

MINISTRY OF HEALTH  
THE REPUBLIC OF ANGOLA

NO.
-----

**BASIC DESIGN STUDY REPORT  
ON  
THE PROJECT  
FOR  
IMPROVEMENT OF MEDICAL EQUIPMENT  
FOR  
LUCRECIA PAIM MATERNITY HOSPITAL  
IN  
THE REPUBLIC OF ANGOLA**

**MARCH 2000**

**JAPAN INTERNATIONAL COOPERATION AGENCY  
BINKO LTD.**

<b>GR2</b>
------------

<b>CR(1)</b>
--------------

<b>00-061</b>
---------------

## PREFACE

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

JICA sent to Angola a study team from January 9 to January 31, 2000.

The team held discussions with the officials concerned of the Government of Angola, and conducted a field study at the study area. After the team returned to Japan, further studies were made, 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 Angola for their close cooperation extended to the teams.

March, 2000

Kimio Fujita

President

Japan International Cooperation Agency

March, 2000

## Letter of Transmittal

We are pleased to submit to you the basic design study report on the project for Improvement of Medical Equipment for Lucrecia Paim Maternity Hospital in the Republic of Angola.

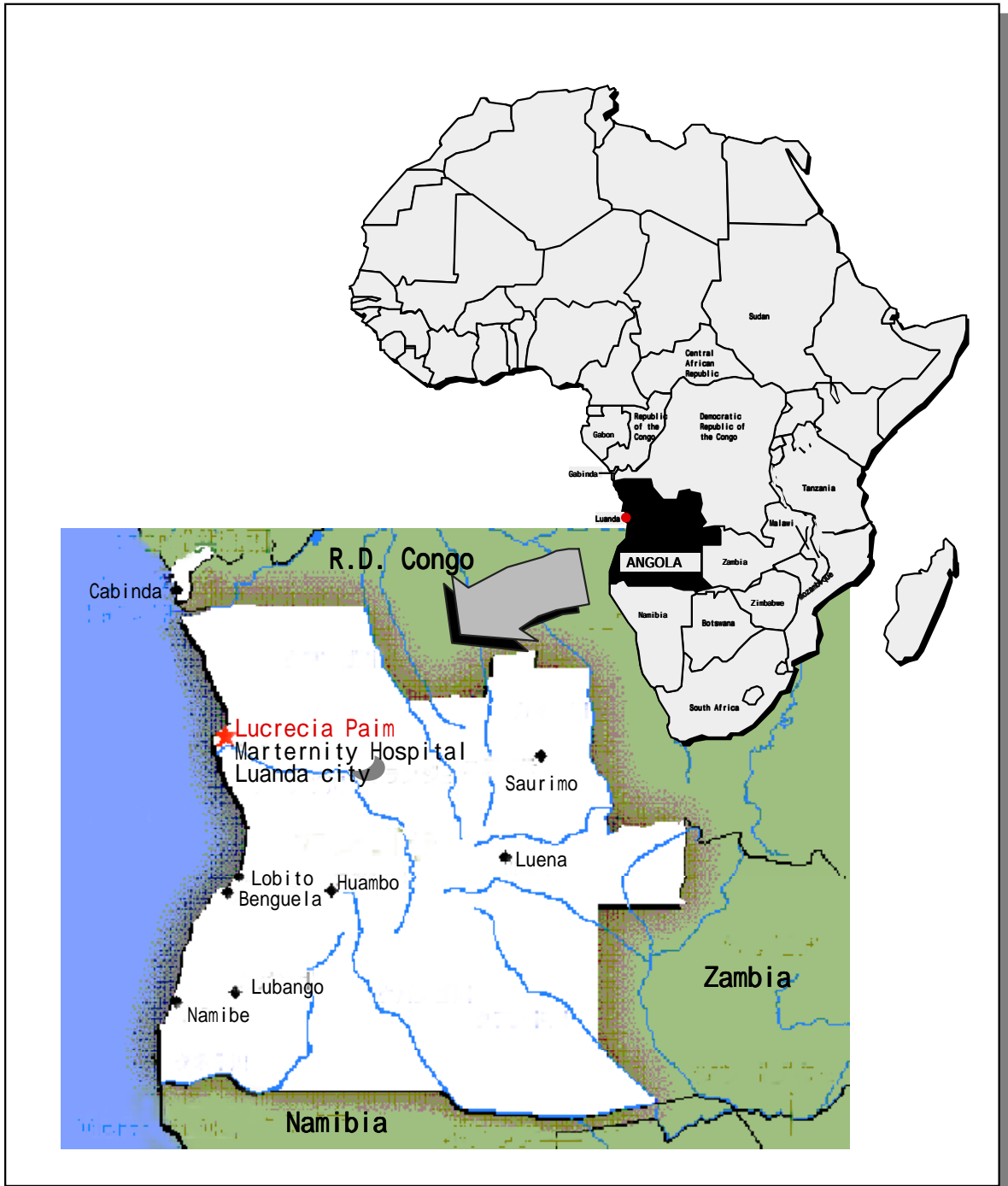
This study was conducted by Binko Ltd., under a contract to JICA, during the period from December 20, 1999 to March 31, 2000. In conducting the study, we have examined the feasibility and rationale of the project with due consideration to the present situation of Angola and formulated the most appropriate basic design for the project under Japan's grant aid scheme.

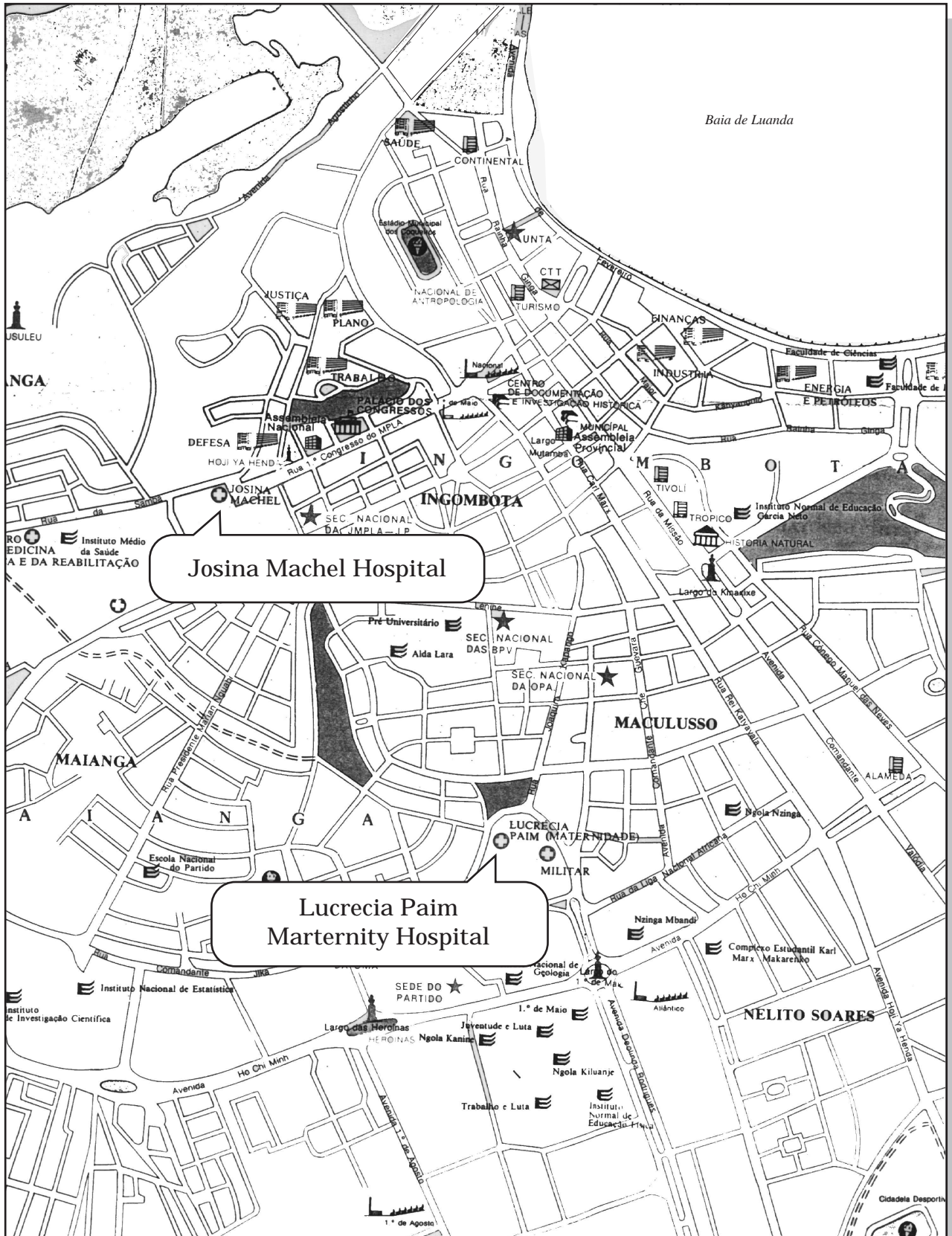
Finally, we hope that this report will contribute to further promotion of the project.

Very truly yours,

Nakajima Tatsuro  
Project manager,  
Basic design study team on the project  
for Improvement of Medical Equipment  
for Lucrecia Paim Maternity Hospital  
in the Republic of Angola,  
BINKO Ltd.

# The Republic of Angola





Josina Machel Hospital

Lucrecia Paim Marternity Hospital

## ABBREVIATIONS

A / P	Authorization to Pay
E / N	Exchange of Notes
JICA	Japan International Cooperation Agency
PHC	Primary Health Care
BHN	Basic Human Needs
DAC	Development Assistance Committee
LDC	Least Developed Countries
MOH	Ministry of Health
GDP	Gross Domestic Products
GNP	Gross National Product
IOM	International Organization for Migration
ICRC	International Committee of the Red Cross
NGO	Non Governmental Organization
SIDA	Swedish International Development Cooperation Agency
FNLA	National Front for the Liberation of Angola
MPLA	Movimento Popular de Libertao de Angola
MONUA	United Nations Observer Mission in Angola
UNITA	Uniao Nacional para a Independencia Total de Angola
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNHCR	Office of the United Nations High Commissioner For Refugees
UNICEF	United Nations International Children's Fund
WHO	World Health Organization
WFP	World Food Program
ECG	Electrocardiograph
ICU	Intensive Care Unit
OHP	Over Head Projector
AVR	Automatic Voltage Regulator
KVA	Kilo Volt Ampere

## CONTENTS

Preface	
Letter of Transmittal	
Location Map / Perspective	
Abbreviations	
Chapter 1 Background of the Request .....	1
Chapter 2 Contents of the Project .....	3
2-1 Objectives of the Project.....	3
2-2 Basic Concept of the Project.....	3
2-3 Basic Design.....	4
2-3-1 Design Concept.....	4
2-3-2 Basic Design.....	7
Chapter 3 Implementation Plan .....	36
3-1 Implementation Plan.....	36
3-1-1 Implementation Concept.....	36
3-1-2 Implementation Conditions.....	38
3-1-3 Scope of Works.....	38
3-1-4 Consultant Supervision .....	39
3-1-5 Procurement Plan.....	40
3-1-6 Implementation Schedule.....	41
3-1-7 Obligations of Recipient Country.....	43
3-1-8 Implementation System of the project.....	44
3-2 Operation and Maintenance Plan.....	48
Chapter 4 Project Evaluation and Recommendations .....	49
4-1 Project Effect.....	49
4-2 Recommendation .....	51

## **【Appendices】**

1. Member List of the Survey Team
2. Survey Schedule
3. List of Participants
4. Minutes of Discussion



## **Chapter 1. Background of the Request**

## CHAPTER 1 BACKGROUND OF THE REQUEST

The Republic of Angola, located in the southwestern part of Africa, has a surface area of approximately 1.25 million km<sup>2</sup> and a population of approximately 11 millions (estimation in 1996). After independence of Angola from Portugal in 1975, a war state continued among the 3 parties of Angolan government (MPLA: People's Movement for Liberation of Angola), UNITA (National League for Total Independence of Angola) and FNLA (National Front for Liberation of Angola). After defeat of FNLA in 1976, the civil war further intensified between the government supported by the Soviet Union and Cuba, and UNITA supported by the United States and South Africa. In May 1991, a comprehensive agreement on peace in Angola was signed between the parties with an intermediary of the United Nations. In September 1992, presidential election and parliamentary election were held under the supervision of the United Nations, but UNITA, dissatisfied with the results of the elections, resorted to armed force, thus reopening a civil war. After that, from November 1993, peace negotiations were started again, and a cease-fire was reached with a signing of Lusaka Protocol in November 1994. In April 1997, the Government of Unity and National Reconciliation was established. However the United Nations Security Council resolved upon sanctions to Angola due to UNITA's default of obligations under the peace agreement. Consequently, the peace process has been standstill on its progress.

Under such political situation, the health and medical services of this country were seriously damaged. Many medical facilities came to lack in medical personnel, medical equipment, pharmaceuticals, etc. because of continued civil war and reduction of the government's expenditure for health and medical services. It resulted in constant deterioration of health and medical services. For that reason, the health and medical situation in Angola is now among the worst in the sub-Saharan Africa. It is indicated in infant mortality rate of 170/1000 births and maternal mortality rate of 1,500/100,000 births (against the average figures in developing countries of 66 and 470 respectively).

Under such situation, the Angolan Ministry of Health elaborated a

provisional national health plan in 1996. Inadequacy of health and medical facilities, shortage and drop of technical level of medical staff, backwardness of maternity health and medical services, etc. were pointed out as the important issues necessary for imminent resolution.

The government elaborated a plan for restoring the essential functions of Lucrecia Paim Maternity Hospital and requested Japan for a grant aid intended for procurement of medical equipment for the hospital. Lucrecia Paim Maternity Hospital is a leading facility of maternity health service located in the central part of the capital Luanda and also an educational hospital of personnel engaged in maternity medical services in Angola.

## **Chapter 2. Contents of the Project**

## **CHAPTER 2 CONTENTS OF THE PROJECT**

### **2-1 Objectives of the Project**

This project is elaborated for the Lucrecia Paim Maternity Hospital, which fulfils its role as the leading facility for maternity health in Angola. The project aims at restoring the function of its medical services and medical education concerning maternity health, by procuring medical equipment required for basic medical services.

It is expected to contribute smooth operation of maternal health activities in Angola and decrease the maternal and infant mortality rates. It intends to establish systematic and effective system for maternal health service by improvement of medical equipment in the hospital.

### **2-2 Basic Concept of the Project**

The entire concept of this project is to attain the objectives as above mentioned, by improving the equipment of Lucrecia Paim Maternity Hospital. The design policy of this project is as follows.

- The equipment procurement plan will be elaborated with due regard to the mandatory medical services to be extended by the hospital after implementation of this project.
- Contents and scale of the project will be set up, based on the operation and maintenance capability of the hospital (budget, personnel and technical level). It gives priority to renewal of the deteriorated equipment which requires urgent provision and supplementation of the equipment which is quantitatively in short.
- Such equipment that the renovation of the hospital facilities

is necessary for its installation, is given low priority in this equipment procurement plan considering the financial and technical bearing capacity of Angola side.

- Design will be made at high priority in this project on restoring the function of delivery room, operating theatre and ICU department.
- The equipment will be procured avoiding overlap with the equipment purchased under the Presidential Fund of 1996.
- Procurement from the third countries (neighbor countries) such as South Africa will also be considered with due regards to the aspects of operation and maintenance of the equipment.

## **2-3 Basic Design**

### 2-3-1 Design Concept

#### (1) Design policies for current conditions of the hospital

- 1) Equipment to be procured is restricted to those directly used for medical services, and shall be renewal of the deteriorated equipment and supplementation of the equipment quantitatively in short.
- 2) Equipment to be procured shall enable the hospital to fulfill the proper function as top referral maternity hospital.
- 3) Procurement design should be made with due regards to swift and systematic execution of medical services by the hospital (diagnosis, examination and treatment). Additionally, for selection of equipment used for clinical examination such as image diagnosis and laboratory

examination, it shall be made within a scope of diagnosis currently provided by the hospital.

4) It should be considered their function as educational hospital for development of human resources.

5) It was confirmed that those mentioned in the following table were overlapped with the equipment procured for the hospital under the Presidential Fund of 1996.

In terms of these equipment, the current situation should be confirmed and the design shall be made in avoiding overlap of equipment.

Equipment	Presidential Fund	Requested for this Project	
Mobile X-ray Unit (125KW-5KV)	1	1	(M-056)
Operating Light, portable-type	6	3	(M-002)
Autoclave, vertical	2	2	(M-007/168)
Oxygen Flow Meter	15	15	(M-047/111/154)
Anesthesia Apparatus with Ventilator	2	3	(M-006)
Universal Operating Table	2	3	(M-003)
Instrument Set for Gynecology	2	12	(M-014)
Instrument Set for Obstetrics	2		
Infant Incubator	4	6	(M-032)
Ultrasound Diagnostic Equipment	1	3	(M-080/112/157)
Amnioscope	2	1	(M-114)
Colposcope with TV-monitor	1	1	(M-064)
Patient Monitor, bed-side type	2	9	(M-009/031/161)

(2) Design policies for financial analysis

1) The scale of the project should be within a manageable scope of the current operating capacity of the hospital. It also secures the development prospects from both the

financial and technical viewpoints.

