BASIC DESIGN STUDY REPORT

ON

THE PROJECT

FOR

IMPROVEMENT OF HEALTH CARE SERVICE SYSTEM IN SOROTI REGION

IN

THE REPUBLIC OF UGANDA

February, 2003

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) INTERNATIONAL TECHNO CENTER CO., LTD.

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PREFACE

In response to a request from the Government of the Republic of Uganda, the Government of Japan decided to conduct a basic design study on the Project for Improvement of Health Care Service System in Soroti Reagion and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Uganda a study team from August 30 to October 11 2002.

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

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

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

February, 2003

W上管朝

Takao Kawakami President Japan International Cooperation Agency

Letter of Transmittal

We are pleased to submit to you the basic design study report on the Project for Improvement of Health Care Service System in Soroti Region in the Republic of Uganda.

This study was conducted by International Techno Center Co., Ltd., under a contract to JICA, during the period from August, 2002 to February, 2003. In conducting the study, we have examined the feasibility and rationale of the project with due consideration to the present situation of Uganda 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,

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Chiharu Abe Project Manager, Basic design study team on the Project for Improvement of Health Care Service System in Soroti Region International Techno Center Co., Ltd.

Location Map of Uganda



Counties and Sub-counties in Districts of Soroti, Kaberamaido and Katakwi



List of Figures and Tables

No.	Title	Page
Figure 1-1	Health Care Units in Soroti, Kaberamaido and Katakwi Districts	1
Figure 2-1	Scope of Project	6
Figure 2-2	Layout of Soroti Hospital	18
Figure 2-3	Implementation Schedule	21
Table 1-1	Summary of Final Request	4
Table 2-1	List of Equipment to be Procured	15
Table 2-2	Summary of Specifications of Main Equipment	17
Table 2-3	Equipment for which Local Agent Required	20
Table 2-4	Equipment maybe Procured from Third Countries	20
Table 2-5	Operation Cost of Equipment to be Procured	23
Table 2-6	Cost of Spare Parts of Equipment to be Procured	24
Table 2-7	Increments of Recurrent Cost of DDHSs	24
Table 2-8	Increments of Recurrent Cost of Soroti Hospital	25
Table 2-9	Comparison between Increments and Recurrent FY2001	25
Table 3-1	Effetc of Project Implementation and Extent of Improvement	27

Abbriviation

A/P	Authorization to Pay
B/A	Banking Arrangement
DDHS	District Director Health Service
DOTS	Directly Observed Treatment, Short-course
E/N	Exchange of Note
HMIS	Health Management Information System
HSD	Health Sub District
HSSP	Health Sector Strategic Plan
IMCI	Integrated Management of Childhood Illness
IPT	Intermittent Persumptive Treatment
JICA	Japan International Cooperation Agency
JMS	Joint Medical Store
MMR	Maternal Mortality Rate
МОН	Ministry of Health
NGO	Non Governmental Organization
NMS	National Medical Store
PEAP	Poverty Eradication Action Plan
РНС	Primary Health Care
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNMHCP	Uganda National Minimum Health Care Package
WHO	World Health Organization

Summary

Summary

The government of Uganda embarked the Poverty Eradication Action Plan 2000/01-2004/05 (PEAP). The Health Sector Strategic Plan (HSSP) was developed under the framework of PEAP, with the overall objectives to reduce mortality, morbidity and fertility, and the disparities therein.

Ensuring access to the minimum health care for the entire nation is the central strategy to this end, giving the highest priorities in health development on strengthening the service delivery. The service network is being improved, particularly in the rural areas in order that equitable distribution of health services shall be assured through the country, namely the service access to the Uganda National Minimum Health Care Package (UNMHCP).

