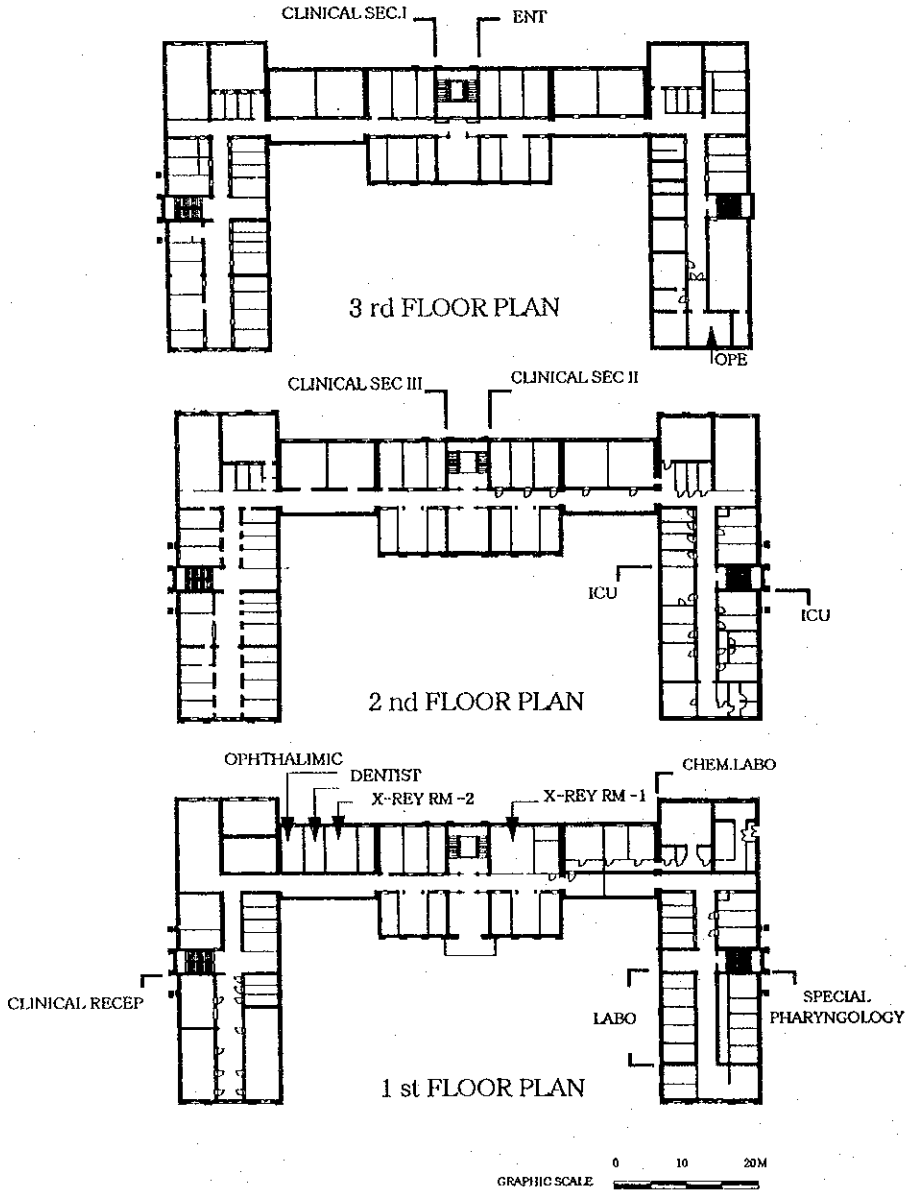
The layout drawings for the main equipment in the project facilities are given on the following pages.

Children's Hospital No.2

・Site Layout Plan

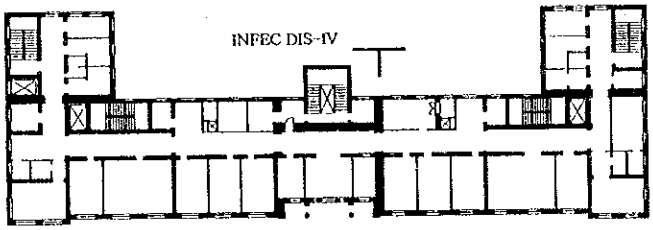


・Floor Plans -General Building-

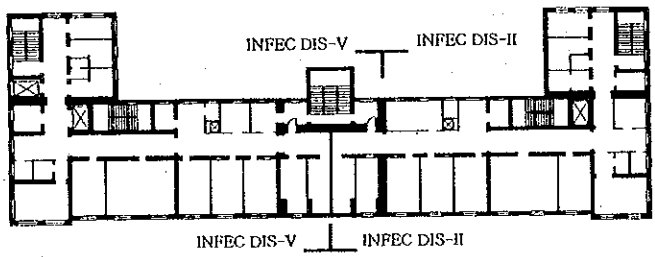


Children's Hospital No.2

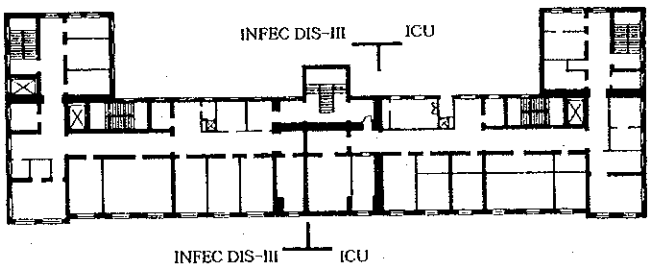
・Floor Plans -Infectious Disease Building-