- 2) In terms of cost-effectiveness, the running cost of the equipment to be procured should be within a manageable amount by the hospital and the Ministry of Health.

(3) Design policies for infrastructures and natural conditions

- 1) The equipment to be procured shall have performances resistant to the natural conditions such as climate of Angola.
- 2) For the ICU room, where such equipment as ventilator and incubator are used and electric power is continuously required, the design should be made, considering the capacity of the existing power generator, so that those equipment can be operated in case of voltage drop or power failure.

(4) Design policies for equipment procurement

- 1) Provision of minimum required consumables and spare parts needed for the operation of the equipment to be procured at early stage should be included.
- 2) For procurement of the equipment from Japan and the third countries, confirmation shall be made on that the medical staff in Angola is thoroughly informed of the equipment operation through many years of experience and that maintenance and products support system offered by the local agents is available.
- 3) Rational methods of equipment installation shall be taken to minimize the workload to be borne by the recipient country.

(5) Design policies for environmental problems

- 1) The design should be made to avoid negative influences on



inhabitants in the region due to environmental pollution or change of ecosystem, considering the radioactivity and medical wastes from the equipment such as X-ray system and clinical examination.

- 2) Non-Freon gas standards are to be regarded for introduction of medical refrigerator.

(6) Design policies in respect of operation and maintenance for the equipment

- 1) The equipment shall be procured under the present condition regarding capacity of operation and maintenance for the equipment.
- 2) The running costs of the equipment shall be appropriated in the budget of the hospital.
- 3) In principle, the operation manuals for the equipment to be procured shall be prepared in Portuguese language.

(7) Design policies in respect of work period

- 1) The work period for implementation of this project should be within the fiscal year after conclusion of the Exchange of Notes.

## 2-3-2 Basic Design

(1) Overall plan

Most of those equipment are renewal of the existing equipment. Therefore, preparation work for equipment installation at the hospital should be covered by Angola side. The equipment is requested to install or set in the designated room on the following

conditions.

Equipment to be Procured	Prerequisite of the facilities for installation
Operating Light	These are renewal of the existing equipment. The facilities are suitable for installation. (ceiling height, installing space and electric capacity)
ECG	Preparation of a quiet room is necessary, because the equipment is sensible to vibration and noise.
Equipment to be provided in ICU	Countermeasures for power stoppage are necessary for anesthesia and ventilator. It is necessary to confirm that emergency power source is existing.
Equipment for Clinical Examination	The project hospital has a detached clinical laboratory. The facilities are suitable for installation of the equipment.
Autoclave	2 units for theatre: These are renewal of the existing equipment. The facilities are suitable for installation. (water and electricity supply)  1 unit for emergency room: The facilities are suitable for installation as a result of renovation by SIDA. (installing space, water supply, drainage, electric capacity, etc.)
Ultrasound Diagnostic Equipment	1 unit each for gynecology outpatient dept., gynecology ward and emergency room:  Preparation of quiet rooms are necessary. Renovation work according to the blueprint and the equipment list of "Bill of Quantities" are necessary.
Film Processor	A set of manual film processor is procured. The facilities are suitable for installation as a result of renovation by SIDA. (installing space, water supply, drainage and electric capacity)
Equipment for Laundry	These are renewal of the existing equipment in laundry room, such as washing machine, extractor machine, drying tumbler and electric press machine. While there is no problem with facilities such as installing space and electric capacity, the laundry building is old and infrastructures (floor, wall, window, roof, electric wiring, water supply and drainage) are superannuated. This project is planned including renovation of the room and so as to avoid interference for equipment installation.
UV-Hand Scrub Unit	UV-hand scrub unit is disposed in order to secure antiseptic clean water. As countermeasure for frequent suspension of water supply, system which enables constant use of water in theatre, delivery room and emergency room by pumping up water from a cistern, is designed under this project.

(2) Equipment procurement plan

The equipment to be procured was selected according to the criteria listed below; "Basic Criteria for giving High/Low Priority" and "Additional Criteria". The result of examination is shown in the following table 2-1. And the list of main equipment to be procured is mentioned for each department as follows.

1) Operating Theatre (new building)

Operating Light (ceiling type), Operating Light (portable type), Universal Operating Table, Anesthesia Apparatus with Ventilator, Defibrillator, Pulse Oximeter, Patient Monitor (bed side type), Vacuum Extractor, Autoclave (vertical), Hot Air Sterilizer, Ultrasonic Cleaner, UV-Hand Scrub Unit, etc.

2) ICU • Recovery Room (new building)

ICU: Patient Monitor (bed side type), Suction Unit, Defibrillator, Artificial Ventilator, Pulse Oximeter, ECG 1-channel, etc.

Recovery Room: Infant Incubator, Infant Ventilator, Neonate Monitor, Infant Care Unit, Infant Warmer, Phototherapy Unit, etc.

3) Radiology Department (new building)

Mobile X-ray Unit, Dark Room Equipment

4) Obstetrics Outpatient Department (family planning building)

Gynecological Examining Table, Examining Light, Doppler Fetal Detector, Pelvimeter, Baby Head Measure, Film Viewer, etc. for Examination Room, and Ultrasound Diagnostic Equipment for detecting malformation of fetus

5) Pediatrics Outpatient Department (family planning building)

Infant Weighing Scale, Infant Examining Table

- 6) Gynecology Outpatient Department (old building)  
Gynecological Examining Table, Instrument Table, Suction Unit, Sphygmomanometer with stand, Colposcope with TV monitor, etc.
- 7) Neonatology Department (new building)  
Bassinet Cart, Refrigerator for Breast Feeding Room
- 8) Delivery Department (new building)  
Delivery Bed, Cardiotochograph, Examining Light, Vacuum Extractor, Boiling Sterilizer, etc.
- 9) Post Operation Ward (new building, 3F, 53 beds)  
Gynecological Examining Table, Examining Light, Patient Bed, etc.
- 10) Complicated Postpartum (new building, 5F, 33 beds)  
Gynecological Examining Table, Examining Light, Patient Bed, etc.
- 11) Complicated Pregnancy Department (new building, 6F, 50 beds)  
Gynecological Examining Table, Examining Light, Ultrasound Diagnostic Equipment, Amnioscope, Patient Bed, etc.
- 12) Postpartum and Gynecology Department (new building, 7F, 45 beds)  
Gynecological Examining Table, Examining Light, Wheel Chair, Patient Bed, etc.
- 13) Emergency Department (new building)  
Ultrasound Diagnostic Equipment, Cardiotochograph, Defibrillator, Autoclave, Labor Bed, etc.
- 14) Clinical Laboratory (new building, family planning building)  
Spectrophotometer, Binocular Microscope, Centrifuge, Water Distillation Apparatus, Refrigerator for Medical Use, Blood

Bank Refrigerator, Blood Cell Counter, Water Bath, Bilirubin Meter, etc.

15) Laundry Room (laundry building)

Improvement of hospital laundry room including repairing works for the laundry building is planned under this project. The following equipment is planned to be renewed.

Washing Machine, Extractor Machine, Drying Tumbler, Electric Press Machine

Besides, the following equipments are eliminated from this procurement plan, while they are included in the initial list of requested equipment.

1) Elevator

This hospital is a high-rise building of 8 stories above ground, accordingly, facilities of elevator are inevitable for daily medical activities and move of patients. Three elevators have been installed for both people and freight. While two of those are in active service, both are very much deteriorated. Renewal of the equipment is admitted in its necessity and urgency in view of current situation. However, safety in use of the equipment is difficult to be secured due to operation and maintenance problems, further, presence of local agent in Angola worth relying for its installation and maintenance capability was not confirmed. Therefore, it is eliminated from this project.

2) Ambulance

In recent years, transfer of patients has been made more smoothly than it used to be. This is a top referral maternity hospital and ambulances are necessary measures for transfer of patients from the lower referral hospitals. However, it is eliminated from this project because it was confirmed that ambulances are also used for other than transfer of patients.

3) Universal X-ray system, fluoroscopic diagnosis

Only mobile X-ray unit is employed in this hospital and used for diagnosis of membrum fracture and thoracic X-ray cinematography. For the universal X-ray system, the request was made for enabling the hospital of such gynecological diagnosis as hysterosalpingography and examination of uterus and uterine tube, which services have been entrusted thus far to public general hospitals such as Americo Boavida Hospital and Josina Machel Hospital.

There are no adequate facilities in the hospital for installation of this system, where radiation leakage defense measures are sufficient. If this system is installed, set-up of X-ray room and subsequent renovation work of the room should be necessary for radiation defense measures. Therefore, it is eliminated from this project.

Criteria for equipment to be procured are as follows and the result of examination for the each requested equipment is shown in the table 2-1.

[Basic Criteria for giving High Priority and Low Priority]

#### 1. High Priority

- (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. Low Priority

- (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 for medical usage).
- (9) Equipment that has more than minimum required quantity (inefficient, overlapped equipment).

[Additional Criteria for considering recipient condition]

## 1. High Priority

- (1) Equipment that can be operated by hospital's current technical capabilities.
- (2) Equipment that can be operated/maintained by hospital staff including technicians of a local agent etc., consigned for its operation/maintenance.
- (3) Equipment that matches with hospital's social position/function (referral system, local needs).
- (4) Equipment that can be expected its usefulness also in collaboration with other donor's assistance.

## 2. Low Priority

- (1) Equipment that is difficult to locally procure its spare parts and consumables.
- (2) Equipment that cannot be operated by hospital's current technical capability.
- (3) Equipment that cannot be operated/maintained by hospital staff.

- (4) Equipment that does not match with hospital's social position/function (referral system, local needs).
- (5) Equipment that requires large scale of infrastructure work (water, electricity supply, drainage, etc.) for its installation.
- (6) Equipment that can be substituted by efficient usage of existing equipment.

[Criteria for International Standard]

For the equipment for which international standards are established, such as X-ray apparatus, a model that applies to WHO standards will be selected in each case.

Selection of equipment was made by above-mentioned procedure and the result was shown as follows.

Comprehensive evaluation:

.....Acceptable

x .....Not acceptable

Quantity .....Number of the equipment to be procured











No.	Description	Quantity Requested	Basic Criteria														Additional Criteria										Result										
			Criteria for giving High Priority							Criteria for giving Low Priority							Criteria for giving High Priority					Criteria for giving Low Priority					Supplement	Re newal	New	Priority listd in Minutes			Evaluation	Quantity planned			
			1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	1	2	3	4	1	2	3	4	5	6				A	B	C			
M-169	Ultrasonic Cleaner	1																														1	0	0	○		1
M-170	Transfer Cart	2	○																○													2	0	0	○		2
M-171	Storing Cabinet	3	○	○															○	○												3	0	0	○		3
M-172	Dressing and Instrument Container	8	○	○	○														○	○	○											8	0	0	○		8
M-173	Dressing Drum (3-Kinds)	8	○	○	○														○	○	○											8	0	0	○		8
	<b>Hospital Laundry</b>																																		○		
M-174	Washing Machine (Large)	3	○	○	○														○	○	○											0	3	0	○		3
M-175	Washing Machine (Small)	1	○	○	○														○	○	○											0	1	0	○		1
M-176	Extractor Machine	2	○	○	○														○	○	○											0	2	0	○		2
M-177	Drying Tumbler	2	○	○	○														○	○	○											0	2	0	○		2
M-178	Electric Press Machine	2	○	○	○														○	○	○											0	2	0	○		2
M-179	Linen Supply Trolley	3	○	○	○														○	○	○											0	3	0	○		3
M-180	Laundry Cart	3	○	○	○														○	○	○											0	3	0	○		3
	<b>All Department, Other</b>																																		○		
M-181	Service tool set for maintenance	1																												○		0	1	0	○		1
M-182	Mortuary refrigerator	1																														1	0	0	○	x	-
M-183	Gyneco / Obstetrics Phantom )	1	○	○	○														○	○	○											1	0	0	○		1
M-184	Incinerator	1	○	○	○														○	○	○											1	0	0	○		1
M-185	Mattress	100	○	○	○														○	○	○											1	0	0	○		100
M-186	UV-Hand Scrub Unit	3																											○						○		3

1) Distribution Plan of equipment

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

**Table 2-2 Request and final allocation of equipment**

	Final Request	In the Minutes of Discussion for B/D (with priority)			Final Quantity (by analysis in Japan)
		A	B	C	
Operating Theatre	28 types ( 122 pcs)	86 pcs	24 pcs	12 pcs	27 types ( 100 pcs)
ICU	27 " ( 113 " )	108 "	5 "	0 "	27 " ( 108 " )
Radiology	4 " ( 4 " )	0 "	4 "	0 "	3 " ( 3 " )
Gyn/Obs/Infant	21 " ( 98 " )	88 "	5 "	5 "	19 " ( 88 " )
Delivery Room	15 " ( 76 " )	76 "	0 "	0 "	15 " ( 76 " )
Ward	19 " ( 133 " )	131 "	1 "	1 "	19 " ( 132 " )
Laboratory	19 " ( 40 " )	37 "	3 "	0 "	18 " ( 39 " )
Breast Feeding Room	4 " ( 4 " )	4 "	0 "	0 "	1 " ( 1 " )
Emergency Room	36 " ( 130 " )	117 "	0 "	13 "	33 " ( 121 " )
1)Emergency Observation	13 " ( 51 " )	38 "	0 "	13 "	10 " ( 42 " )
2)Emergency Rm.	8 " ( 43 " )	43 "	0 "	0 "	8 " ( 43 " )
3)Resuscitation Rm.	9 " ( 13 " )	13 "	0 "	0 "	9 " ( 13 " )
4)Starilization Rm.	6 " ( 23 " )	23 "	0 "	0 "	6 " ( 23 " )
Hospital Laundry	7 " ( 16 " )	0 "	16 "	0 "	7 " ( 16 " )
All Dept., Others	4 ( 4 " )	3 "	1 "	0 "	5 " ( 106 " )
Sub Total	184 types ( 740 pcs)	650 pcs	59 pcs	31 pcs	174 types ( 790 pcs)



No.	Description	Quantity														Total Quantity
		Operating Theatre	ICU	Radiology	Gyneco / Obstetrics, Infant	Delivery Room	Ward	Laboratory	Breast Feeding Room	Emergency Observation	Emergency Room	Emergency Resuscitation	Hospital Sterilization Room	All Department Laundry	All Department, Other	
52	Doppler Fetal Detector			3	2											5
53	Cusco's Vaginal Speculum 3-Kinds (L,M,S)			30	15											45
54	Pelvimeter			3												3
55	Baby Head Measure			3												3
56	Hi-Low stretcher			3	4				6	1						14
57	Wheel Chair			5	4											9
58	Infant Weighing Scale			1												1
59	Infant Examining Table			3												3
60	Scale, Adult			2	1											3
61	Weight Scale, Adult			2	2											4
62	Ultrasound Diagnostic Equipment			1	1				1							3
63	Delivery Bed				5											5
64	Cardiotachograph				5											5
65	Aspiration Instrument for Newborns				1											1
66	Infant Transport Incubator				1											1
67	Instrument set for Delivery				20				6							26
68	Kick Buckets				5				4	4						13
69	Doctor's Chair				5				4							9
70	Boiling Sterilizer				2		2									4
71	Bassinet Cart						20									20
72	Patient Bed (B type)						20									20
73	Bedside Cabinet						20									20
74	Amnioscope						1									1
75	Spectrophotometer							3								3
76	Binocular Microscope							6								6
77	Centrifuge							2								2
78	Hematocrit Centrifuge							2								2
79	Water Distillation Apparatus							1								1
80	Refrigerator for Medical use							2								2
81	Blood Bank Refrigerator							1								1
82	Blood Cell Counter							4								4
83	Water Bath							2								2
84	Vortex Mixer							1								1
85	Pipette Washer							4								4
86	Micro pipette							4								4
87	Urometer							1								1
88	Urinary Sediment Meter							1								1
89	Glassware set							1								1
90	Bilirubin Meter							1								1
91	Refrigerator for Artificial Breast Milk								1							1
92	Labour Bed								4							4
93	Partition									11						11
94	Washing Machine (Large)												3			3
95	Washing Machine (Small)												1			1
96	Extractor Machine												2			2
97	Drying Tumbler												2			2
98	Electric Press Machine												2			2
99	Linen Supply Trolley												3			3
100	Laundry Cart												3			3
101	Service tool set for maintenance													1		1
102	Educational Equipment													1		1
103	Incinerator													1		1
104	Mattress													100		100
105	UV-Hand Scrub Unit													3		3
	Total	100	108	3	88	76	132	39	1	42	43	13	23	16	106	790