The districts of Soroti, Kaberamaido and Katakwi are located in the northeastern part of the country, with a projected population of 700,000. There is no other regional referral hospital to the north or east of Soroti Hospital, which was upgraded from a district hospital to a regional referral hospital in 1997. There is no hospital in the three districts other than Soroti Hospital and Lwala Hospital owned by NGO. There are nine Health Sub Districts (HSD) in the area. Out of nine HSDs, seven HSDs have a health centre IV (HC-IV) respectively as their headquarters. Soroti Hospital serves as the headquarters in Soroti Municipality HSD, and Lwala Hospital, Kalaki HSD in Kaberamaido. There are 34 HC-IIIs, as guided by HSSP to have one HC-III at every 20,000 population. Lwala Hospital and five HC-IIIs are health care units owned by NGO, which are collaborating closely with the government.

HC-IIIs and HC-IVs provide the services defined by UNMHCP. Out patient services, maternal care and essential clinical cares are available at most units. However, capacity or quality of the services is yet to satisfying and needs to be improved. Poor transportation and communication hinders the health service activities in the area. Most HC-IIIs have no communication, and the units are almost isolated from each other. Staff of HC-III run to HC-IV for an ambulance vehicle in case of emergency transportation. This situation surely gives a heavy burden on their obstetric care. Most health centres have no light in their delivery rooms, although deliveries are rather at night than daytime in the area. The rate of institutional delivery is low in the area. All the health care units provide immunisation service. The outreach services by health centres take an important roles. However, poor transportation is a problem again, and it gives terrible burden to health care units with less staff. Soroti Hospital also has several problems to be solved. The hospital is not equipped with essential medical apparatuses necessary for their diagnosis and treatment.

In 2001, the Ministry of Health (MOH) made a request for the Japanese grant aid project for

the supply and installation of medical equipment in Soroti Hospital and related health care units in the three districts, with the purpose to improve PHC services and referral system in the area. In response to this request, the Japanese government decided to conduct a basic design study, and the Japan International Cooperation Agency (JICA) sent to Uganda a basic design study team from August 30 to October 11, 2002. The further study was made after the team returned to Japan, and JICA sent the team again from December 2 to 20, 2002 for the explanation of draft report.

The study team carefully examined the situation of health care unit in the area, based on the policies and strategies of PEAP and HSSP by the Ugandan government. The project has been designed to provide the equipment to be used for service activities of health care units in the area. The project covers Soroti Regional Referral Hospital, HSD headquarters (7 HC-IVs and Lwala Hospital) and 31 HC-IIIs. The project excludes the three HC-IIIs in Soroti Municipality. These HC-IIIs close to Soroti Hospital do not provide delivery service, and their burden of transportation and communication is less being located in Soroti Municipality. For these reasons, the input by this project is thought unnecessary for these three. The equipment to be procured is shown below.