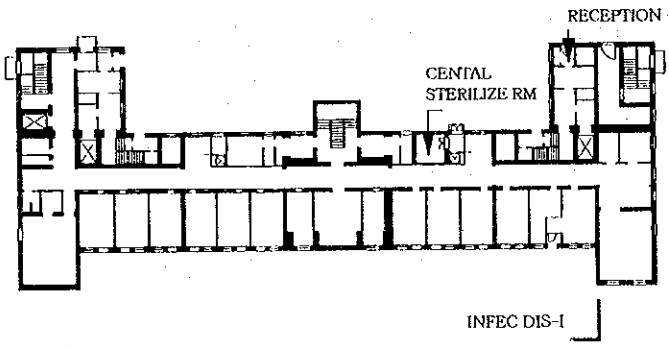
4th FLOOR PLAN



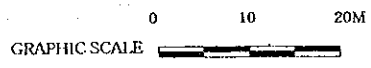
3rd FLOOR PLAN



2nd FLOOR PLAN

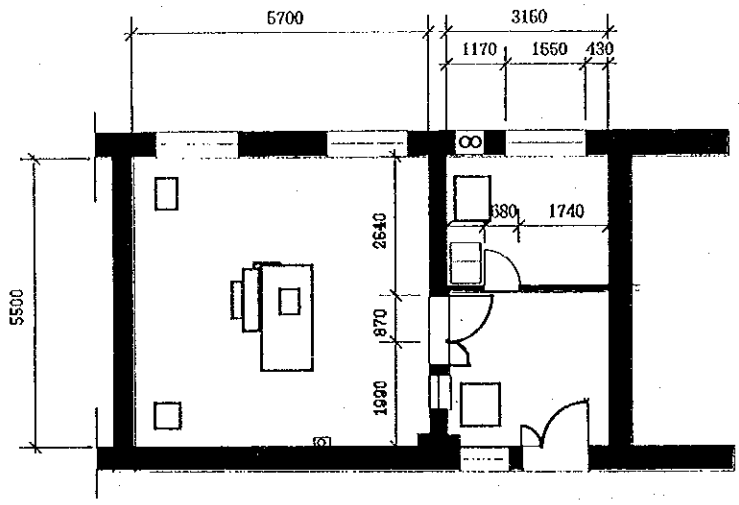


1st FLOOR PLAN



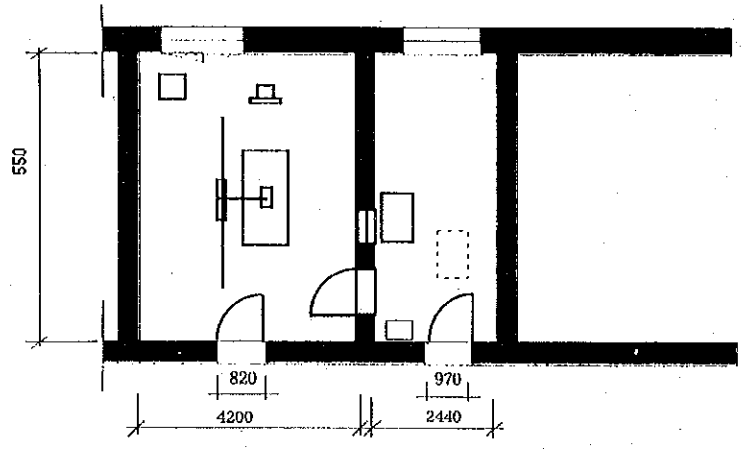
Children's Hospital No.2

・Installation Plans -X-ray room I & II-



[X-ray room I]

Major equipment
- Roentgen apparatus
- Monitoring window with lead glass
- Cable pit
- Interphone
- Development tank
- Darkroom light
- Pass box
- Ventilator fan

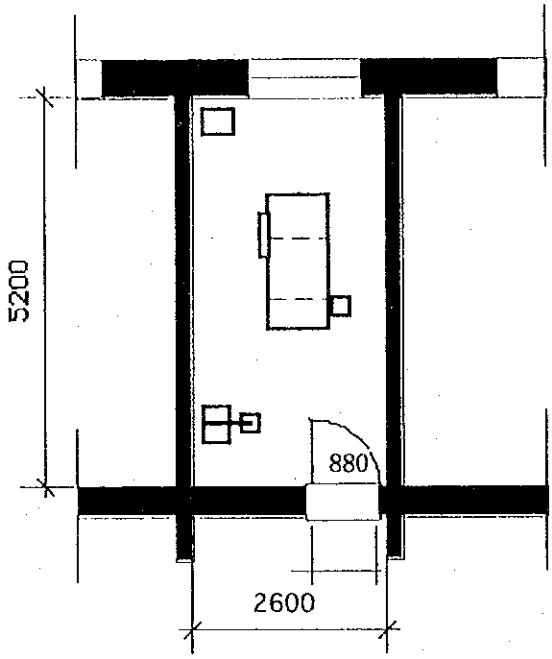


[X-ray room II]