## 2) Specification of major equipment

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

Table 2-4 Specification of major Equipment

Description	Short Specification	Usage	Quantity
Operating Light (ceiling type)	Type: Ceiling Combination Type, Shadowless type Light Head : approx. main 8 bulbs + 4 bulbs Light Intensity : approx. Total 200,000Lux	It is a lighting apparatus for operation that has a shade-free and heatless light for illuminating the operated portion with a combination of main lamp and auxiliary lamp.	2
Universal Operating Table	Oil-Hydraulic Universal Operation Table Table top : approx. 2000(L)x600(W)mm Elevation Range : approx. 700-1000mm Trendelenburg /Reverse Trendelenburg : approx. 25° Lateral Tilt : approx. 20° STD accessories for Gyn/Obs and traction unit	It is a table for safe operation which enables to incline the body to right and left or front and back.	3
Anesthesia Apparatus with Ventilator	Anesthesia Apparatus : Flowmeter Calibrated : O <sub>2</sub> , N <sub>2</sub> O Air Vaporizer : 2 (incl. Halothan) Control Device : Minimum O <sub>2</sub> Concentration approx. 0% Automatic N <sub>2</sub> O Cut-Off according to O <sub>2</sub> supply pressure and O <sub>2</sub> flow Ventilator : Time Cycle Volume Limited Type Tidal Volume : approx. 200-900ml Safety Alarm System : provided	This system is used for performing an operation in a painless state by making the patient lose consciousness with general anesthesia by using an inhaled anesthetic. Respiration control is also made with the attached ventilator.	3
Autoclave (Vertical)	Type ; Autoclave, sliding door. Capacity ; approx. 150 lit. Provided : Water softener or deionizer Steam Generator	It sterilizes operation wears and operating instruments with high-pressure steam.	3
Electrosurgical Unit	Output mode: Cutting, Coagulation, Blend & Bipolar Floating system, microprocessor control, digital indications Cutting: 250W or more Coagulation: 0 ~ 130W Blend: 0 ~ 220W or more Bipolar: 50W (100 ohm load) Power supply: AC220V, 50Hz. Foot Switch: provided Safety device: provided STDs Accessories including reusable patient plate	It is an operating apparatus for performing incision (haemostatic incision) and solidification of living tissue.	1
UV Hand Scrub Unit	Sterilizing Method: Filter & Sterilizing lump with sink, Floor standing type Water Flow Capacity: 14L/min Shower head : for two persons Safety device: provided	It is a device for supplying hygienic water to wash hands before operation. It sterilizes city water by an ultraviolet ray lamp. It prevents infection during operation by washing of hands with sterilized water.	3
Patient Monitor (Bed side type)	Display: 7-inch, 2-trace Waveforms : ECG, Respiration Wave Numerics: Pulse Rate, Respiration Rate, SpO <sub>2</sub> , Temperature Provided : alarms for ECG, SpO <sub>2</sub> Printer (built-in type) Battery, Cart.	It is a device used for continuous monitoring vital signs of a patient with serious disease or after operation. It monitors and records basic vital signs such as respiration, blood pressure, heart beat, body temperature, etc. continuously for 24 hours.	8
Artificial Ventilator	Electric ventilator for Adult & Child Motor driven type Tidal volume: approx. 50~1200ml Breathing frequency: 6~40 times/min. I/E rate: approx. 1:0.5~1:5 Air compressor Alarm device: high/low pressure, APNEA, Oxygen pressure, Power system failure Nebulizer: Built-in type Stand with casters Power supply: AC220, 50Hz.	It is used for spontaneous respiration support for a patient with serious disease or after operation. It is also used for regulating respiration of a patient requiring forced respiration.	3
Mobile X-ray Unit	Mobile X-ray Unit X-ray Tube Voltage : 150KV X-ray Tube Current : 100mA Generator : Inverter Type	It is a movable X-ray unit used for taking radiograph of patient who cannot move. A high-voltage equipment and X-ray tube system are mounted on a cart.	1

Description	Short Specification	Usage	Quantity
Defibrillator	Defibrillator/ECG monitor/Printer Portable type, AC/DC operation Output : manual setting between 0 and 360J Electrode: external only for adult & child Charging time: approx. 15 sec. Power supply: AC220V(450VA), Battery: Rechargeable Provided with trolley	It is an apparatus for recovering the essential rhythm of the heart It applies electric stimulus, against ventricular fibrillation which appears most frequently among cases of cardiac standstill.	3
Laparotomy Instrument Set	Surgical instruments for laparotomy(Gynecology) Instrument set ; approx. 50 various kinds	It is a complete set of instruments for performing abdominal section at the time of an operation in obstetrics and gynecology.	6
Instrument Set for Gyn/Obs	General surgical instruments for gynecology and obstetrics Instrument set ; approx. 50 various kinds	It is a complete set of instruments for performing operations in obstetrics and gynecology such as caesarean section, panhysterectomy, etc.	12
Infant Incubator	Control mode: manual control Skin temperature setting : Manual control approx.30-40°C adjustable Incubator temperature control : Manual approx. 20-40°C adjustable Safety device provided Oxygen overflow prevention Over temperature prevention Humidity control:provided	It controls temperature and humidity depending on the state of a newborn baby.	6
Neonate Monitor	Neonatal Monitor : Monitors : ECG, Cardiac Rate, Respiration Wave, Respiration Rate Pulse, SpO2, BP, Temperature Alarms : High-Low limit (Cardiac Rate, Respiration Rate), Apnea Trends : Provided	It constantly monitors respiration, cardiac rate and the other vital signs of newborn baby.	2
Infant Ventilator	Composition: main unit with humidifier & oxygen blender Tidal volume: 0 to 900 ml Breathing frequency: upto 180 bpm Inspiratory flow rate: 3 to 40 lit./min. approx. Safety device : upper/lower pressure limited, negative pressure, reversed I/E ratio power failure Compressor:provided Power supply: AC220V, 50 Hz.	It is an artificial respirator adaptable to quick respiration of premature baby, newborn baby & infant which is used for supporting spontaneous respiration. It is also used for infants having difficulty in spontaneous respiration.	2
Infant Warmer	For infant care Illumination: two Fl. Lamps IC inverter type Warm-up timer: 0~30min. or more Control device: Servo/Manual control Function: Temperature/Q'ty of heat [adjustable] Alarm device: provided (for body temperature) STD accessories: provided, mattress, lamps, casters	It is used for warming new borns. It is used for dressing or the other procedure immediately after delivery or when needed.	2
Infant Care Unit	Neonatal Care Unit with warming unit Function: automated measuring weight/height Warming unit: Heat unit;far-infrared ray heater Function: Temperature/Q'ty of heat [adjustable],manual control Casters with brake Power supply: AC220V, 50Hz.	It is a table used for dressing or the other procedure of newborn baby after delivery. It can measure weight, height, etc. of infants.	2
Ultrasound Diagnostic Equipment	Scanning Method : Convex or Combination of Linear and Sector Display Modes : B, B/B, M, B/M mode Display : 12-inch or more. Stand with casters Accurate within a temperature 10-40°C and 95% relative humidity. Tranducer : Convex Sector Probe for Gyn/Obs abdomen Linear Sector probe for vaginal Thermal Printer (black and white) Power supply: AC220V, 50Hz. with AVR	It is used for ultrasound examination of abdominal and retroproductive organs. It is used for wide range examination including early pregnancy and fetus status. At least 12 inches monitor will be mounted for easy observation.	3

Description	Short Specification	Usage	Quantity
Colposcope with TV Monitor	For Gynecologic care 3-objective lens system Total observation magnification; apprx. 8x or more Tilt & inclination angle ; approx. 10° & 45° Light source: Halogen lamp STD accessories: TV Monitor	This system is designed to observe and diagnose uterus and vagina in expanded stereoscopic view. It is capable of detection in early period of uterine cancer, expanded observation of a change to morbid state of vaginal wall, etc.	1
Cardiotocograph	Measuring items: Fetal heart beat(for childbirth) Method: Pulse doppler Input mode: Ultrasound doppler 1.1 Mhz. Measuring range of beatrythm: approx. 50~210 bpm Printer: provided Power supply: AC220V, 50Hz	It is a system for monitoring state of mother and fetus prior to delivery. It is used for monitoring contraction status in delivery, threaten abortion or premature delivery.	5
Spectrophotometer	Wavelength range : 330nm-900nm or more Measurement procedures : Kinetic rate, Endpoint, Reagent blank, Strum blank Calibration : Single point/multi point Cell : Flow cell Temperature : 30, 37°C, ambient Output : Display / printer	It is equipment for biochemical laboratory examination. The performance will be up to about 200 tests/day (for 10 items, 20 samples each). It will be adaptable to the following analytical methods: End-point method, kinetic rate method and multistandard calibration. Reagents will be widely available type in Angola.	3
Washing Machine (Large)	Washing Capacity : appr.30Kg	It washes the sheets of inpatients for 400 beds, white frocks or operation wears for medical personnel. It is important to prevent infection. Washing capacity will be approximately 30kg.	3
Washing Machine (Small)	Washing Capacity : appr. 20Kg	It is mainly used for hospital washings for out patient dep., emergency dep. and theater dep. Washing capacity will be approximately 20kg.	1
Extractor Machine	Dry Weight Capacity : appr.20Kg	It is a dehydrator for the laundry. Dry weight capacity will be approximately 20kg.	2
Drying Tumbler	Dry Weight Capacity : appr. 20Kg	It is a dryer for the laundry such as operation wears, pre-sterilization before high pressure steam sterilization. Dry weight capacity will be approximately 20kg.	2
Incinerator	Oil burn Type Capacity : 50 kg	It is used for incinerating wastes produced in the hospital. Capable of burning maternity hospital wastes like placenta .	1

3) Current status of the existing equipment and the expected effect by implementation of this project.

Present situation of Lucrecia Paim Maternity Hospital and the expected effect due to the equipment to be procured under this project are shown in the following table 2-5.

Table 2-5 Present Situation and Expected Effect After Implementation of the Project

	Department	Room	Floor	Function, etc.	Situation of Existing Equipment	Equipment to be Procured	Expected Effect of the Project	
New Building 8 Stories above ground 1 basement	Pharmacy		1B	Purchases pharmaceutical products based on prescriptions. Deleterious substances, poisonous medicines and psychotropic drugs are controlled by the Director of Diagnostic Div.	Drug Cabinet(12) Refrigerator	None		
	Staff Services	Kitchen	1B	Prepares meals for hospital staff	Out-door Butane Gas Cylinder (1500L)	None		
	Clinical Laboratory	Clinical Laboratory	GF	Family Planning	Biochemistry (10-30 samples/day) 8 items (GLU, BUN, CREA, GOT/GPT, T-Bili, D-Bili, UA) Hematology (40-50 samples/day) Leukocyte Differential, Malaria, ESR, Hb, HCT, WBC/RBC, PLT The Other (15 samples/day) Urinary Sedimentation Urinary Protein Stool (Worm infestation, etc.)	Spectrophotometer(2) Binocular Microscope(5) Centrifuge(2) Blood Cell Counter(1) Broken Bed Side Clinical Biochemistry Analyzer(2)	Spectrophotometer(3), Binocular Microscope(6), Centrifuge(2), Heamatrit Centrifuge(2) Water Distillation Apparatus(1), Refrigerator for Medical Use(2), Blood Bank Refrigerator(1), Blood Cell Counter(4), Drying Oven(1), Water Bath(2), Vortex Mixer(1), Pipette Washer(4), Micro Pipette(4), Urometer(1), Urinary Sediment Meter(1), Glassware Set(1), Boiling Sterilizer(2), Bilirubin Meter(1)	Biochemical examination includes renal/hepatic function test and pregnancy urinary test. The others are haematology test, etc. Usually ordered samples are examined at least within a day. However when sample are many, it is impossible to proceed all samples within the day because of lack of equipments. The processing speed will be up by implementation of the project. At present there are 3 laboratories in the hospital. Suggest to unify the 3 laboratories to a central laboratory. Laboratory at 4F will be equipped by SIDA (refrigerator for medical use, centrifuge, microscope, reftron).
			4F					
			GF					
	Radiology	Radiology	GF	Chest X-ray Fracture, Tuberculosis, Respiratory Diseases	Mobile X-Ray Unit (President's Fund) Kept in Warehouse (Broken)	Mobile X-Ray Unit, (1), Manual Film Processor(1), Accessories for X-Ray Equipment(1)	Previously, 1 unit of mobile X-ray unit provided under funds of the President was in operation, but it is now out of order. The equipment will be renewed. It enables X-ray examination for fracture, tuberculosis, etc..	
	Emergency	Emergency Observation	GF	Emergency Labor Cases	Examining Table(4) I.V.Stand(2) Stethoscope Hot Air Sterilizer	Labour Bed(4) Examining Light(4), Instrument Set for Delivery(6), Suction Unit (5L)(4), Instrument Table(4), Kick Bucket(4), Sphygmomanometer with Stand(4), Doctor's Chair(4), I.V.Hanger(4), Stethoscope for Adult(4)	At present, the emergency section is not functioning well due to lack of equipment. This project aims to improve the emergency system of the hospital.	
		Emergency Room		Emergency for Gynecology, etc (Hemorrhage due to Cervical Cancer, etc)				
		Resuscitation Room		Patients in Serious Condition (Cerebral Malaria, Unconscious, etc)				
		Sterilization Room		Sterilization of Instruments and Equipments for Emergency Department				
Theatre	Major Theatre	1F	Caesarean Section - 8 cases/day Laparotomy - 2 cases/day Hysterectomy - 2 cases/day	Unusable because of fire due to leakage of electricity. Repair work started in February and expected to be completed at the end of March. Anesthesia Apparatus, Universal Operating Table, etc were lost by the fire.	Operating Light(Ceiling Type)(2), Operating Light(Portable Type)(1), Universal Operating Table(3), Suction Unit(5L)(3), Suction Unit(1L)(3), Anesthesia Apparatus with Ventilator(3), Electrosurgical Unit(1), Patient Monitor(Bed Side Type)(3), Endotracheal Set(3), Infusion Pump(2), Defibrillator(1), Laparotomy Instrument Set(6), Instrument Set for Gyn/Obs(12), Instrument Table(3), I.V.Hanger(6), Emergency Cart with Resuscitator Unit(1), Film Viewer(3), Instrument Cabinet(3), Pulse Oximeter(1), Transfer Cart(2), Storing Cabinet(3), Vacuum Extractor(1)	Post operative infection rate is as high as 70%. To reduce postoperative infection, SIDA is repairing the theater. It will finish in March. The repairing of medical equipment is not included in SIDA's project. Existing main medical equipment is operation light, operation table and anesthesia apparatus that are all deteriorated or broken. Under this situation, 10 laparotomy (including caesarean section) are daily conducted. Sterilization of all operation wear and instruments are managed by only 1 hot air sterilizer. The project aims to provide safety in operation and achieve reduction of postoperative infection by renewal or supplementation of the deteriorated equipment.		
			Artificial Abortion Intrauterine Contraception	Operating Light(Portable Type)(2 Head Type, 1 Head is not working) Universal Operating Table Suction Unit Anesthesia Apparatus with Ventilator I.V.Stand				
	Sterilization Room		Autoclave Broken Autoclave (Vertical)(2) Broken, Hot Air Sterilizer (3) Only 1 out of 3 is working. Indoor Aerosol Sterilizer Apparatus, Cast	Autoclave(150L)(2), Hot Air Sterilizer(1), Dressing and Instrument Container(15), Dressing Drum (3-Kinds)(15), Ultrasonic Cleaner(1)				