0	-
Clinical Testing	Spectrophotometer(1),Microscope(2),Colorimeter(1),Water Distiller(1)
Maternal Ward	Delivery Bed(3),Instrument Delivery Set(6),Vacuum Extractor(1),Suction Pump(1),Patient
	Trolley(2), Dispenser Trolley(2), Autoclave (1), Infant Warmer(1), Baby
	Incubator(1),Phototherapy Unit(1)
MCH/FP	Examination Couch(2), Examination Light(2), Diagnostic Set(2), Weighing Scale
	Adult(2),Weighing Scale Child(2),Instrument Trolley(2),Autoclave(2)
OPD/General	Examination Couch(1),Examination Light(1),Diagnostic Set (1),Dressing Set(1),Weighing
Clinic	Scale Adult(1),Instrument Trolley(1),Refrigerator(1),Autoclave (1)
OPD/Paediatric	Examination Couch(1),Examination Light(1),Diagnostic Set (1),Dressing Set(1),Weighing
Clinic	Scale Child(1),Instrument Trolley(1),Refrigerator(1),Autoclave (1)
OPD/Eye Clinic	Examination Couch(1),Examination Light(1),Diagnostic Set (1),Instrument
	Trolley(1),Refrigerator(1),Autoclave (1)
OPD/Casualty	Operating Table(1),Mobile Operating Light(1),Suction Pump (1),Endtracheal Set
	Adult(1),Endtracheal Set Child(1),Resuscitator (2),Examination Light(1),Diagnostic Set
	(1),Dressing Set(1),Instrument Trolley(1),Refrigerator(1),Autoclave (1)
OPD/Dental	Dental Unit (1),Dental Cabinet(1),Dental X-ray(1),Instrument Trolley(1),Autoclave (1)
Main Theatre	Operating Table(2),Mobile Operating Light(2),Suction Pump (2),Endtracheal Set
	Adult(2),Endtracheal Set Child(2),Oxygen Concentrator(2),X-ray Film
	Viewers(2),Defibrillator(1),ECG Monitor(1),Anaesthetic Machine(1)
Blood Bank	Donor Couch (2),Deep Freezer(1),Blood Bank Refrigerator(1),Centrifuge (1),Microscope(1)
Patient	Ambulance(1),Diagnostic Set (2),X-ray Film Viewer(1),Weighing Scale Adult(1),Wheel
Transportation	Chair(2),Patient Trolley(2),Dispenser Trolley(2),Drug Cupboard(1),Autoclave (1)
Surgical Ward,	Diagnostic Set (2),X-ray Film Viewer(1),Weighing Scale Adult(1),Wheel Chair(2),Patient
Female	Trolley(2), Dispenser Trolley(2), Drug Cupboard(1), Autoclave (1)
Medical Ward	Diagnostic Set (2),X-ray Film Viewer(1),Weighing Scale Adult(1),Wheel Chair(2),Patient
	Trolley(2),Dispenser Trolley(2),Drug Cupboard(1),Autoclave (1)
Children's Ward	Diagnostic Set (2),X-ray Film Viewer(1),Weighing Scale Child(1),Wheel Chair(2),Drug
	Cupboard(1),Autoclave (1)
TB Wards	Microscope(1), Diagnostic Set (1), X-ray Film Viewer(1), Weighing Scale (1), Autoclave (1)
Pharmacy	Autoclave(1),Balance (1),Water Distiller(1),Refrigerator(1),Cap Sealing Machine(1)
Laundry	Washer Extractor(2), Iron(1), Laundry Trolley(10)
Mortuary	Mortuary Refrigerator (1)
Workshop	Tool Set(1)

Soroti Regional Referral Hospital

Health Centre IVs and Lwala Hospital

Category	Equipment(q'ty)
Maternity	Solar Electric System(1 each for 5 units)
Operation Theatre	Operating Table(3), Mobile Operating Light (3), Operation Instrument Set(3),
-	Endtracheal Set Adult(3), Endtracheal Set Child(3)
Patient Transportation	Ambulance(1 each for 6 units), Radio Call(1 each for 5 units)
Out-reach Service	Motorcycle(1 each for 8 units)

Health Centre III

Category	Equipment(q'ty)
Maternity	Solar Electric System(1 each for 17 units)
Patient Transportation	Radio Call(1 each for 30 units)
Out-reach Service	Motorcycle(1 each for 31 units)

The effects can be expected as below by the implementation of the project.

[Direct Effect]

- Diagnostic services of Soroti Hospital improve.

The diagnostic equipment to be procured by the project will enable Soroti Hospital to perform appropriate examination, such as general X-ray, ultrasound diagnosis, and basic biochemical tests.

- Maternal care in the are improves.

The solar electric systems for HC-IVs and HC-IIIs will ensure that all the health units providing delivery service in the area have the lighting for delivery at night. The basic surgical equipment for three HC-IVs will ensure that all HC-IVs in the area are able to perform Caesarean section.

- Transportation and communication of health units improves.

The radio calls for HC-IVs and HC-IIIs and the ambulances for Soroti Hospital and HC-IVs will ensure patient transportation in all HSDs and between HSDs and Soroti Hospital.

[Indirect Effect]

- Time required to transport a patient in the area reduces.

After the improved transportation and communication are put to practical use, the time required to transport a patient will be reduced with adequate management by HSDs.

- Institutional delivery in the area increases.

The lighting at delivery space make rural population positive toward childbirth at health units. The deliveries are rather at night than daytime in the area. The lighting of all the delivery rooms of HC-IVs and HC-IIIs will increase the night deliveries at health units, and result in the increase of institutional delivery.