Major equipment
- X-ray unit
- Monitoring window with lead glass
- Interphone
- Door

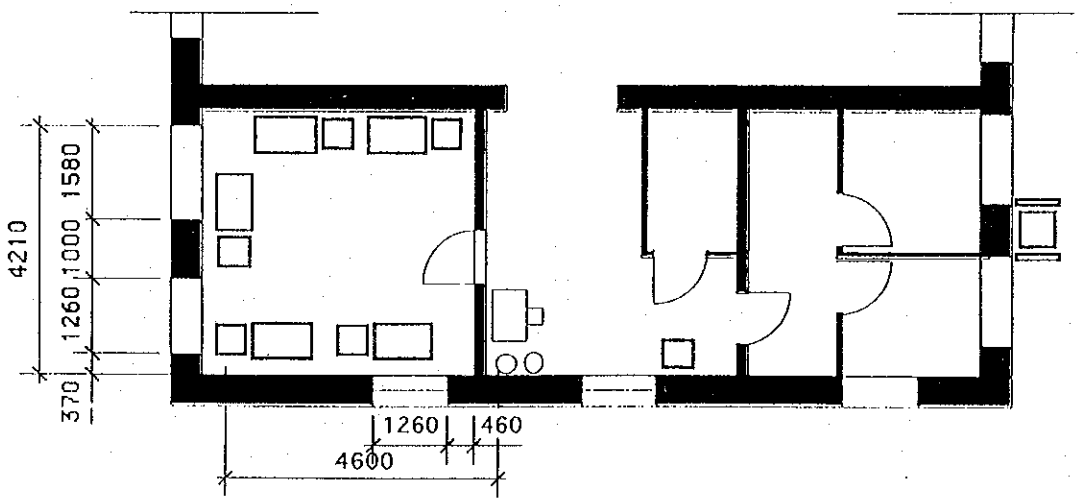
Children's Hospital No.2

・Installation Plans -Dental Sec. & General ICU-



[Dental section]

Major equipment
- Dental unit
- Dental X-ray unit
- Compressor
- Water supply drainage
- Air pipe

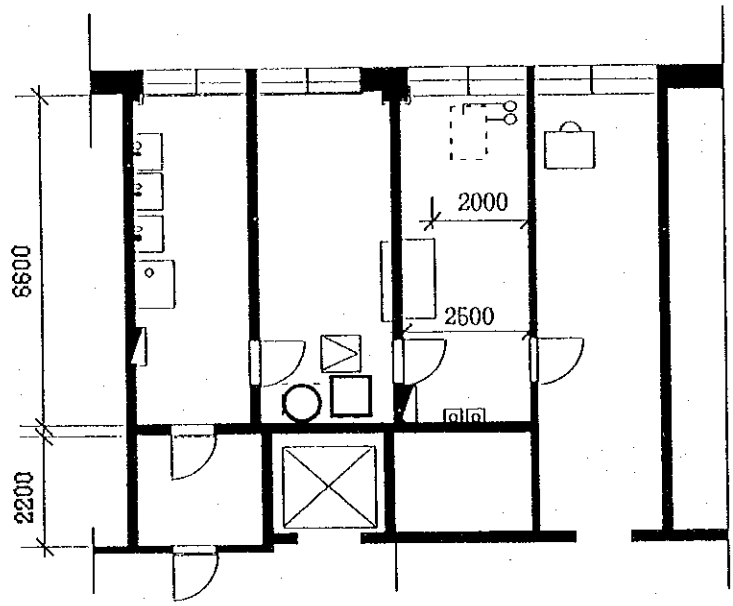


[General ICU]

Major equipment
- Infant uncubater
- Infant warmer
- Suction unit
- Ventilator
- Compressor
- Patient monitor