	Department	Room	Floor	Function, etc.	Situation of Existing Equipment	Equipment to be Procured	Expected Effect of the Project
New Building 8 Stories above ground 1 basement	ICU	ICU	1F	Patients after caesarean section : (2 rooms, 8 beds) Patients of infectious disease : (1 room, 4 beds)	Patient Bed I.V.Hanger Weight Scale Wheel Chair	Bed(8), ICU Bed(A Type)(4), Patient Monitor(Bed Side Type)(4), Suction Unit(5L)(4), Suction Unit(1L)(3), Infusion Pump(4), Defibrillator(1), Autoclave (Table Top)(1), Emergency Cart with Resuscitator Unit (1), Artificial Ventilator (2), I.V.Hanger(12), Pulse Oximeter(2), Oxygen Flow Meter(5), Stethoscope for Adult(10), Sphygmomanometer with Stand (10), ECG 1-Channel(1), Film Viewer(3), Ultrasonic Nebulizer(2), Medication Cart(3)	No ICU and only Recovery Room is available at present. To facilitate Intensive care unit is needed for reduction of postoperative infection. ICU and NICU function will be provided by the project.
		NICU			Currently Patient are taken care at the Neonatology.	Infant Incubator(6), Infant Monitor(2), Infant Ventilator(2), Infant Warmer(2), Phototherapy Unit(2), Infant Care Unit(2), Stethoscope for Infant(10), Oxygen Tent(Infant Oxygen Head Box)(2)	
	Neonatology	Incubator Room	2F	Premature Baby	Infant Incubator(21)	Bassinet Cart(20)	The incubators are sufficient in both condition and quantity, and are functioning normally. The cots are sufficient in number, but some of them are rather deteriorated. The deteriorated bassinet cart will be renewed.
		Bassinet Room		Neonate Disease	Bassinet Cart(27)		
		Dressing Room			Infant Care Unit Infant Weight Scale, (2) Suction Unit		
		Breast Feeding Room			Pan for Boiling Sterilization Pan/Mixer for Milk Mixture		
	Surgical Obstetrics	Surgical Obstetrics Ward	3F	Patients after Caesarean Section	Patient Bed, Wheel Chair(1), I.V.Hanger(3)	Gynecological Examining Table(2), Instrument Table(2), Examining Light(1), Cusco's Vaginal Speculum 3-Kinds (L,M,S)(4), Patient Bed(B Type)(5), Bedside Cabinet(5), Wheel Chair(1), I.V. Hanger(1), Sphygmomanometer with Stand(1), Stethoscope for Adult(1), Oxygen Flow Meter(1)	There are not enough equipment for necessary procedure in the dressing room. Moreover the most items including beds in the wards are also very old and dirty due to long time usage. It aims to supply enough medical equipment and instruments for proper postoperative procedure like preventing postoperative infection.
		Dressing Room			Examining Table(2), I.V.Hanger		
	Delivery	Delivery Room	4F	50-60 Deliveries/day	Delivery Bed(3), Stethoscope, I.V.Hanger, Hot Air Sterilizer, Patient Bed	Delivery Bed(5), Cardiotochograph(5), Examining Light(5), Aspiration Instrument for Newborns(1), Infant Transport Incubator(1), Instrument Set for Delivery(20), Vacuum Extractor(2), Suction Unit(5L)(5), Instrument Table(5), Kick Bucket(5), I.V.Hanger(5), Stethoscope for Adult(5), Sphygmomanometer with Stand(5), Doctor's Chair(5), Boiling Sterilizer(2)	The hospital handles 50-60 cases/day of delivery. The 3 delivery beds are very much deteriorated. There is no cardiotochograph and the existing equipment is far from sufficient in both quality and quantity. It will enable safer delivery by renewing and supplementing those deteriorated medical equipment.
		Peripartum Room					
		High-risk Delivery Room		Patients with gestational toxicosis			
	Complicated Postpartum	Dressing Room	5F		Gynecological Examining Table	Gynecological Examining Table(2), Instrument Table(2), Examining Light(1), Cusco's Vaginal Speculum 3-Kinds (L,M,S)(4), Patient Bed (B Type)(5), Bedside Cabinet(5), Wheel Chair(1), I.V.Hanger(1), Sphygmomanometer with Stand (1), Stethoscope for Adult(1), Oxygen Flow Meter(1)	These wards are for postpartum patient contracted infectious disease or the other complication. The postoperative infectious rate is very high in the hospital. Hardly any equipment is available at present. To procure the equipment will contribute in reduction of infection rate.
		Ward		Gynecology Post Operative Patients			
		Ward		Postpartum Patients with infectious disease.	Patient Bed, Wheel Chair, I.V.Hanger (3)		
		Ward		Gestational Toxicosis			
	Complicated Pregnancy	Ward	6F	Threatened Abortion Gestational Toxicosis Malaria Hepatitis Prevention of Premature Delivery	Patient Bed, Wheel Chair, I.V.Hanger (3)	Gynecological Examining Table(2), Instrument Table(2), Examining Light(1), Cusco's Vaginal Speculum 3-Kinds (L,M,S)(4), Patient Bed (B Type)(5), Bedside Cabinet(5), Wheel Chair(1), I.V.Hanger(1), Sphygmomanometer with Stand(1), Stethoscope for Adult(1), Oxygen Flow Meter(1), Ultrasound Diagnostic Equipment(1), Doppler Fetal Detector(2), Amnioscope(1)	This ward is for pregnant patients contracted diseases such as malaria, hepatitis, etc. It aims to equip enough for proper procedure.
		Dressing Room			Gynecological Examining Table (2), Scale Weight Scale, I.V.Stand, Hi-Low Stretcher		
		Echograph Room			FUKUDA DENSHI UF-450 3.5MHz Out of use because of unclear image.		
	Postpartum	Postpartum Ward		Patients after Normal Delivery	Patient Bed, Wheel Chair, I.V.Hanger (3)	None	
	Gynecology	Gynecology Ward	7F	Patients waiting for operation (Tumor, etc)	Patient Bed, Wheel Chair, I.V.Hanger (3)	Gynecological Examining Table(2), Instrument Table(2), Examining Light(1), Cusco's Vaginal Speculum 3-Kinds (L,M,S)(4), Patient Bed(B Type)(5), Bedside Cabinet(5), Wheel Chair(1), I.V. Hanger(1), Sphygmomanometer with Stand(1), Stethoscope for Adult(1), Oxygen Flow Meter(1)	This ward is for operation for patients with gynecological diseases such as cancer and tumor, who are waiting for operation. Most equipment is deteriorated. They will be renewed.
Dressing Room				Gynecological Examining Table(2), Examining Light(2), Suction Unit (5L), Cusco's Vaginal Speculum, Wheel Chair, I.V.Hanger(2), Sphygmomanometer with Stand, Weight Scale, Adult			

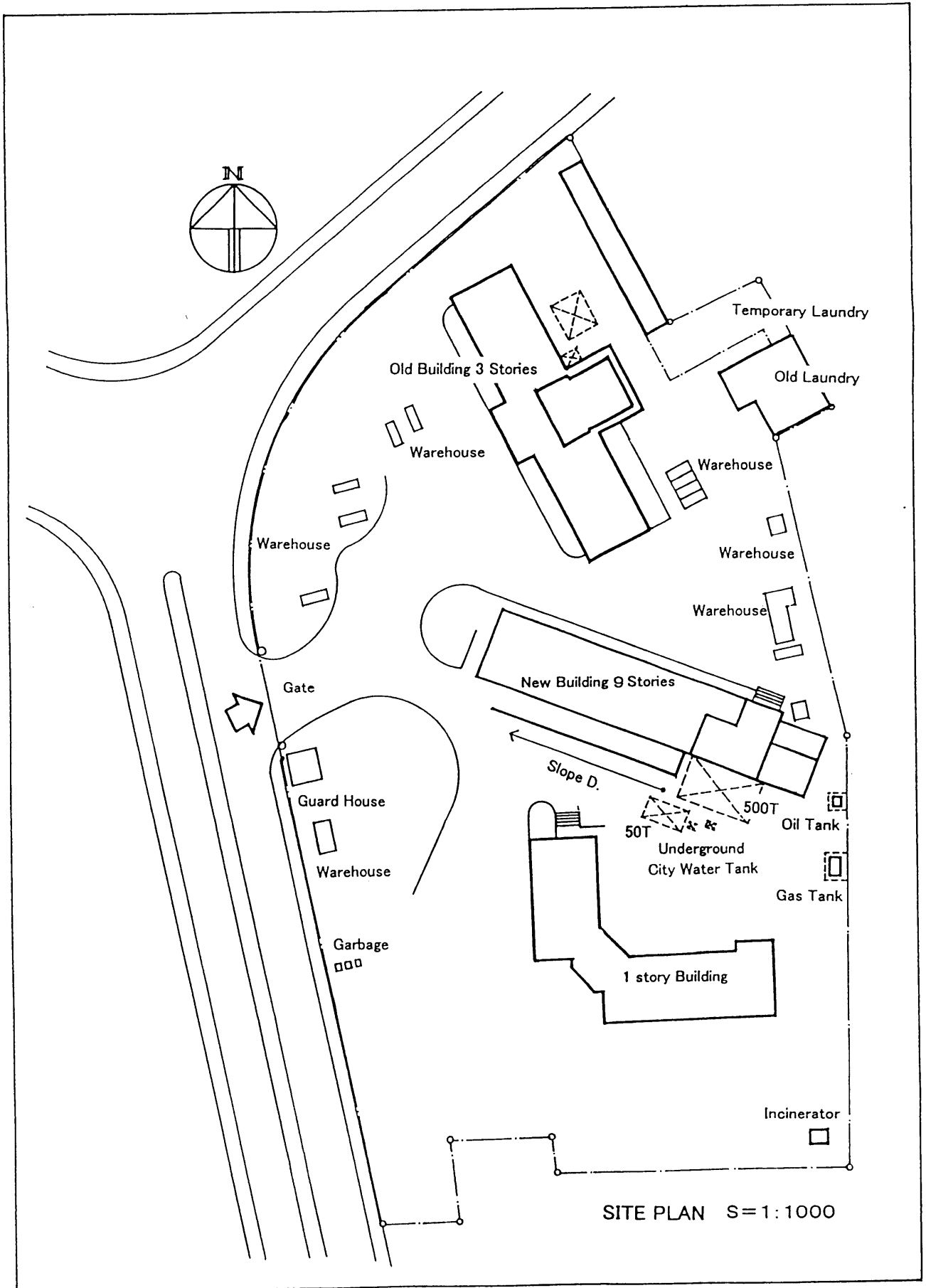
	Department	Room	Floor	Function, etc.	Situation of Existing Equipment	Equipment to be Procured	Expected Effect of the Project
Old Building 3 Stories Above Ground	Gynecology Outpatient	Examination Room	GF	Uterine Myoma Tumor Uterine Cancer Infertility	Gynecological Examining Table(2), Examining Light(2), Suction Unit (5L), Cusco's Vaginal Speculum, Wheel Chair, I.V.Hanger(2), Sphygmomanometer with Stand, Weight Scale, Adult, Colposcope(Broken)	Gynecological Examining Table(3), Instrument Table(3), Examining Light(3), Suction Unit (5L)(4), Colposcope with TV Monitor(1), Cusco's Vaginal Speculum 3-Kinds (L,M,S)(15), Hi-Low Stretcher(1), Wheel Chair(2), I.V.Hanger(2), Sphygmomanometer with Stand(1), Film Viewer(1), Weight Scale, Adult(1)	Outpatient consultation is made for Gynecology including uterine myoma, tumor, uterine cancer, infertility. Approximately 100 patients visit the hospital for diagnosis. Many medical equipment is deteriorated or broken including gynecological examination table, examination light, colposcope, which are basic equipment for gynecological examination. It aims to renew and supplement medical equipment by the project.
	Education	Class Rooms	2F	Used for giving lectures to 136 medical students every day.	Slide Projector OHP(2)	Slide Projector Screen OHP Gynecology/Obsterics Simulation Doll	It is used for lectures to medical students, clinical training, training of technical staff in the hospital, etc. Both slide projector and OHP will be renewed because they are deteriorated.
Family Planning Building 1 Story Above Ground	Family Planning Obstetrics Outpatient	Examination Room	GF	Pregnant women; Patients with fear of premature delivery	Gynecological Examining Table(3), Examining Light, Suction Unit (5L), Cusco's Vaginal Speculum, Wheel Chair, I.V.Hanger, Sphygmomanometer with Stand, Weight Scale, Adult	Gynecological Examining Table(3), Instrument Table(3), Examining Light(3), Doppler Fetal Detector (3), Cusco's Vaginal Speculum 3-Kinds (L,M,S)(15), Pelvimeter(3), Baby Head Measure(5), Hi-Low Stretcher(2), Wheel Chair(3), I.V.Hanger(3), Sphygmomanometer with Stand(2), Film Viewer(2), Height Scale, Adult(2), Weight Scale, Adult(1), Ultrasound Diagnostic Equipment(1)	Outpatient consultation is made for pregnant women or those threatened with premature delivery. Approximately 50 patients visit the hospital. Many medical equipments are deteriorated or broken including gynecological examination table, examination light, which are basic equipment for obstetric examination. It aims to renew and supplement medical equipment including ultrasound diagnostic equipment by the project.
	Family Planning Pediatrics Outpatients	Examination Room	GF	Health control of infants born in this hospital; Preventive inoculation against infantile paralysis (polio), measles, tetanus, yellow fever, BCG, diphtheria, etc.	Infant Weight Scale, Infant Examining Table, I.V.Hanger, Instrument Cabinet(2)	Infant Weight Scale(1), Infant Examining Table(3)	Growth control and vaccination are made for approximately 120 children of an age up to 5 years old each day. Examination table and weighing scale will be renewed in the project.
		Vaccination Room			Freezer, Refrigerator(2)		
Laundry Building	Laundry	Hospital Laundry	GF	Washing and sewing of operation wears, sheets, white frocks, etc.	Washing Machine (2)(Broken) Extractor Machine (3)(Broken) Drying Tumbler (3)(2 are Broken) Electric Press Machine (2)(Broken)	Washing Machine(Large)(3), Washing Machine(Small)(1), Extractor Machine(2), Drying Tumbler (2), Electric Press Machine(2), Linen Supply Trolley, Laundry Cart	Only one dryer is working at present. The washing is made by hands. One dryer is not enough for drying the total volume, and the drying is made under the sun. It aims to renew equipment for improvement of the state of hygiene.



#### 4)Equipment layout drawing

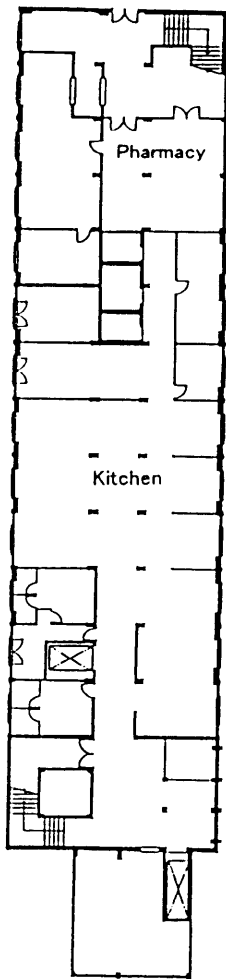
The layout drawings for the main section in the hospital's site are given on the following pages.

LUCRECIAPAIM MATERNITY HOSPITAL  
SITE PLAN

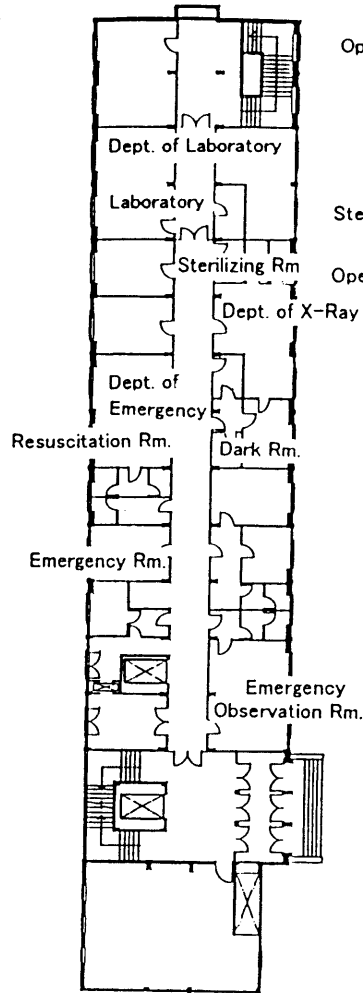


SITE PLAN S=1:1000

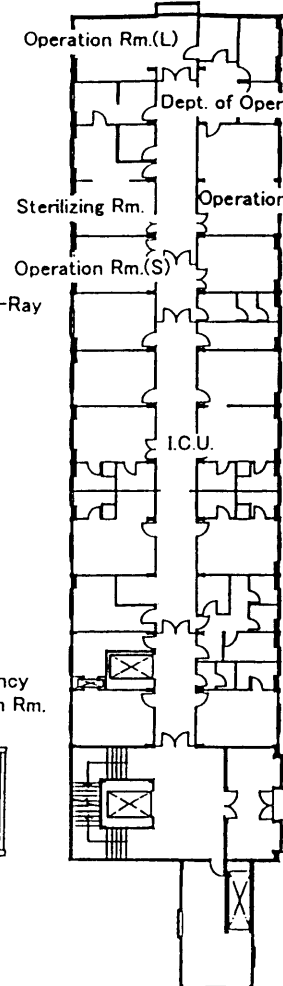
NEW BUILDING 9 STORIES S=1:500



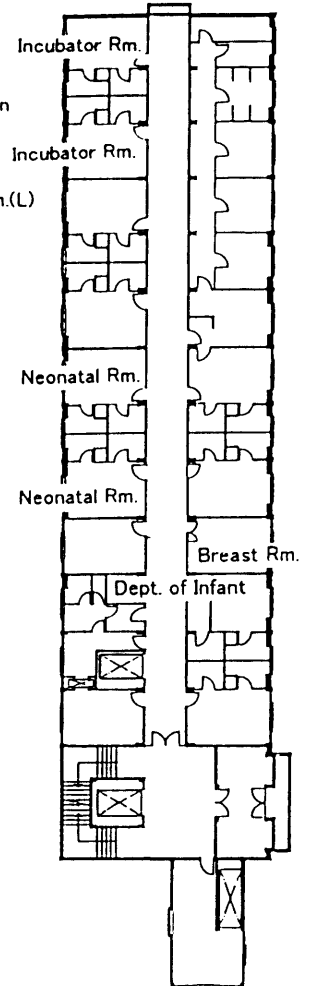
Basement PLAN



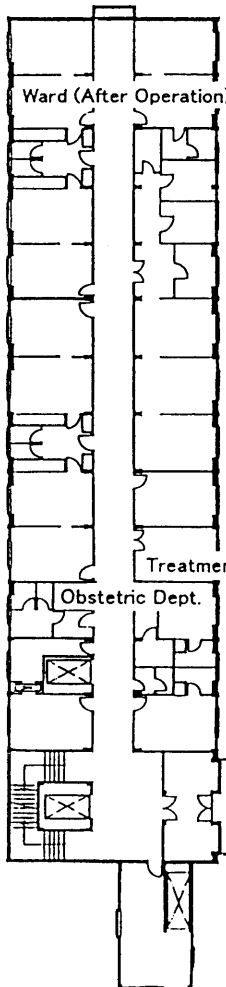
G. F. PLAN



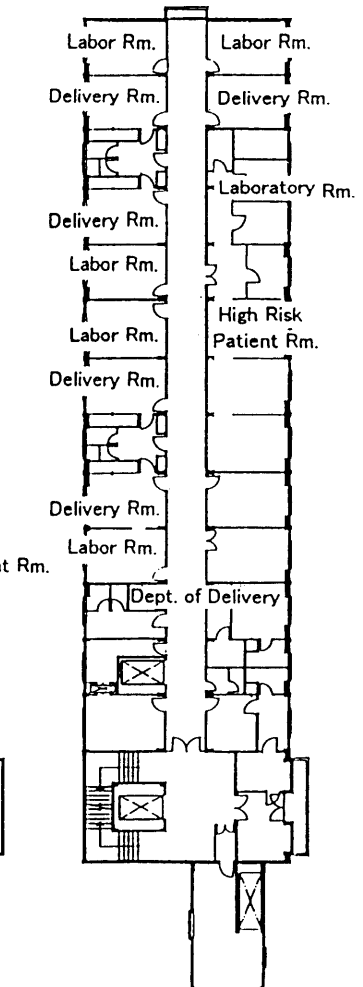
1st. Floor PLAN



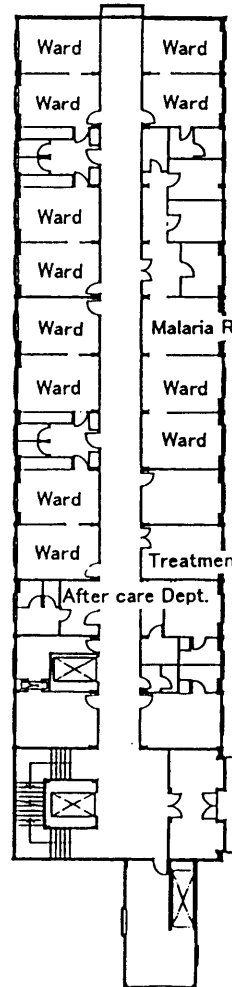
2nd. Floor PLAN



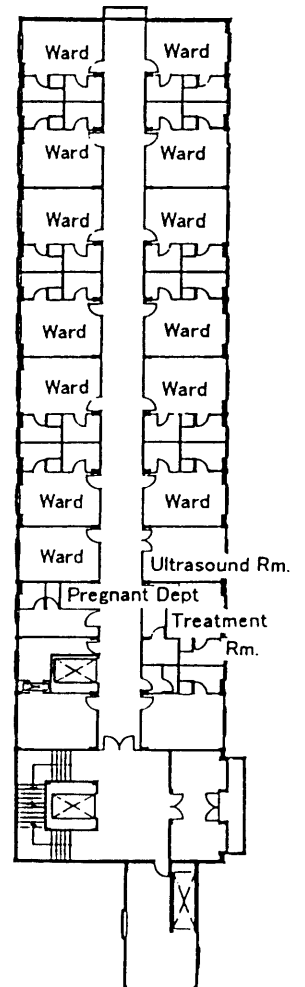
3rd. Floor PLAN



4th. Floor PLAN

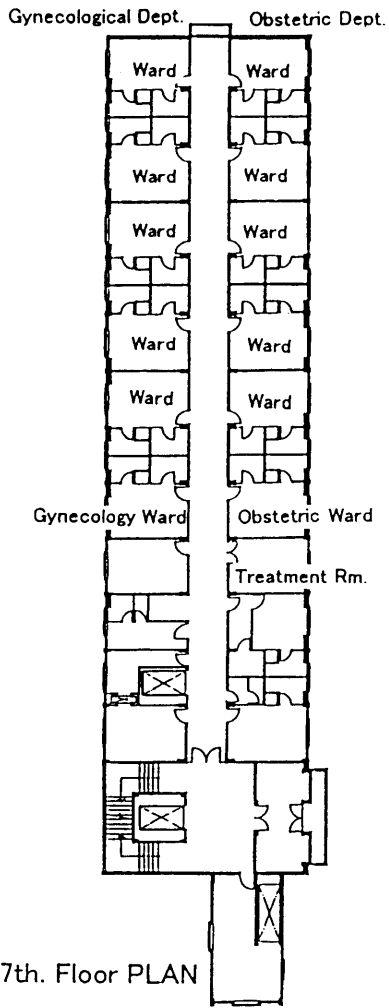


5th. Floor PLAN.



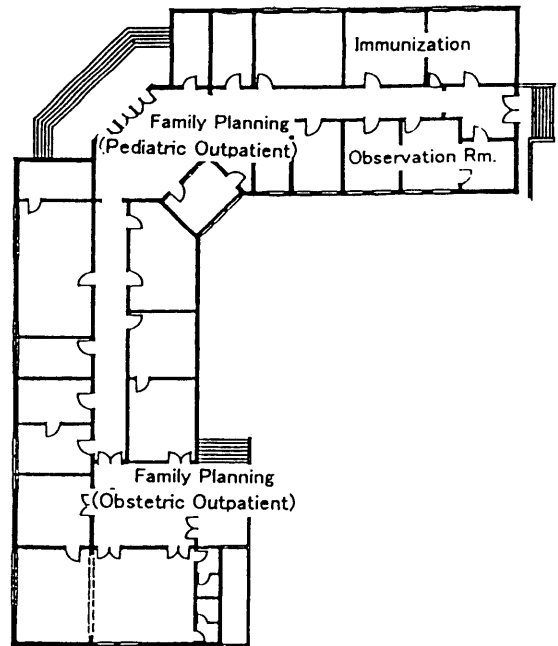
6th. Floor PLAN

NEW BUILDING 9 STORIES S=1:500

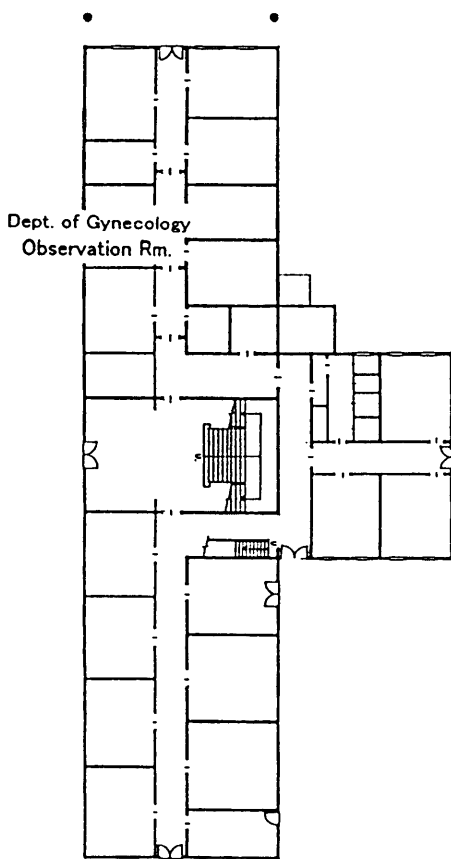


7th. Floor PLAN

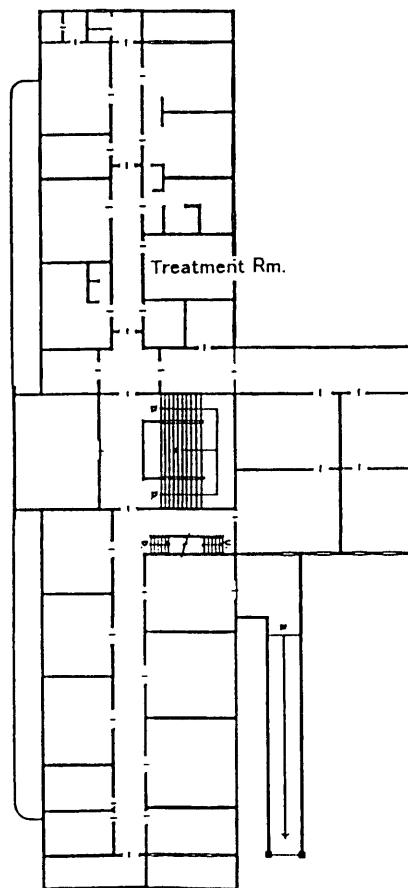
1 STORY BUILDING S=1:500



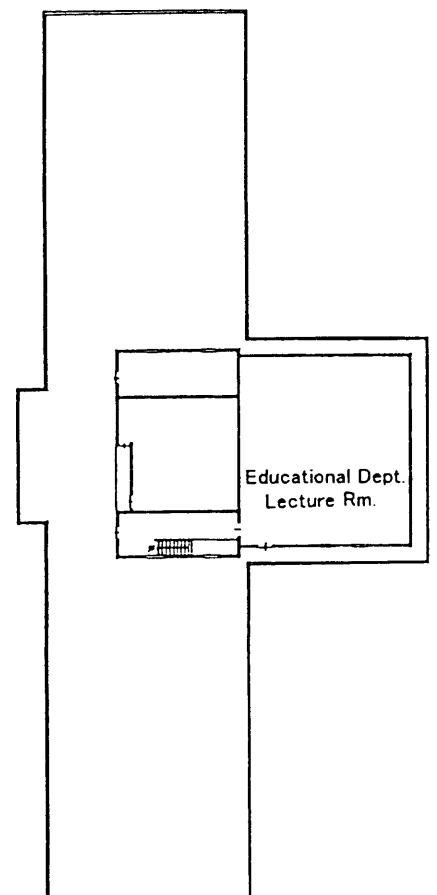
OLD BUILDING 3 STORIES S=1:500



G. F. PLAN

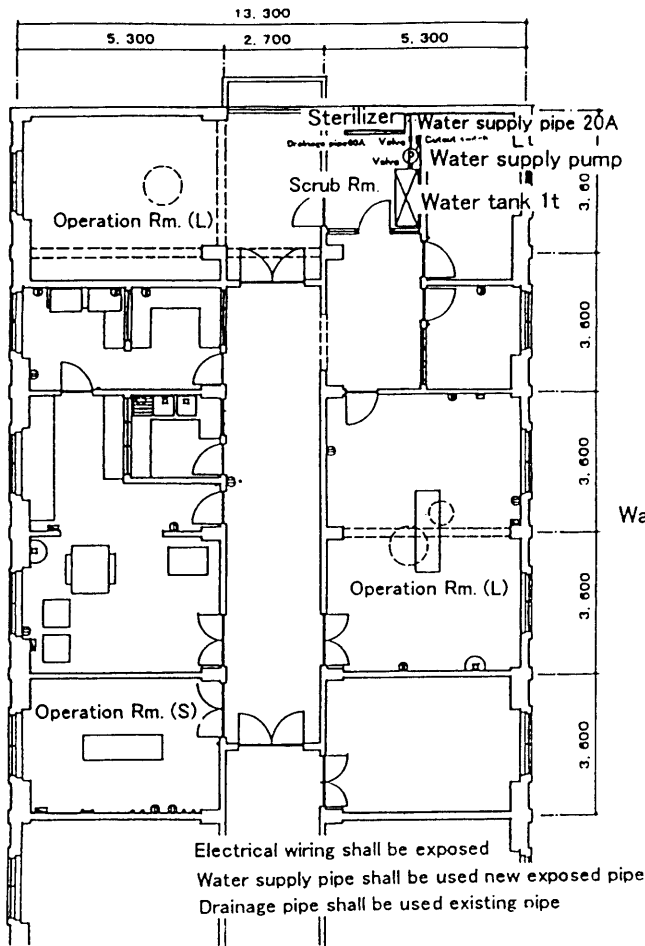


1st. Floor PLAN

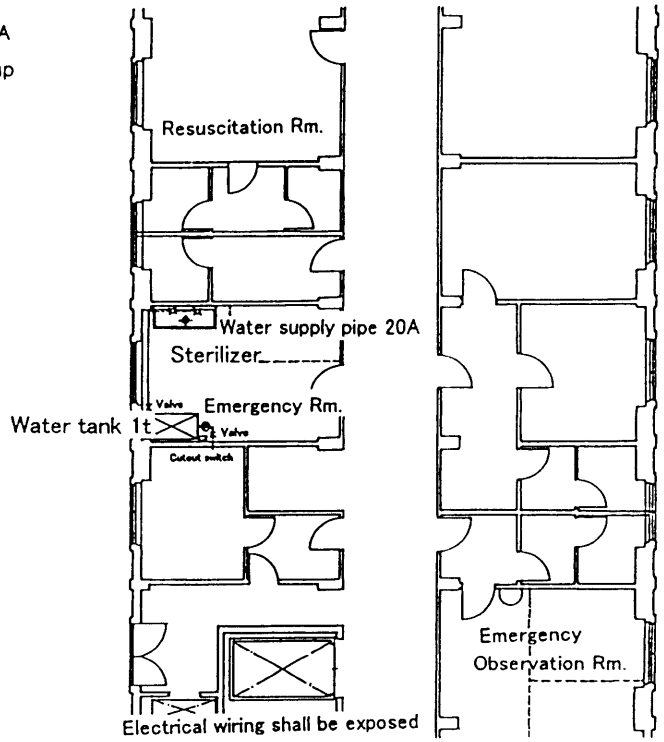


2nd. Floor PLAN

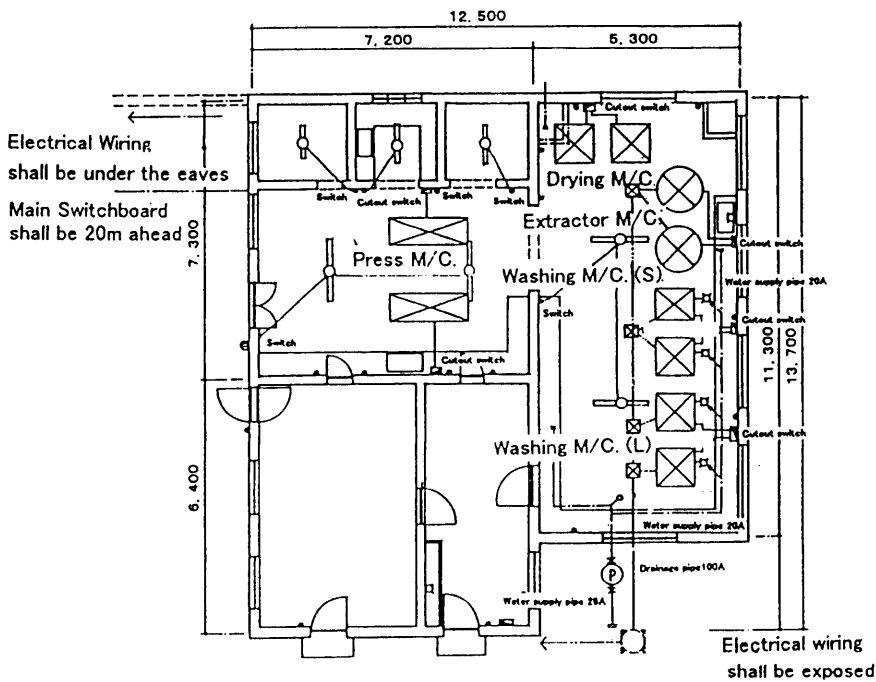
NEW BUILDING 9 STORIES



G. F. PLAN  
OPERATION RM. Scheme S=1:200  
1m 2m 3m 5m



1st. Floor PLA  
EMERGENCY RM. Scheme S=1:200  
1m 2m 3m 5m



G. F. PLAN  
LAUNDRY Scheme S=1:200  
Water supply tank installed 36m ahead Drain pit shall be used existing pit  
Water supply pipe shall be used new exposed pipe  
1m 2m 3m 5m

## **Chapter 3. Implementation Plan**

## CHAPTER 3 IMPLEMENTATION PLAN

### 3-1 Implementation Plan

#### 3-1-1 Implementation Concept

The Japanese consulting company recommended by Japan International Cooperation Agency (JICA) concludes Consultant Agreement with the Government of Angola after conclusion of the Exchange of Notes (E/N). According to E/N, the consultant fulfils their works of implementation design and supervision. A Japanese trading company selected by tender concludes Supply Contract with the Government of Angola as a supplier. The trading company provides services for procurement and installation of the equipment for the project. Both Consultant Agreement and Supply Contract come into effect after approval of the Government of Japan.

The followings are the implementation body, consultant and supplier for this project.

#### 1) Project implementing body

The implementing organization for this project is the Ministry of Health of the Angola Government. The project hospital is Lucrecia Paim Maternity Hospital.

#### 2) Consultant

The project is implemented under the Japan's grant aid program. It is stipulated by the rule of Japan's grant aid program that a Japanese consultant performs necessary work for smooth implementation of the project, according to the agreement with the Ministry of Health of Angola government.

Services provided by the consultant are as follows.

- Implementation Design: detailed design and preparation of Tender Documents and the other technical documents.
- Tender: tender arrangement and execution of works on behalf of the government of Angola in connection with selecting a supplier and subsequent supply

contract.

- Procurement: superintendence of equipment procurement, inspection of shipment, etc.
- Supervision: final inspection of equipment, supervising installation, confirmation for completion of the entire services.

### 3) Supplier

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

The implementation chart is the following.