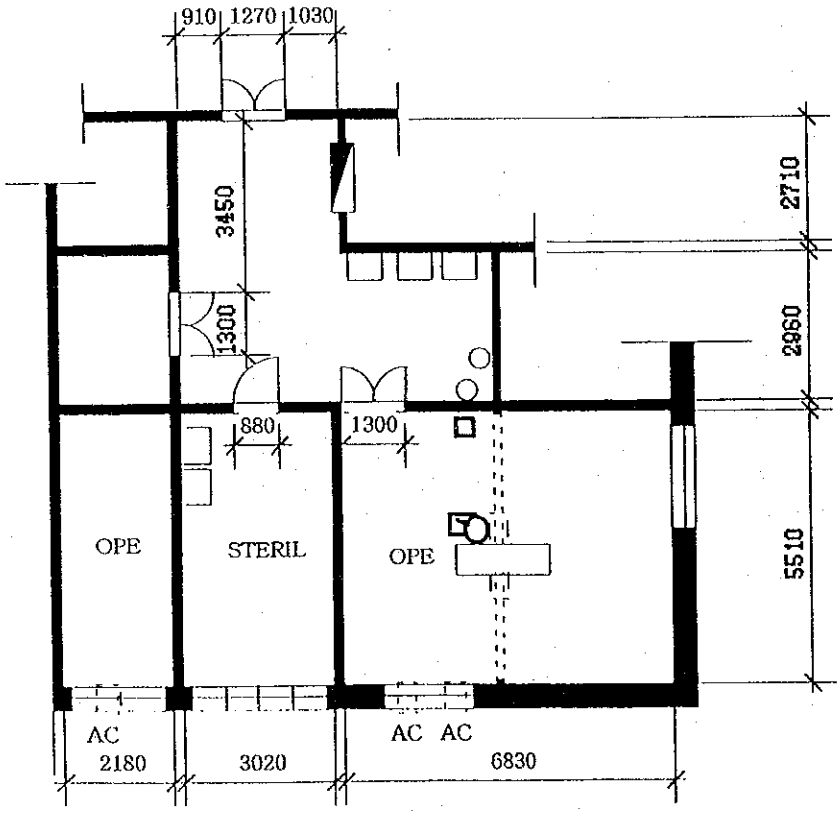
Children's Hospital No.2

・Installation Plans -CSSD & Operation Room-



[CSSD]

Major equipment
High-pressure
Steam aterilizer

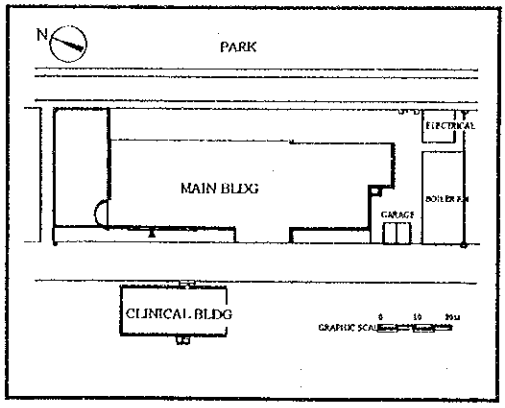


[Operation room]

Major equipment
Operating light (Stand type)
Emergency DC/AC inverter unit

Maternity Hospital No.5

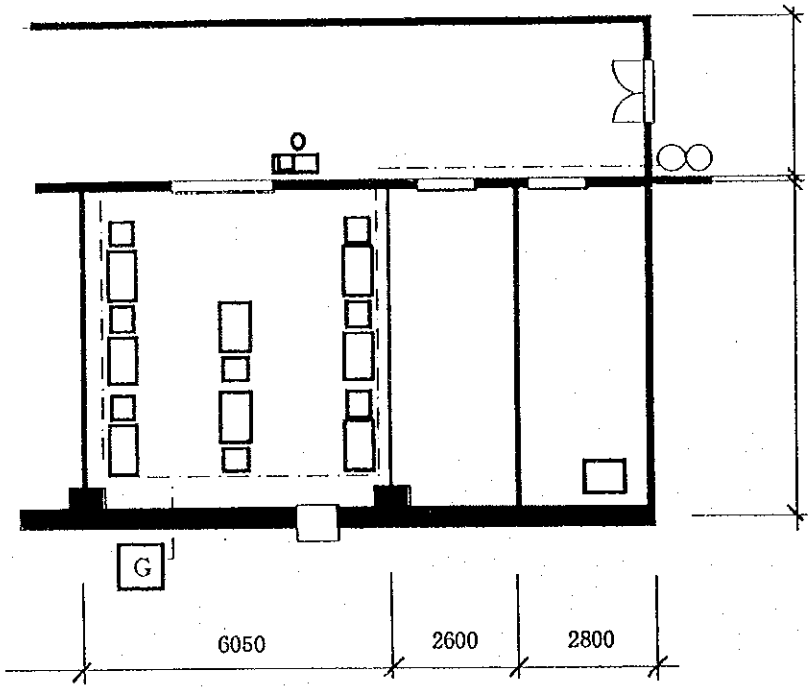
・Site Layout Plan



・Floor Plans -Main Building-

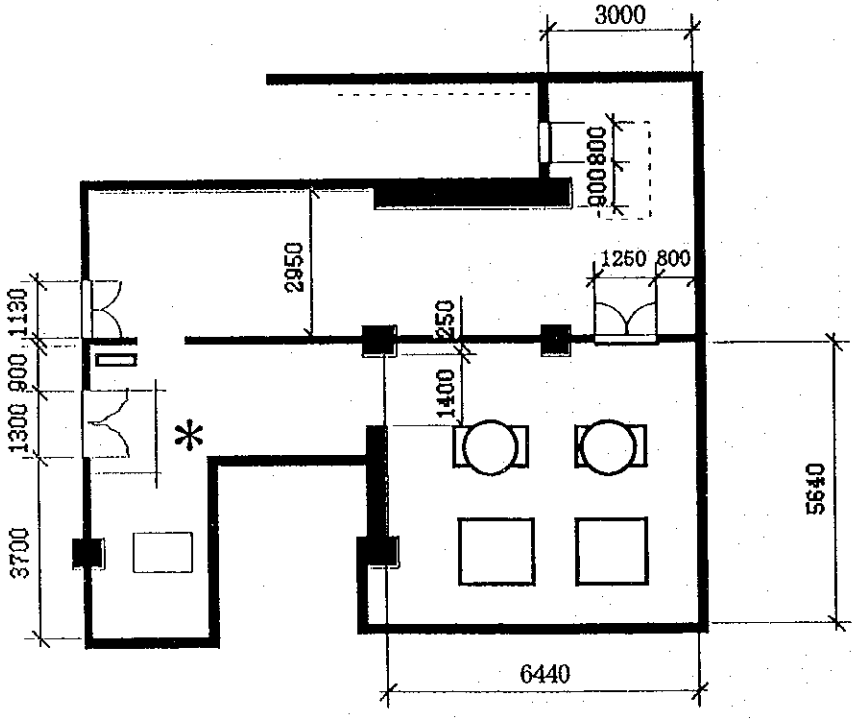
Maternity Hospital No.5

・Installation Plans -ICU & Laundry-



[ICU]