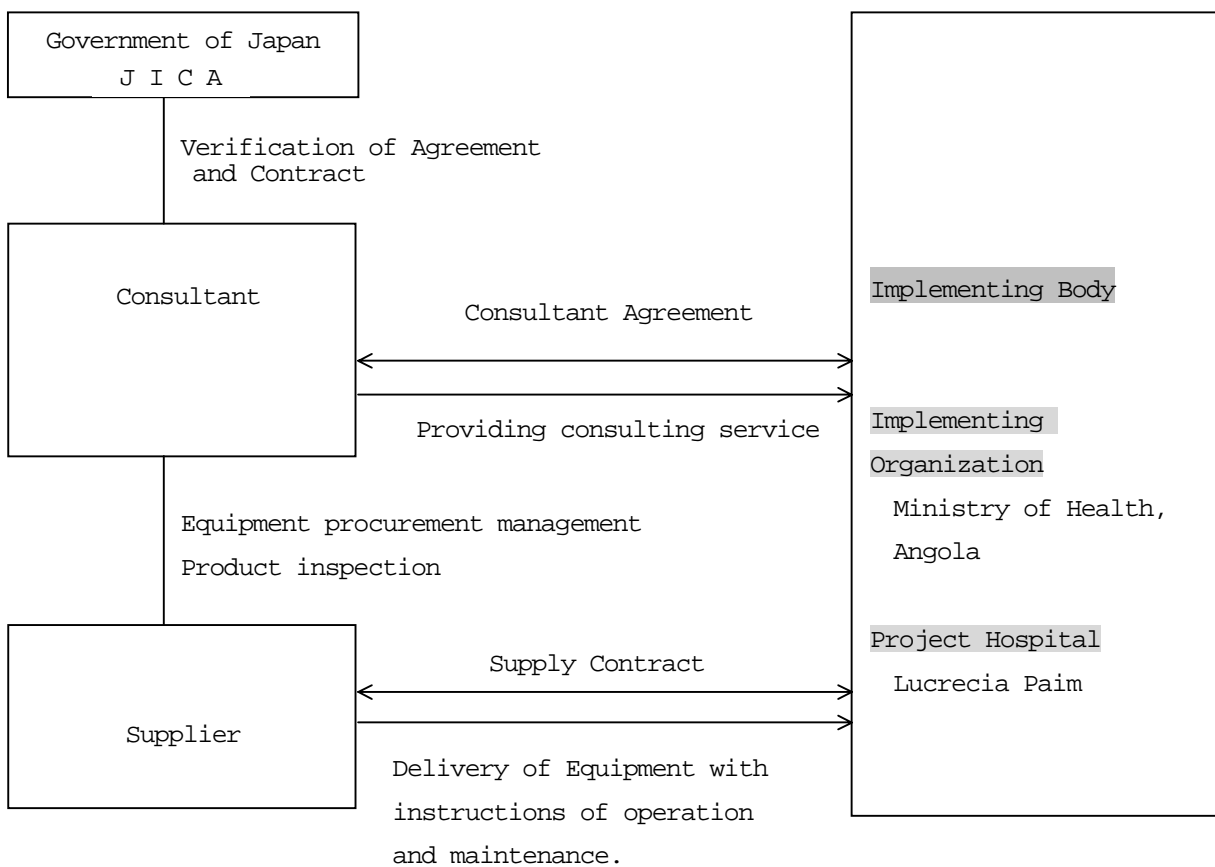


Figure 3-1 Implementation Flow Chart



### 3-1-2 Implementation Conditions

It should take into account that the project hospital is in operation through the whole implementation term. Not to disturb the daily medical activities, it should be duly discussed with the hospital about the procurement schedule, delivery routes, keeping places and installation procedures. Additionally in case of renewal, the removal and installation schedule should be made carefully to avoid disturbing the regular medical activities.

### 3-1-3 Scope of Works

#### (1) Items covered by the Japanese Government

1. Procurement of equipment that is shown in the aforementioned equipment plan list.
2. Ocean transport and land transport expenses and inland transport expenses for the hospital.
3. Renovation work of the places where the equipment is to be installed (laundry room and wash hand stand in Emergency room, Delivery room and Operating theatre).
4. Installation of equipment (expenses for dispatch of engineers, local workers, tools and measuring meters).
5. Test-runs and guidance for operation, inspections and maintenance, concerning all equipment to be procured.

#### (2) Items covered by the Angola Government

1. During the implementation period of the project, the Angola side shall accommodate a temporary office for this project in the hospital.
2. The infrastructures (electricity, water supply, drainage, and other facilities) needed for the project should be provided or improved before installation of the equipment, and the existing equipment should be removed from places where the new equipment will be installed.

### 3-1-4 Basic policy for consultant supervision

#### (1) Basic policy for consultant supervision

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

- 1) The work schedule should be confirmed by both Japanese and Angola staff concerned. Both sides should clarify the scope of work and the starting and completion dates to avoid confusion about installation work.
- 2) In order to shorten the delivery and installation period as much as possible, the supplier must investigate the hospital two months before delivery of the equipment. The supplier must also check delivery routes, power supply, water supply and drainage, and prepare delivery schedule.
- 3) It is considered to take about two months for delivery and installation of equipment.
- 4) As for equipment procured from a third country which needs maintenance, the sales engineers of each equipment manufacturer or the sales agent will give instructions on installation and maintenance at each facility in the hospital.
- 5) As for equipment procured in Japan, Japanese engineers specializing in electronic medical equipment and general medical equipment will give instructions on installation and maintenance.

#### (2) Personnel plan

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

1. Project manager : 1 person

The project manager will supervise the consulting operation.

2. Medical equipment planner : 2 persons

These persons will analyze the planned equipment and prepare specifications.

3. Installation planner : 1 person

This person will observe the progress of construction works done by the Angola side.

4. Cost estimator : 1 person

This person will reckon the total costs of the project and check the other necessary procedures, confirming the current status of the project facilities and comparing it with the one at the time of basic design.

3-1-5 Procurement Plan

(1) Procurement of equipment

The following equipment will be studied of its procurement from a third country, i.e. a country in South Africa or Europe.

- 1) Equipment which is generally used at the hospital and which Angola side is well versed in its operation.
- 2) Equipment which an agent of the manufacturer is available in Angola or in South Africa.
- 3) Equipment that spare parts and consumables are purchased without difficulty.

(2) Transportation of equipment

Considering the relationships and conditions with neighboring countries, shipping routes below are selected.

- 1) Transportation of the equipment procured from Japan  
Japan - <ocean transportation> - Angola (Luanda) - <inland transportation>

- Project Site.
- 2) Transportation of the equipment procured from South Africa  
South Africa (Durban, Cape Town) - <ocean transportation> - Angola (Luanda)  
- <inland transportation> - Project Site.
- 3) Transportation of the equipment procured from Europe  
Netherlands (Antwerp) - <ocean transportation> - Angola (Luanda)  
- <inland transportation> - Project Site.

3-1-6 Implementation Schedule

(1) Implementing process

According to Japan's grant aid program, the work progress chart is as follows:

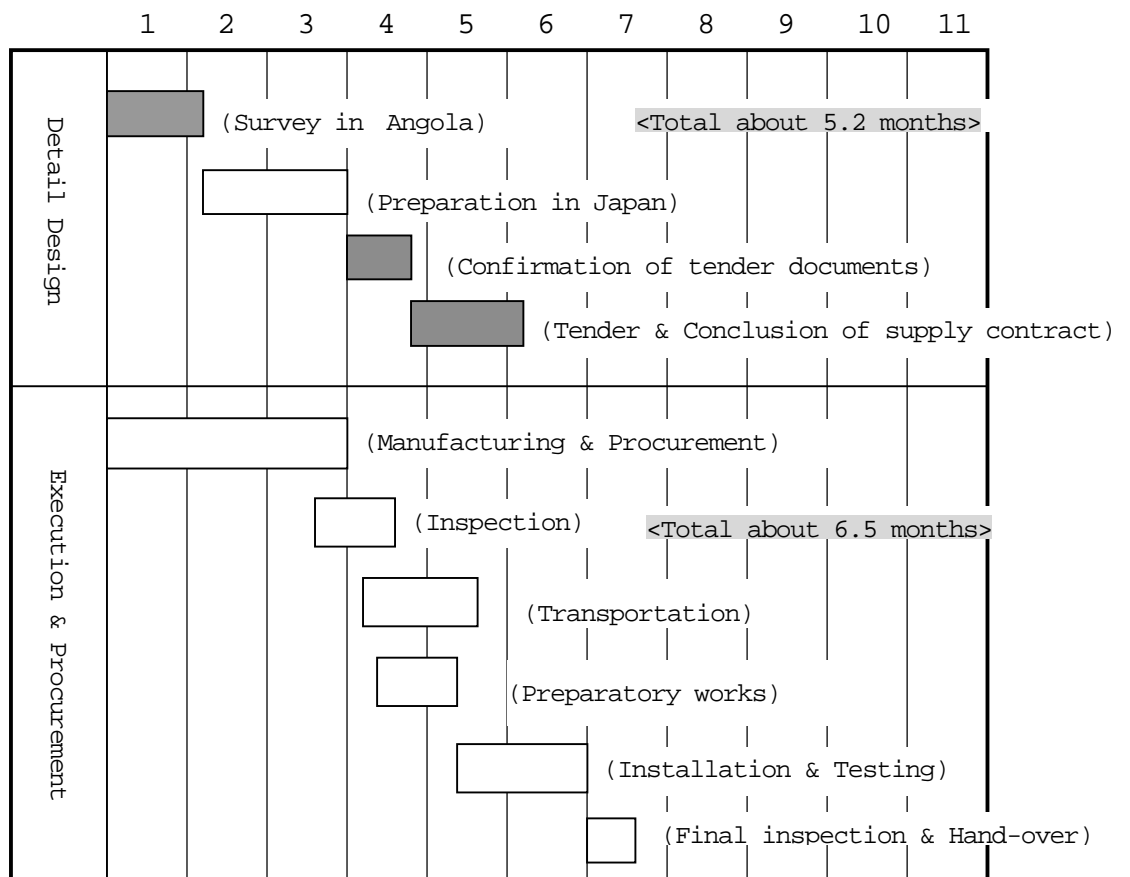


Figure 3-3 Work execution chart

When the project is approved by the Cabinet of the Japanese government and the Exchange of Notes (E/N) is concluded between both countries, the project will be carried out according to the following procedures:

1. Conclusion of the E/N between both governments.
2. Conclusion of agreement between the implementing organization and the Japanese official foreign exchange banks concerning payment of the grant aid fund (Banking Arrangement).
3. Conclusion of the consultant agreement between the implementing organization and the Japanese consultant.
4. Issuance, by the implementing organization, of authorization to pay (A/P) for the consultant agreement.
5. Verification of the above agreement and approval of payment by the Government of Japan.
6. Implementation design and preparation of tender documents by the consultant.
7. Approval of the tender documents by the implementing organization and preparation of tender by the consultant.
8. Tender and evaluation of tender documents.
9. Conclusion of supply contract relating to equipment procurement between the implementing organization and a Japanese trading company.
10. Verification of the above contract by the Government of Japan.
11. Issuance, by the Ministry of Health of the Angola Government, of authorization to pay (A/P) according to the supply contract.
12. Approval for equipment manufacturing and work execution drawings. (The consultant examines and approves specifications to be submitted by equipment suppliers, gives necessary instructions, and coordinates through close contacts with the Ministry of Health in order to execute the work smoothly.)
13. Equipment witnessing inspection. (The consultant witnesses factory inspections before shipment as required and approves the inspection as the proxy of the Ministry of Health of the Angola government.)
14. Work execution management. (In accordance with the agreement, the consultant, as the proxy of the Ministry of Health, scrutinizes and approves the specifications, inspects and approves the equipment, supervises shipment and inland transportation, instructs the installation, and supervises work execution covered by the recipient country.)

15. Progress management. (The consultant supervises work progress so that the equipment procurement contract can be completed within the period stated in the E/N, and gives the necessary directions to the supplier.)
16. Final inspection and test-runs. (The consultant conducts final inspection and test-run for equipment to be procured after completion of the installation, and confirms the equipment performance described in the specifications. At last the consultant submits a certificate of completion to the Ministry of Health of Angola.)
17. Completion and hand-over.

(2) Period of implementation

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

Table 3-2 Period of implementation and content of work

Content of Work	Phase I
1. Conclusion of the consultant agreement, discussion about detailed design.	About 1.3 months
2. Detailed design, preparation of tender documents	1.8
3. Approval of tender documents	0.8
4. Tender, conclusion of supply contract and approval	1.3
5. Manufacture of equipment	3.0
6. Transportation	1.5
7. Installation (including initial testing, adjustment, operation guidance, training, maintenance instruction, confirmation of hand-over and preparatory works, etc.)	2.0
Total	11.7 months

3-1-7 Obligations of Recipient Country

For the implementation of this project, the Government of Angola is required to undertake the following necessary measures:

- (1) To ensure necessary conveniences for the prompt execution for unloading, customs clearance and internal transportation of the products purchased under the Grant Aid.
- (2) 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.
- (3) To accord necessary conveniences to Japanese nationals concerned to the project that may be necessary for their entry and stay in the recipient country and to take sufficient consideration for their safety meanwhile.
- (4) To pay the commissions for the banking arrangement and the issuance of the Authorization to pay to the bank in Japan according to the Banking Arrangements.
- (5) To use and maintain the equipment purchased under the Grant Aid properly and effectively, and also to assign staff and budget necessary for this operation and maintenance.
- (6) To report the condition of usage and maintenance for the equipment purchased under the Grant Aid.
- (7) To bear all expenses other than those covered by Japan's Grant Aid within the scope of the project.

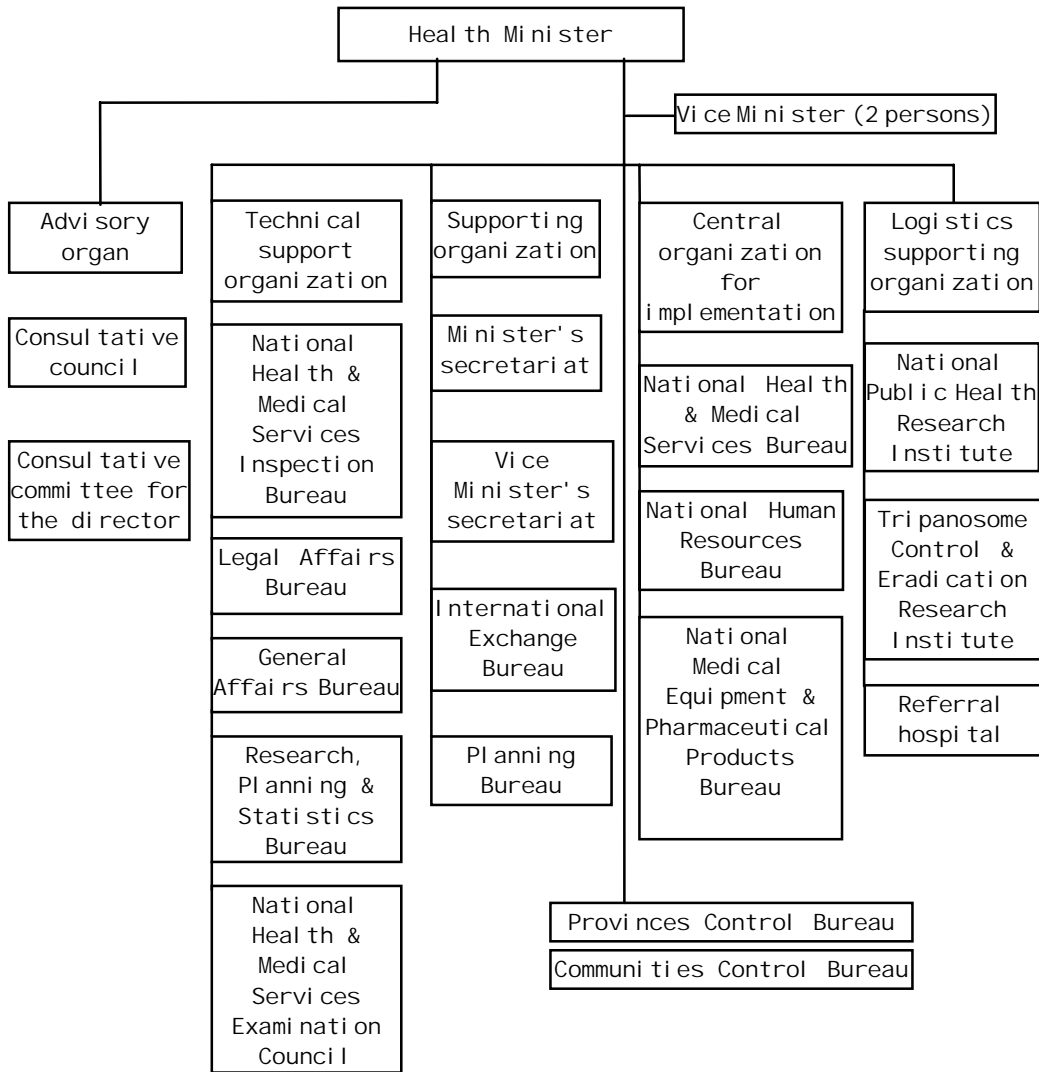
### 3-1-8 Implementation System of the Project

#### (1) Implementing organization

The Ministry of Health of Angola is responsible for the implementation of this project. The direction and supervision of this project will be taken charge by the International Exchange Bureau, while the control of the equipment to be procured will belong to the responsibility of the National Equipment,

Medical & Pharmaceutical Products Maintenance Bureau.

The following is an organizational chart of the Ministry of Health:



Source: Ministry of Health

Figure 2-1 Organizational Chart of Ministry of Health



(2) Project Hospital

The project hospital is Lucrecia Paim Maternity Hospital.  
The organizational chart of Lucrecia Paim Hospital is shown in the next page:

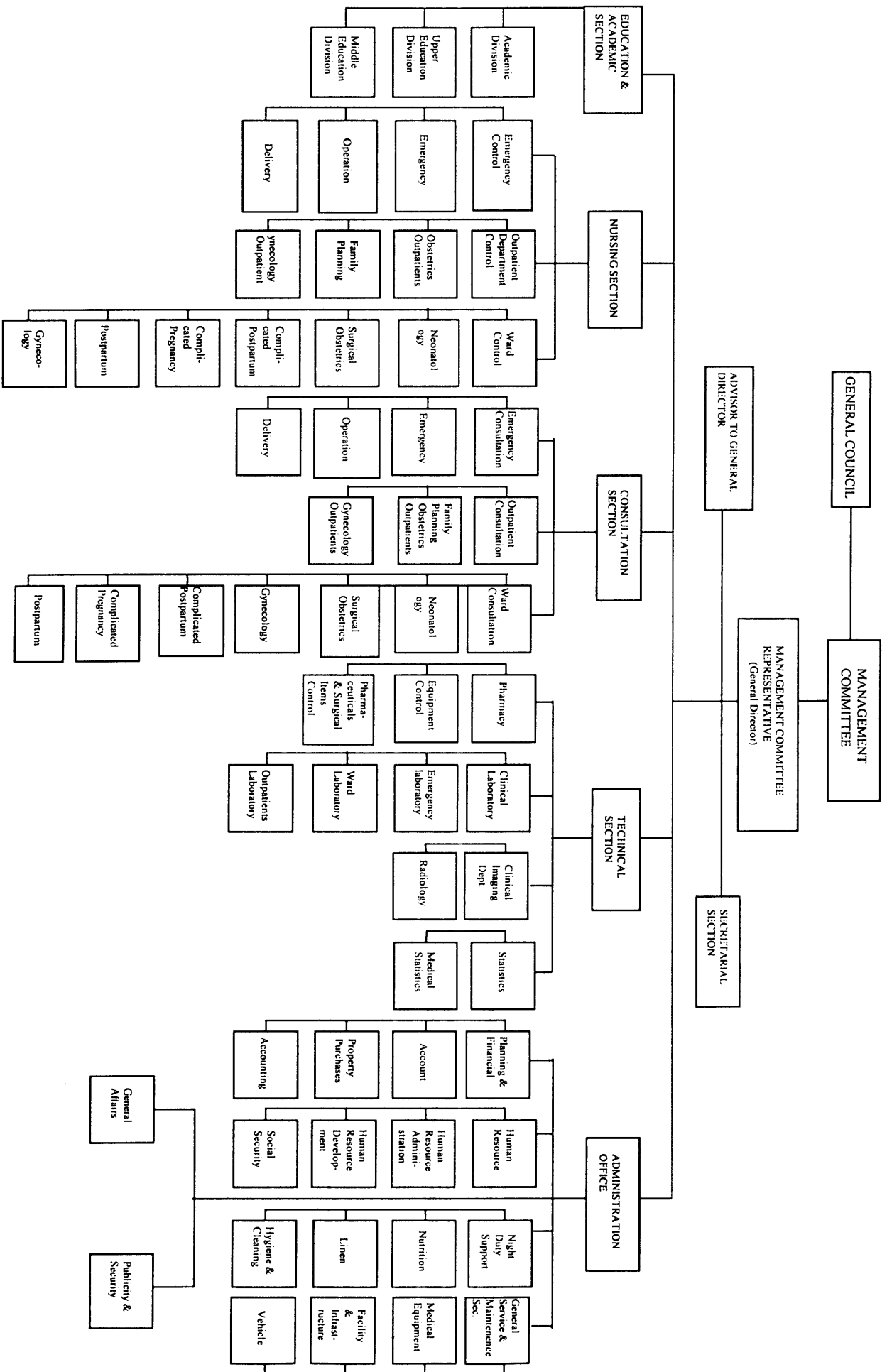


Figure 2-2 Organizational Chart of Lucrecia Palm Maternity Hospital

### **3-2 Operation and Maintenance Plan**

#### (1) Operation

The national medical institutions and facilities are all placed under the control of the Ministry of Health and operated with a budgetary allocation from the Ministry of Health. All the top referral hospitals in Luanda are currently providing free medical services, and no medical facility or institution is in a state capable of fully performing the essential role assigned to it, due to chronic difficulties of national finance. Therefore, the Ministry is required to ensure their support, such as the appropriation for operation and maintenance to those medical facilities, so as to avoid the administrative interference.

#### (2) Maintenance control system of medical equipment

The organization of the Ministry of Health comprises Maintenance Control Bureau. In the system the bureau dispatches specialized staff for medical equipment maintenance for each medical facility. One specialized staff from the bureau is assigned to the project hospital. However maintenance and repair services are not extended sufficiently enough. We requested the Ministry of Health to increase the personnel and establish a system obligating regular implementation of maintenance control. A complete set of maintenance tools is included in the project. Considering the situation of Angola, it is necessary to establish the cooperation system between a competent agent in South Africa which is handling medical equipment and providing services in Angola as its sales market and an agent in Luanda for maintenance of medical equipment.

## **Chapter 4. Project Evaluation and Recommendations**

## CHAPTER 4 PROJECT EVALUATION AND RECOMMENDATIONS

### 4-1 Project Effect

#### (1) Verification and substantiation of appropriateness

The direct and indirect effects arising from the Project has been verified from the following viewpoints.

1. The project is compatible with the objectives and directions of the National Health Plan as the superordinate project.
2. This project shall contribute to reduce the infant and maternal mortality rates. According to the statistics by the Ministry of Health of Angola, 170/1000 births for infants (1997) and 1500/100,000 births for pregnant women (1990) are given. The target is to reduce those rates to the average level of developing countries of 66/1000 births and 470/100,000 births, respectively.
3. The hospital has a statutory obligation to provide tertiary medical care services as top-referral maternity hospital in Angola. Since the equipment of the hospital has not been renewed or supplemented under a long civil war, the medical service activities have suffered a dramatic decline in standards due to the obsolescence of the existing equipment. The project will serve to resolve these problems and restore the original function of the hospital.
4. The hospital also has function as an educational hospital, and procurement of new equipment under this project will enable for trainees to study diagnostic services of high accuracy and effective medical treatment, accordingly, it is expected of qualitative improvement of medical services and medical staff.
5. The equipment to be procured will not pose any financial and technical difficulties for its operation and maintenance after implementation of this project, since this plan is essentially intended to renew or supplement the existing equipment.
6. This project will be extensively beneficial to improvement of medical services for the people in Angola including those of poor class, accordingly, this project can be judged highly appropriate

for its implementation under the Japan's grant aid program.

The following results can be expected through implementation of this project.

#### 1) Direct Effects

The project hospital is Lucrecia Paim Maternity Hospital providing maternity health services in Angola. With implementation of this project, it enables to restore the functions of the hospital having a problem of sharp drop of medical service quality and to ensure better medical service environments, by renewal of the deteriorated equipment or supplementation of the equipment quantitatively in short.

Accordingly, it becomes possible to provide high-quality medical services.

- The medical services will improve, and the reliability of medical services for the beneficiary inhabitants may be restored.
- It enables well-organized delivery procedure, reduction of hospital infection, shorter operation hours, proper post-operation care and etc., according to improvement of equipment in the delivery room, operating theater, ICU room and etc. It is expected to rationalize the medical service system and enable providing those services more effectively to the patients.
- The educational function of this hospital will be recovered, making it possible to improve the technical level of the medical personnel.
- 

#### (2) Indirect effects

Implementation of the project meets the needs for improvement of health and medical system in Angola. It will invigorate especially maternal medical activities, and can be expected its future development as a leading project for achieving improvement of the entire field of health and medical services on a national scale.

- It will help in establishment of a referral system of maternal

medical services in Angola.

- It will help in reduction of both maternal and infant mortality rates.

#### **4-2 Recommendation**

Improvement of the following items is necessary to promote smooth implementation of this project and continuous and effective utilization of the equipment to be procured under this project.

- 1) With improvement of the equipment, it will be necessary to secure the personnel concerned to its operation and maintenance, and the appropriations for that. The Ministry of Health is required to ensure their support, such as budgetary allocation for the operation and maintenance, in order to avoid administrative troubles at the hospital.
- 2) It is necessary to immediately define and determine directions for each hospital that promotes hospital's self planning, self implementation and self evaluation concerning maternity health plan based on the national health plan. The national health plan is under deliberation of the assembly.
- 3) In order to secure a long-term effective utilization of the equipment to be procured under this project, the Ministry of Health and the hospital are required to set up a maintenance management system and a stock management system of spare parts and consumables for the equipment.

## **【 Appendices 】**



Member of Survey Team

1)	Leader	Daini TSUKAHARA	Second Project Management Divi. Grant Aid Management Dept., JICA
2)	Technical Adviser	Youichi HORIKOSHI M.D.	Bureau of International Cooperation International Medical Center of Japan
3)	Project Manager	Tatsuro NAKAJIMA	Binko Ltd .
4)	Equipment Planner (I)	Kouichi MURAO	Kyowa Consultant Ltd .
5)	Equipment Planner (II)	Naoki HANAOKA	Binko Ltd.
6)	Facility Planning	Shigeru OGURA	Fukunaga Architects- Engineerings
7)	Cost and Procurement	Akiko MIURA	Binko Ltd .
8)	Interpreter	Yoko MATSUZAKI	Binko Ltd .



No	Date	Activities	Member								
			1	2	A	B	C	D	E	F	
14	JAN 22 Sat	Harare 07:00 → Johannesburg 08:45 (UM-367)	○	○							
		Johannesburg 14:14 → Narita (SQ-405/SQ-012)									
		Site Survey on the Lucrecia Paim Hospital and Discussion with the Persons Concerned			○	○	○	○			○
		Study on Procurement of Equipment (Local Agent of Medical Equipment Makers)								○	
15	JAN 23 Sun	Arrival at Narita 17:35	○	○							
		Filing of Data			○	○	○	○			○
16	JAN 24 Mon	Study on Other Aid Plan by Other Development Assistance Agency (WHO, UNICEF & etc.)			○	○	○	○			○
		Study on Procurement of Equipment (Local Agent of Medical Equipment Makers)									○
17	JAN 25 Tue	Study on Maintenance of Equipment			○	○	○	○			○
		Study on Procurement of Equipment (Local Agent of Medical Equipment Makers)									○
18	JAN 26 Wed	Supplementary Survey			○	○	○	○			○
		Study on Procurement of Equipment (Local Agent of Medical Equipment Makers)									○
19	JAN 27 Thu	Site Survey on the Lucrecia Paim Hospital and Discussion with the Persons Concerned			○	○	○	○			○
		Study on Procurement of Equipment (Local Agent of Medical Equipment Makers)									○
20	JAN 28 Fri	Report to MOFA and MOH			○	○	○	○			○
		Study on Procurement of Equipment (Local Agent of Medical Equipment Makers)									○
21	JAN 29 Sat	Luanda 14:00 → Johannesburg 18:25 (SA-055)			○	○	○	○			○
		Study on Procurement of Equipment (Local Agent of Medical Equipment Makers)									○
22	JAN 30 Sun	Johannesburg 14:15 → Narita (SQ-405/SQ-012)			○	○	○	○	○	○	○
23	JAN 31 Mon	Arrival at Narita 17:35			○	○	○	○	○	○	○

AF: Air France  
 DT: TAAG - Linhas Aereas De Angola  
 SA: South African Airways  
 UM: Air Zimbabwe  
 SQ: Singapore Airline

## List of Participants in Angola

### Ministry of Foreign Affair

Asian & Oceania Region

Deputy Manager

Manager for Australia and Korea

Manager for Japan

Ms. Maria Teresa Saliva Nathis Maula

Mr. Estevao Jai (Austria\*Korea Division)

Mr. Manimo Simao (Japan Division)

Deputy Minister

Director for Planning

General Manager

Staff

Dr. Natalia Victor Santo (Ms)

Dr. Nzima Victor

Dr. Augusto Rosa Neto

Dr. Miranda

### Lucrecia Paim Maternity Hospital

Medical Superintendent

Clinical Director

Matron

Emergency Dep. In charge

Radiology Dep. In Charge

Laboratory Dep. In Charge

ME Technician

Anesthesia Dep. In Charge

Administrator

Hospital Static Dep. In Charge

Warehouse In Charge

Technical Director

General Manager

Electrician In Charge

Plumber In Charge

Dr. Domingos Npembele

Dr. Fatima Rita (Ms)

Ms. Jesuina Baltazar

Ms. Mabuaka Paku

Ms. Ana Fortunato

Mr. Jose Dos Prazeres

Mr. Mambote N'Sungu

Mr. Damas Pedro

Mr. Antonio Lemus Paulo

Ms. Cristina L. da Costa

Mr. Luis Joao Mateus

Dra. Frolinda Silva

Dr. Manuel Reepson Vieira

Mr. Pedro Castro

Mr. Fortunato

### Joshina Machel Hospital

Medical Superintendent

Clinical Director

Pediatric Hospital Administrator

Equipment & Pharmacy In Charge

Dr. Kinfumo Antonio

Dr. Artur Nascimento

Mr. Victor Cardoso

Mr. Joao De Jesus Castro Manuel

### August Gangora Hospital

Medical Superintendent

Technical Director

General Manager

Dr. Fernando Xavier Belo

Mr. Abren Pecamene Tondesso

Ms. Regina Antonio Marques

MINUTES OF DISCUSSIONS  
ON THE BASIC DESIGN STUDY  
ON THE PROJECT FOR IMPROVEMENT OF MEDICAL EQUIPMENT  
FOR LUCRECIA PAIM MATERNITY HOSPITAL  
IN THE REPUBLIC OF ANGOLA

In response to a request from the Government of the Republic of Angola (hereinafter referred to as "the Angola"), the Government of Japan decided to conduct a Basic Design Study on the Project for Improvement of Medical Equipment for Lucrecia Paim Maternity Hospital (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to the Angola the Basic Design Study Team (hereinafter referred to as "the Team"), which is headed by Mr. Daini Tsukahara, Director, Second Project Management Division, Grant Aid Management Department, JICA, and is scheduled to stay in the country from January 13 to January 29, 2000.

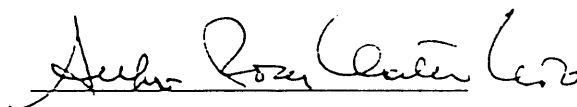
The Team held discussions with the officials concerned of the Government of Angola and conducted a field survey at the study area.

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.

Luanda, January 20, 2000



Mr. Daini Tsukahara  
Leader  
Basic Design Study Team  
Japan International Cooperation Agency  
Japan



Dr. Augusto Rasa M. Neto  
Director, Cabinet of  
Co-operation International  
Ministry of Health  
Republic of Angola

## ATTACHMENT

### 1. Objective of the Project

The objective of the Project is to improve the medical services of Lucrecia Paim Maternity Hospital through the procurement of necessary equipment.

### 2. Project Site

The site of the Project is the Lucrecia Paim Maternity Hospital, Luanda, the Republic of Angola.

### 3. Responsible and Implementing Agency

3-1 The responsible agency is the Ministry of Health.

3-2 The implementing agency is the Lucrecia Paim Maternity Hospital.

### 4. Items requested by the Government of Angola

After discussions with the Team, the items described in Annex-1 were finally requested by the Angola side. JICA will assess the appropriateness of the request and final component of the project including items and their quantity will be decided by the Japanese side taking into account of the study results.

### 5. Japan's Grant Aid Scheme

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

5-2 The Angola side will take the necessary measures, as described in Annex-3, for smooth implementation of the Project, as a condition for the Japanese Grant Aid to be implemented.

### 6. Schedule of the Study

6-1 The consultants will proceed to further studies in Angola until January 29, 2000.

6-2 Based on the Minutes of Discussions and technical examination of the study results, JICA will complete the final report and send it to the Government of Angola around April 2000.

### 7. Other relevant issues

7-1 The Team requested the Angola side and the Angola side guaranteed the Team to make effort to allocate sufficient budget necessary for the proper maintenance of the equipment to be purchased by Japanese grant aid.

7-2 The Team stressed the need to assign skilled maintenance personnel to the Hospital who will assure general maintenance and repair of the medical equipment.

7-3 The Team requested the Angola side to provide answers to the questionnaires until January, 28, 2000.

*2*

*Ca-2*

ACTA DE DISCUSSÕES  
SOBRE O ESTUDO DO DESENHO BÁSICO  
PARA O PROJECTO DE MELHORAMENTO DE EQUIPAMENTOS  
MÉDICOS À MATERNIDADE LUCRÉCIA PAIM  
NA REPÚBLICA DE ANGOLA

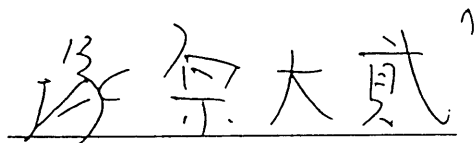
Em resposta à solicitação feita pelo Governo de Angola, o Governo do Japão decidiu conduzir o Estudo do Desenho Básico para o Projecto de Melhoramento de Equipamentos Médicos à Maternidade Lucrecia Paim (de agora em diante será chamado de "o Projecto"), e encarregou o Estudo a Agência de Cooperação Internacional do Japão (JICA).