Major equipment
- Infant incubator
- Infant warmer
- Suction unit
- Ventilator
- Compressor
- Patient monitor

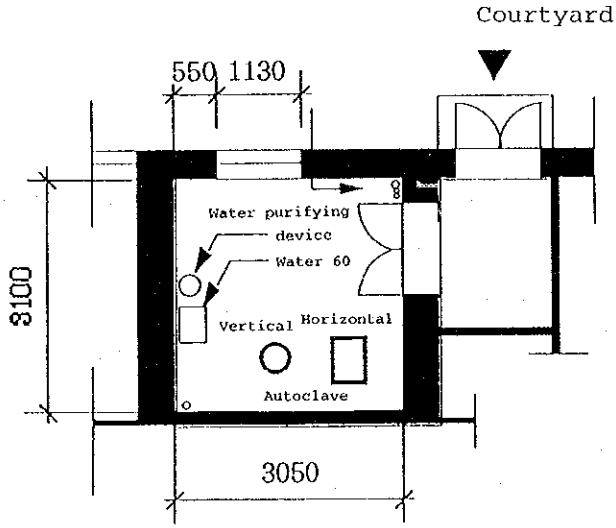


[Laundry]

Major equipment
- Washing machine
- Wring centrifuge

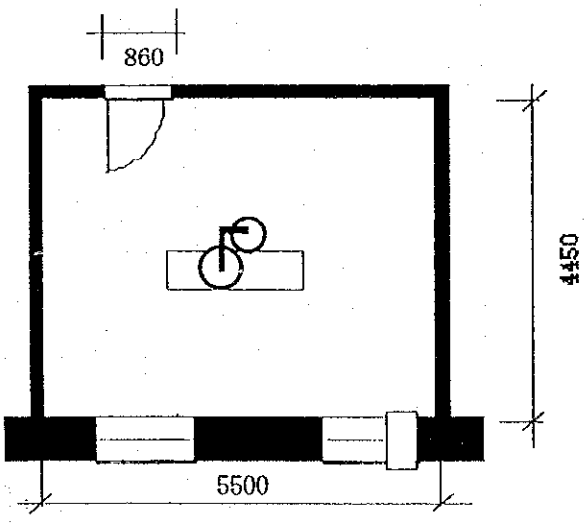
Maternity Hospital No.5

・Installation Plans -CSSD & Operation Room-



[CSSD]

Major equipment
High-pressure
Steam aterilizer



[Operation room]
(3rd floor of General Building)

Major equipment
Operating light
Emergency DC/AC inverter unit

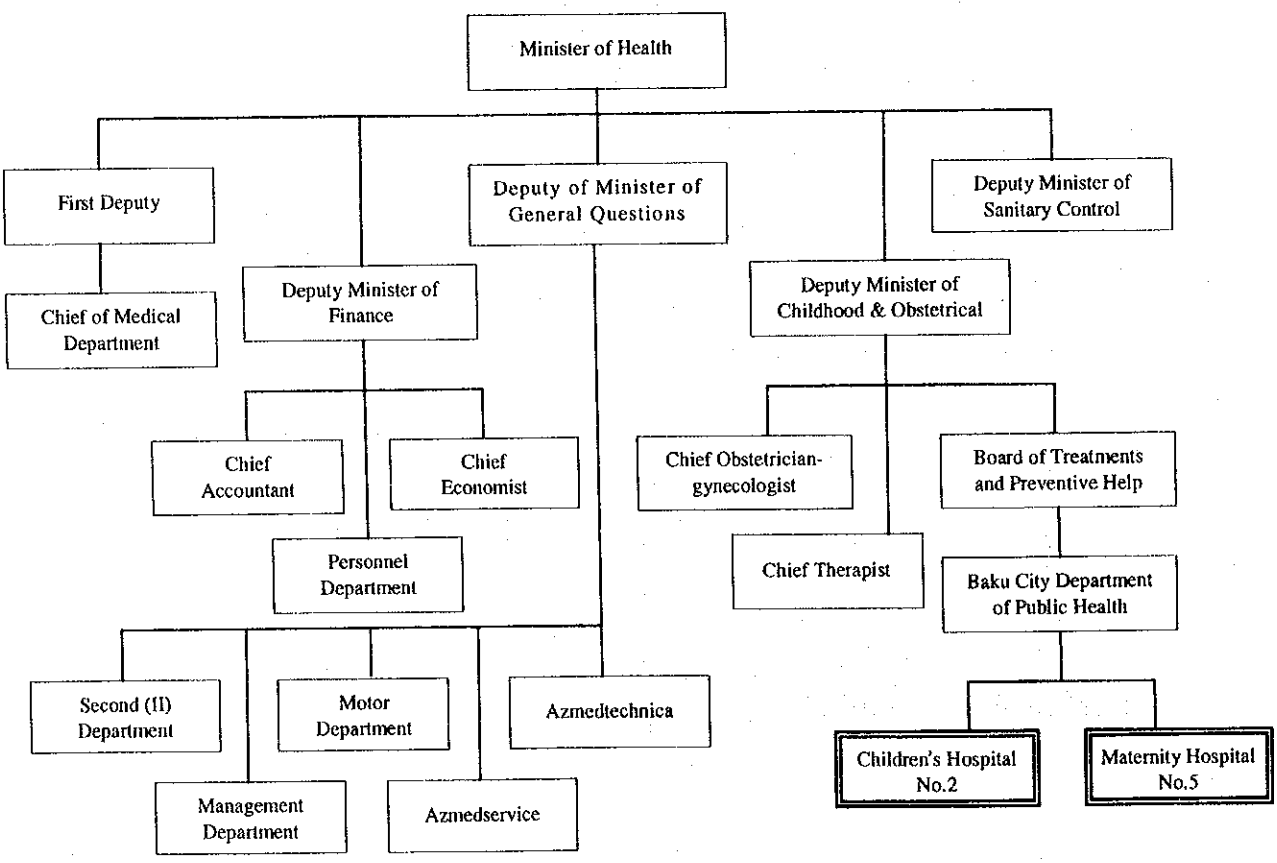
2-4 Implementation System of the Project

2-4-1 Organization

(1) Implementation Organization

1) Responsible agencies

The Ministry of Health of the Azerbaijan Government is the responsible agency for the Project, and the MCH Office is in charge of medical policies for mothers and children as the supervising agency for project implementation. The division for coordination with the Government of Japan is the National Agency for Foreign Investment of the Cabinet of Ministers, Republic of Azerbaijan.



Source : MOH of Azerbaijan

Figure 2-5 Organization Chart of MOH of Azerbaijan

2) Project facilities

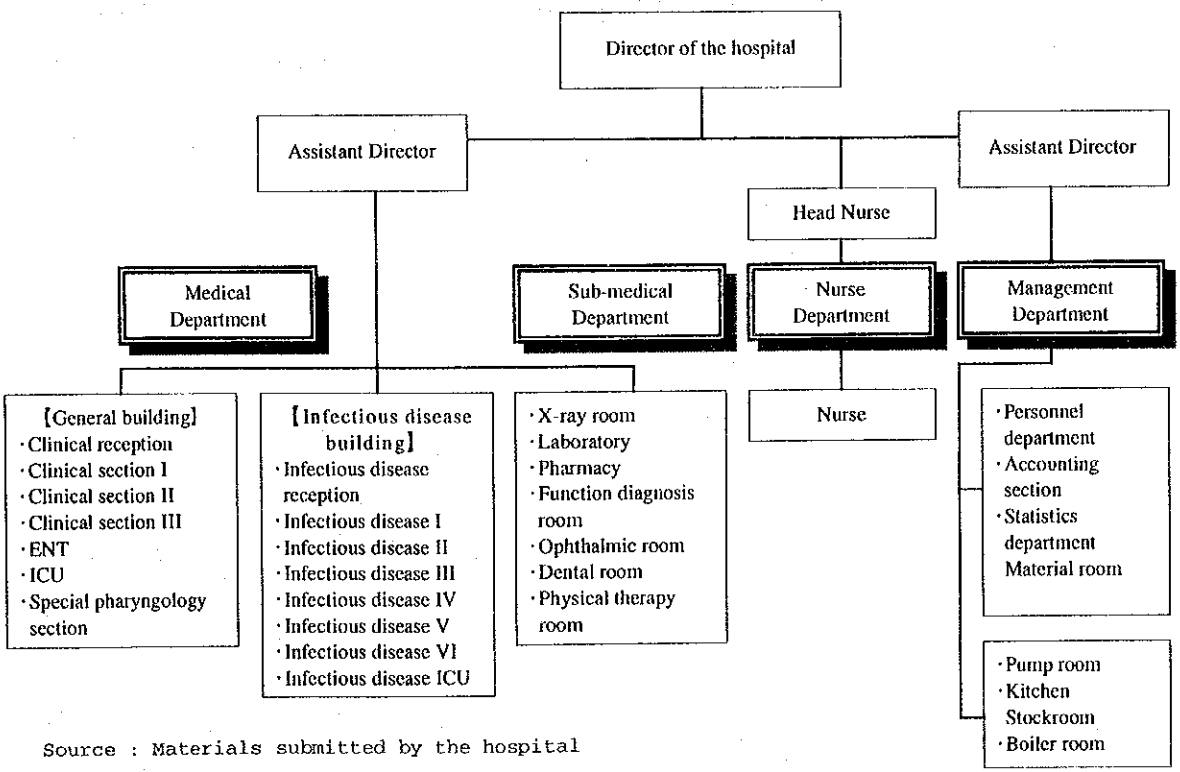
The project facilities of this project occupy key positions in the MCH system in Azerbaijan, the Children's Hospital No.2 and the Maternity Hospital No.5.