A JICA enviou à Angola a equipe de Estudo do Desenho Básico (de agora em diante será chamada de "a Equipe") chefiada por Daini Tsukahara, Director, Segunda Divisão de Gerência de Projectos, Departamento de Gerência de Cooperação Financeira Não Reembolsável, JICA, e sua estada em Angola está programada de 13 de janeiro a 29 de janeiro do ano 2000.

A equipe manteve discussões com os funcionários relacionados do Governo de Angola e conduziu levantamentos nas áreas do Estudo.

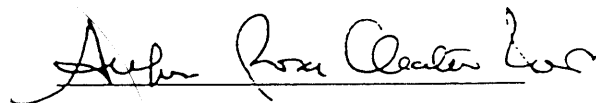
Mediante discussões e levantamentos, ambas as partes confirmaram os assuntos principais referidos nas folhas separadas. A Equipe continuará com o Estudo visando elaborar o relatório do Estudo de Desenho Básico.

Luanda, 20 de janeiro de 2000



Daini Tsukahara

Chefe,  
Equipe do Estudo do Desenho Básico  
da Cooperação Internacional do Japão (JICA)



Augusto Rosa M. Neto.

Director, Gabinete do  
Intercâmbio Internacional  
Ministério da Saúde,  
República de Angola



## FOLHAS SEPARADAS

### 1. Objectivo do Projecto

O objectivo do Projecto é de melhorar a qualidade do serviço médico fundamental da Maternidade Lucrecia Paim mediante a aquisição de equipamentos médicos necessários.

### 2. Sítio do Projecto

Hospital Maternidade Lucrecia Paim, Luanda, República de Angola.

### 3. Organizações responsável e executora do Projecto

3-1 A autoridade responsável é o Ministério da Saúde.

3-2 A organização executora é a Maternidade Lucrecia Paim.

### 4. Itens solicitados pelo Governo de Angola

Após discussões com a Equipe, finalmente foram solicitados pela parte angolana os itens referidos no Anexo-I. A JICA avaliará se a solicitação é apropriada ou não. O componente final do Projecto, incluindo os itens e as quantidades correspondentes serão decididos pela parte japonesa tendo em consideração os resultados do Estudo.

### 5. Sistema de Cooperação Financeira Não Reembolsável do Japão

5-1. A parte angolana compreendeu o sistema de Cooperação Financeira Não Reembolsável do Japão explicado pela Equipe, tal como descrito no Anexo-2.

5-2 A parte angolana tomará as medidas necessárias descritas no Anexo-3, para permitir uma implementação eficaz do Projecto, se for implementada a Cooperação Financeira Não Reembolsável do Japão.

### 6. Cronograma do Estudo

6-1 A firma de consultora continuará com os estudos adicionais em Angola até o dia 29 de janeiro de 2000.

6-2 Com base na Acta das Discussões e análise técnica dos resultados dos estudos, a JICA completará o relatório final e o enviará ao Governo de Angola aproximadamente no mês de abril de 2000.



## 7. Outros pontos relevantes

7-1 A Equipe solicitou a parte angolana e esta garantiu a Equipe que fará esforços para alocar os fundos orçamentais suficientes à manutenção de equipamentos médicos que serão fornecidos através da Cooperação Financeira Não Reembolsável do Japão.

7-2 A Equipe reforçou a necessidade de se nomear pessoal de manutenção capacitado para assegurar a manutenção geral e reparação dos equipamentos médicos da Maternidade.

7-3 A Equipe solicitou a parte angolana para responder ao questionário até o dia 28 de janeiro de 2000.



## Lucrecia Paim Maternity Hospital

M-Item	Description	Q'ty	A	B	C
	<b>Operating Theatre</b>				
M-001	Operating Light (ceiling type)	3	2	0	1
M-002	Operating Light (Portable type)	3	1	1	1
M-003	Universal Operating Table	3	2	1	0
M-004	Suction Unit (5L)	3	3	0	0
M-005	Suction Unit (1L)	3	3	0	0
M-006	Anesthesia Apparatus with Ventilator	3	3	0	0
M-007	Autoclave (Vertical) 150L	1	1	0	0
M-008	Electrosurgical Unit	2	1	1	0
M-009	Patient Monitor (Bed side type)	3	3	0	0
M-010	Endotracheal Set	3	3	0	0
M-011	Infusion Pump	3	2	1	0
M-012	Defibrillator	1	1	0	0
M-013	Laparotomy Instrument set	12	6	6	0
M-014	Instrument Set for GYN/OBS	12	12	0	0
M-015	Instrument Table	3	3	0	0
M-016	I.V.Hanger	6	3	3	0
M-017	Emergency Cart with Resuscitator unit	1	1	0	0
M-018	Laparoscope with Diagnostic System	1	1	0	0
M-019	Film Viewer	3	3	0	0
M-020	Hot Air Sterilizer	1	1	0	0
M-021	Instrument Cabinet	3	3	0	0
M-022	Pulse Oximeter	1	1	0	0
M-023	Transfer Cart	2	2	0	0
M-024	Storing Cabinet	3	3	0	0
M-025	Dressing and Instrument Container	20	10	5	5
M-026	Dressing Drum (3-Kinds)	20	10	5	5
M-027	Ultrasonic Cleaner	1	1	0	0
M-028	Vacuum Extractor	2	1	1	0
	<b>ICU</b>				
M-029	Bed	8	8	0	0
M-030	ICU Bed (A type)	4	4	0	0
M-031	Patient Monitor (Bed side type)	5	4	1	0
M-032	Infant Incubator	6	6	0	0
M-033	Neonate Monitor	2	2	0	0
M-034	Infant Ventilator	2	2	0	0
M-035	Suction Unit (5L)	4	4	0	0
M-036	Suction Unit (1L)	3	3	0	0
M-037	Infusion Pump	5	4	1	0
M-038	Defibrillator	1	1	0	0
M-039	Autoclave (Table Top)	1	1	0	0
M-040	Emergency Cart with Resuscitator unit	1	1	0	0
M-041	Artificial Ventilator	2	2	0	0
M-042	I.V.Hanger	12	12	0	0
M-043	Pulse Oximeter	2	2	0	0
M-044	Infant Warmer	2	2	0	0
M-045	Phototherapy unit	3	2	1	0

M-Item	Description	Qty	A	B	C
M-046	Infant care unit	2	2	0	0
M-047	Oxygen Flow Meter	5	5	0	0
M-048	Stethoscope for Adult	10	10	0	0
M-049	Stethoscope for Infant	10	10	0	0
M-050	Sphygmometer with stand	10	10	0	0
M-051	ECG 1-Channel	1	1	0	0
M-052	Film Viewer	3	3	0	0
M-053	Ultrasonic Nebulizer	2	2	0	0
M-054	Medication Cart	5	3	2	0
M-055	Oxygen Tent	2	2	0	0
	<b>Radiology</b>				
M-056	Universal X-Ray System, Mobile	1	0	1	0
M-057	Automatic Film Processor	1	0	1	0
M-058	Manual Film Processor	1	0	1	0
M-059	Accessories for X-Ray equipment	1	0	1	0
	<b>Gyneco / Obstetrics, Infant</b>				
M-060	Gynecological Examining Table	6	6	0	0
M-061	Instrument Table	6	6	0	0
M-062	Examining Light	6	6	0	0
M-063	Suction Unit (5L)	4	2	2	0
M-064	Colposcope with TV monitor	1	1	0	0
M-065	Hysteroscopy	1	1	0	0
M-066	Doppler Fetal Detector	5	3	0	2
M-067	Cusco's Vaginal Speculum 3-Kinds (L,M,S)	30	30	0	0
M-068	Birth calendar	3	0	0	3
M-069	Pelvimeter	3	3	0	0
M-070	Baby Head Measure	5	5	0	0
M-071	Hi-Low stretcher	3	3	0	0
M-072	Wheel Chair	5	3	2	0
M-073	I.V.Hanger	5	5	0	0
M-074	Infant Weighing Scale	1	1	0	0
M-075	Infant Examining Table	3	3	0	0
M-076	Sphygmometer with stand	3	3	0	0
M-077	Film Viewer	3	3	0	0
M-078	Scale, Adult	2	2	0	0
M-079	Weight Scale, Adult	2	2	0	0
M-080	Ultrasound Diagnostic Equipment	1	0	1	0
	<b>Delivery Room</b>				
M-081	Delivery Bed	5	5	0	0
M-082	Cardiotachograph	5	5	0	0
M-083	Examining Light	5	5	0	0
M-084	Aspiration Instrument for Newborns	1	1	0	0
M-085	Infant Transport Incubator	1	1	0	0
M-086	Instrument set for Delivery	20	20	0	0
M-087	Vacuum Extractor	2	2	0	0
M-088	Suction Unit (5L)	5	5	0	0
M-089	Instrument Table	5	5	0	0
M-090	Kick Bucket	5	5	0	0
M-091	I.V.Hanger	5	5	0	0
M-092	Stethoscope for Adult	5	5	0	0
M-093	Sphygmometer with stand	5	5	0	0

M-Item	Description	Q'ty	A	B	C
M-094	Doctor's Char	5	5	0	0
M-095	Boiling sterilizer	2	2	0	0
	<b>Ward</b>				
M-096	Gynecological Examining Table	8	8	0	0
M-097	Instrument Table	8	8	0	0
M-098	Examining Light	4	4	0	0
M-099	Suction Unit (5L)	2	2	0	0
M-100	Cusco's Vaginal Speculum 3-Kinds (L,M,S)	15	15	0	0
M-101	Bassinet Cart	20	20	0	0
M-102	Patient Bed (B type)	20	20	0	0
M-103	Bedside Cabinet	20	20	0	0
M-104	Hi-Low stretcher	4	4	0	0
M-105	Wheel Chair	4	4	0	0
M-106	I.V.Hanger	8	8	0	0
M-107	Sphygmometer with stand	4	4	0	0
M-108	Stethoscope for Adult	4	4	0	0
M-109	Scale, Adult	2	0	1	1
M-110	Weight Scale, Adult	2	2	0	0
M-111	Oxygen Flow Meter	4	4	0	0
M-112	Ultrasound Diagnostic Equipment	1	1	0	0
M-113	Doppler Fetal Detector	2	2	0	0
M-114	Amnioscope	1	1	0	0
	<b>Laboratory</b>				
M-115	Spectrophotometer	3	3	0	0
M-116	Binocular Microscope	6	6	0	0
M-117	Centrifuge	2	2	0	0
M-118	Heamacrit Centrifuge	2	2	0	0
M-119	Water Distillation Apparatus	1	1	0	0
M-120	Refrigerator for Medical use	2	2	0	0
M-121	Blood Bank Refrigerator	1	0	1	0
M-122	Blood Cell Counter	4	4	0	0
M-123	Drying Oven	1	1	0	0
M-124	Electrolyte Analyzer	1	1	0	0
M-125	Water Bath	2	0	2	0
M-126	Vortex Mixer	1	1	0	0
M-127	Pipette Washer	4	4	0	0
M-128	Micro pipetto	4	4	0	0
M-129	Urometer	1	1	0	0
M-130	Urinary Sediment meter	1	1	0	0
M-131	Glassware set	1	1	0	0
M-132	Boilling sterilizer	2	2	0	0
M-133	Bilirubin Meter	1	1	0	0
	<b>Breast Feeding Room</b>				
M-134	Refrigerator for Artificial Breast Milk	1	1	0	0
M-135	Warmer for Feeding bottle	1	1	0	0
M-136	Breast Milk Homogenizor	1	1	0	0
M-137	Milk Mixer	1	1	0	0
	<b>Emergency Room</b>				
	<b>1) Emergency Observation</b>				
M-138	Labor Bed	4	4	0	0
M-139	Cardiotochograph	4	0	0	4

M-Item	Description	Q'ty	A	B	C
M-140	Examining Light	4	4	0	0
M-141	Aspiration Instrument for Newborns	1	0	0	1
M-142	Instrument set for Delivery	9	6	0	3
M-143	Vacuum Extractor	1	0	0	1
M-144	Suction Unit (5L)	4	4	0	0
M-145	Instrument Table	4	4	0	0
M-146	Kick Bucket	4	4	0	0
M-147	Sphygmometer with stand	4	4	0	0
M-148	Doctor's Char	4	0	0	4
M-149	I.V.Hanger	4	4	0	0
M-150	Stethoscope for Adult	4	4	0	0
	<b>2) Emergency Room</b>				
M-151	Hi-Low stretcher	6	6	0	0
M-152	Partition	11	11	0	0
M-153	I.V.Hanger	6	6	0	0
M-154	Oxygen Flow Meter	6	6	0	0
M-155	Sphygmometer with stand	6	6	0	0
M-156	Stethoscope for Adult	6	6	0	0
M-157	Ultrasound Diagnostic Equipment	1	1	0	0
M-158	Respirator	1	1	0	0
	<b>3) Resuscitation Room</b>				
M-159	Hi-Low stretcher	1	1	0	0
M-160	Defibrillator	1	1	0	0
M-161	Patient Monitor (Bed side type)	1	1	0	0
M-162	Pulse Oximeter	1	1	0	0
M-163	Examining Light	1	1	0	0
M-164	Emergency Cart with Resuscitator unit	1	1	0	0
M-165	Kick Bucket	4	4	0	0
M-166	Suction Unit (5L)	1	1	0	0
M-167	I.V.Hanger	2	2	0	0
	<b>4) Sterilization Room</b>				
M-168	Autoclave (Vertical) 150L	1	1	0	0
M-169	Ultrasonic Cleaner	1	1	0	0
M-170	Transfer Cart	2	2	0	0
M-171	Storing Cabinet	3	3	0	0
M-172	Dressing and Instrument Container	8	8	0	0
M-173	Dressing Drum (3-Kinds)	8	8	0	0
	<b>Hospital Laundry</b>				
M-174	Washing Machine (Large)	3	0	3	0
M-175	Washing Machine (Small)	1	0	1	0
M-176	Extractor Machine	2	0	2	0
M-177	Drying Tumbler	2	0	2	0
M-178	Electric Press Machine	2	0	2	0
M-179	Linen Supply Trolley	3	0	3	0
M-180	Laundry Cart	3	0	3	0
	<b>All Department, Other</b>				
M-181	Service tool set for maintenance	1	0	1	0
M-182	Mortuary refrigerator	1	1	0	0
M-183	Educational equipment (OHP, Projector, Screen)	1	1	0	0
M-184	Incinerator	1	1	0	0

## Japan's Grant Aid Scheme

### 1. Grant Aid Procedures

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

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

2) Firstly, the application or request for a grant aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for the grant aid. If the request is deemed appropriate, the Government of Japan assigns JICA (Japan International Cooperation Agency) to conduct a study on the request.

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

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

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

### 2. Basic Design Study

1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project") is to provide a basic document necessary for the appraisal of the Project by the Japanese Government. The contents of the Study are as follows:

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

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 in considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the government of the recipient country to take whatever measures are necessary to ensure its self-reliance in implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

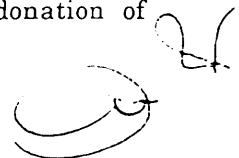

## 2) Selection of Consultants

For smooth implementation of the Study, JICA uses (a) registered consulting firm(s). JICA selects (a) firm(s) based on the proposals submitted by interested firms. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA. The consulting firm(s) used for the Study is(are) recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency.

## 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 facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under the principles in accordance with the relevant laws and regulations of Japan. Grant Aid is not supplied through the donation of materials as such.





2) Exchange of Notes (E/N)

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

3) "The period of the Grant Aid" means the one fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with (a) consulting firm(s) and (a) contractor(s) and final payment to them must be completed. However in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two governments.

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

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

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

5) Necessity of Verification

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

6) Undertakings required to the Government of the Recipient Country

In implementation of the Grant Aid Project, the recipient country is required to undertake such necessary measures as follows:

- a. To secure land necessary for the sites of the Project, and to clear, level and reclaim the land prior to commencement of the construction
- b. To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities in/around the sites

- c. To secure buildings prior to the procurement in case the installation of the equipment
- d. To ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products 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, with such facilities that 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 facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign necessary staff for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

8) Re-export

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

9) Banking Arrangements (B/A)

- a. The government of the recipient country or its designated authority should open an account in the name of the government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the government of the recipient country or its designated authority under the Verified Contracts.
- b. The payments will be made when payment requests are presented by the Bank to the Government of Japan under the authorization to pay issued by the government of the recipient country or its designated authority.



## Major Undertaking to be taken by each Government

NO	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	To bear the following commissions to a foreign exchange bank 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 the recipient country		
	1) Marine (air) transportation of the products from Japan and third countries to the recipient country	●	
	2) Tax exemption and custom clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	(●)	(●)
3	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
4	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts		●
5	To maintain and use properly and effectively the 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 effective use and appropriate maintenance of the equipment		●