The organizations and functions of both facilities are below.

①Children's Hospital No.2

This is a top referral hospital (tertiary hospital) having 525 beds and 841 staff members, specializing in pediatrics and ENT. It is characterized especially in that it is the only hospital for treating infectious disease in infants, and is the core children's hospital in Azerbaijan.

This hospital also functions as a teaching hospital providing education and training to students of Azerbaijan Medical University, which is a national university, and nurses.



Source : Materials submitted by the hospital

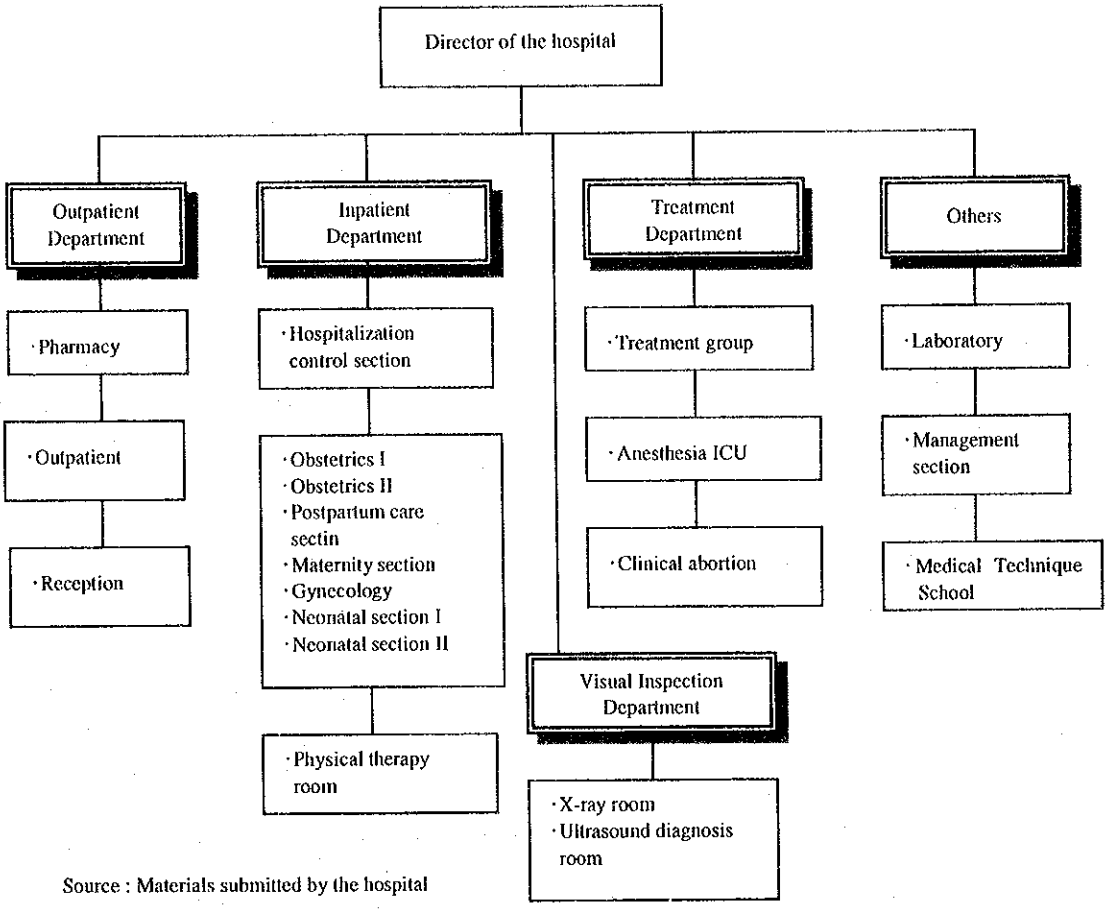
Figure 2-6 Organization Chart of Children's Hospital No.2

②Maternity Hospital No.5

This hospital, having 275 beds and 273 staff members, offers Primary Health Care (PHC) for 55,000 persons, as one of 11 polyclinics (consultation facilities for women) located in the city of Baku. Moreover, it is also a teaching hospital providing 2 courses in gynecology and neonatalogy at Azerbaijan Medical University. This hospital has its own teaching facilities, and trains midwives and nurses and provides instructions on child delivery and rearing.

This hospital has such medical departments as gynecology, obstetrics, neonatalogy, etc. It is the only obstetric hospital capable of handling delivery of premature babies in Azerbaijan. It is a tertiary medical facility coping with high-risk deliveries such as delivery of premature babies, toxemia in pregnancy, etc. High-risk deliveries represent 45% of the total patients in this hospital.

This hospital is not only a top referral hospital in obstetrics in the country but also operates as a designated hospital for of the UNICEF project since 1994 and as a Baby-friendly Hospital recommended by the UNICEF.



Source : Materials submitted by the hospital

Figure 2-7 Organization Chart of Maternity Hospital No.5

2-4-2 Budget

- The Health Care Budget of Ministry of Health of Azerbaijan

Similarly to the other countries that were member republics of the former Soviet Union, Azerbaijan is showing a dramatic decrease in health spending in the 1990s as the share of budget amount allocated to the medical care sector in relation to the republic's gross domestic product (GDP) has declined substantially. By 1996, Azerbaijan's GDP has fallen to two thirds the level of 1990 and budget expenditures have dropped even more dramatically in real terms.

The following tables show the changes in budget expenditures in the medical sector from 1991 through 1996 and an itemized breakdown of medical expenditures for the years 1991 and 1995.

Table 2-8 Expenditure of health care budget

	1991	1992	1993	1994	1995	1996
Ratio to GDP	3.5%	2.7%	3.3%	2.2%	1.4%	1.5%
Ratio to total government expenditure	8.5%	5.6%	6.0%	4.6%	6.2%	8.0%
Real expenditure (1991=100)	100	61	57	30	16	17

Source:MOH of Azerbaijan

Table 2-9 Allocation of health care budget in 1991 and 1995

Expenditure category	1991	1995
Wages and benefits	49.7%	34.3%
Drugs	4.9%	9.0%
Utilities, food and supplies	16.0%	35.0%
Public health activities	2.3%	3.4%
Others	27.1%	18.3%

Source:MOH of Azerbaijan

The social unrest following Azerbaijan's independence in 1991 as well as the escalating burden of war expenses and large numbers of refugees during the ensuing years of military conflict with its neighboring countries over the return of disputed territories, brought Azerbaijan to the brink of financial ruin. The result is a serious lack of budget allocations in the welfare, especially medical sector.

In 1996, the Ministry of Health introduced a fee-based medical care system at certain medical facilities to counteract the budget shortages at the recommendation of the World Bank. Efforts are being made to help the medical facilities regain their operational capability and secure the necessary resources for health care by imposing charges on beneficiaries to retrieve a part of the medical costs from patients, and by introducing a National Health Insurance Scheme.

The medical facilities for mother and child health care covered by this Project have a statutory obligation under the National Health Law to provide free medical services and are therefore not in a position to introduce the above free-paying medical care scheme.

These project hospitals operate on annual budget allocations made available by the national government and the Baku city authorities. The project hospitals would therefore find it difficult, if not impossible, to meet the additional maintenance and management costs arising from this Project in the present circumstances. If the financial resources for medical health are assured under the medical service policies referred to above, however, the budget allocations for the project hospitals can be expected to increase, accordingly. Since, furthermore, this project is assigned top priority at the Ministry of Health, the Ministry has accepted responsibility for the award of budget allocations to these institutions.

2-4-3 Medical Staff and Technical Level

(1) Medical training and technical level

The medical training institutions in Azerbaijan include the Azerbaijan Medical University (AMU), the Azerbaijan State Institute for Doctors' Training (ASIDT) (high-level medical training) and nine medical schools or colleges (medium-level medical training facilities).

The Azerbaijan Medical University, an institute for training physicians, was founded in 1919 as the Medical Department of the National University and is the only institution for the training of doctors. It offers a five-year undergraduate course in six disciplines - therapeutic medicine (internal medicine and surgery), pediatrics, dentistry, stomatology, preventive medicine, biomedicine, and pharmaceutics - and graduate courses. Each year, more than 1,300 doctors graduate from this University. The graduates can practice medicine after a one-year internship. Physicians are required to take part in postgraduate training at the Azerbaijan State Institute for Doctors' Training (ASIDT) every five years.

The Medical Training Schools and Colleges located in nine places throughout the country offer medium-level courses for medical practitioners. The medium-level courses offered by these institutions fall into seven disciplines: diagnosis and treatment (medical practitioners), obstetrics, preventive medicine, dental technician, pharmaceutics, nursing, and examination/diagnostics (including radiologists). Admission to these medical schools is subject to graduation from a general Senior High School and the duration of the courses varies from one year and ten months to two years and six months. The total student number was 6,975 in 1996 and 7,140 in 1997. Some 2,500 specialists graduate each year.

As can be seen from the above, Azerbaijan has a complete medical training system. In addition, many students will also attend courses abroad, notably in Georgia and Moscow. Since efforts are also made to introduce latest medical

technology, Azerbaijan does not show a lag in the adoption of medical technology. In connection with the execution of this Project it should therefore be concluded that the Azerbaijan medical establishment is fully equipped to handle the project facilities with its present number of medical staff (see Tables 2-10 and 2-11) and their technical level.

(2) Medical staff

1) Medical staff in Azerbaijan

Table 2-10 Number of medical staff in Azerbaijan

	1990	1995	1997
Doctor	5,304	5,133	5,183
Special Doctor	14,394	16,232	16,124
Nurse	60,218	62,386	59,116
Assistant Nurse	2,955	992	956
Radiologist	467	446	426
Pharmaceutist	4,522	2,592	4,599
Others	4,134	4,603	4,709
Total	91,994	92,384	91,113

Source : MOH of Azerbaijan

2) Medical staff of the project facilities

Table 2-11 Number of medical staff of the project facilities

	Children's Hospital No.2	Maternity Hospital No.5
Doctor	131	117
Nurse	382	154
Assistant	0	44
Laboratory Engineer	28	12
Others	300	246
Total	841	573

Source : MOH of Azerbaijan