- Children's immunisation in the area increases.

After the motorcycles improve the efficiency of out-reach activities of HC-IVs and HC-IIIs, the number of immunised children in the area will increase when adequate health education is given and vaccine supply stays stable.

The project will benefit about 700,000 rural population in the area. In addition, improvement of Soroti Hospital will also benefit the population in other districts in the northeastern part of the country.

BASIC DESIGN STUDY REPORT ON THE PROJECT FOR IMPROVEMENT OF HEALTH CARE SERVICE SYSTEM IN SOROTI REGION IN THE REPUBLIC OF UGANDA

CONTENTS

Preface

Letter of T	ransmit	tal		
Location N	Лар			
List of Fig	ures &	Tables		
Abbreviati	ons			
Summary				
•				
Chapter 1	Backg	ound of the project		1
Chapter 2	Conter	ts of the project		5
2-1	Basic	Concept of the Project		5
2-2	Basic	Design of the Requested Japanese Assist	tance	5
	2-2-1	Design Policy		5
	2-2-2	Basic Plan		7
	2-2-3	Basic Design Drawing		18
	2-2-4	Implementation Plan		18
		2-2-4-1 Implementation Policy		18
		2-2-4-2 Implementation Conditions		19
		2-2-4-3 Scope of Works		19
		2-2-4-4 Consultant Supervision		19
		2-2-4-5 Procurement Plan		20
		2-2-4-6 Quality Control Plan		21
		2-2-4-7 Implementation Schedule		21
2-3	Obliga	tions of Recipient Country		21
2-4	Projec	Operation Plan		22
	2-4-1	Maintenace of Equipment		22
	2-4-2	Operation and Maintenance Cost		22

Chapter 3	Project Evaluation and Recommendations	 26
3-1	Project Effect	 26
3-2	Recommendations	 29

[Appendices]

- 1. Member List of the Study Team
- 2. Study Schedule
- 3. List of Parties Concerned in the Recipient Country
- 4. Minutes of Discussions
- 5. References

Chapter 1 Background of the Project

Chapter 1. Background of the Project

The government of Uganda embarked the Poverty Eradication Action Plan (PEAP) with emphasis on the modernisation of agriculture, improvement of rural infrastructure, development of marketing opportunities, universal primary education, primary health care (PHC) and water and sanitation.

The Health Sector Strategic Plan (HSSP) was developed under the framework of PEAP, with the overall objectives to reduce mortality, morbidity and fertility, and the disparities therein. Ensuring access to the minimum health care for the entire nation is the central strategy to this end, giving the highest priorities in health development on strengthening the service delivery. The Uganda National Minimum Health Care Package (UNMHCP) comprises control of communicable diseases, integrated management of childhood illness (IMCI), reproductive health, other public health interventions and the essential clinical services. The service network is being improved, particularly in the rural areas in order that equitable distribution of health services shall be assured through the country.

In line with this health development policy, the Ugandan government made a request for the Japanese grant aid project for the supply and installation of medical equipment in Soroti Regional Referral Hospital and related health care units in the districts of Soroti, Kaberamaido and Katakwi. The request was made with the concepts to provide appropriate medical equipment to health centre III (HC-III) to regional referral hospital and to establish a functional referral system by providing transportation and communication equipment.

The districts of Soroti, Kaberamaido and Katakwi are located in the northeastern part of the country, with a projected population of 700,000. There is no other regional referral hospital to the north or east of Soroti Hospital, which was upgraded from a district hospital to a regional referral hospital in 1997. There is no hospital in the three districts other than Soroti Hospital and Lwala Hospital owned by NGO. There are four Health Sub Districts (HSD) in Soroti, two in Kaberamaido, and three in Katakwi. Out of these nine HSDs, seven HSDs have a health centre IV (HC-IV) respectively as their headquarters. The two HC-IVs of them are recently upgraded from HC-III. Soroti Hospital serves as the headquarters in Soroti Municipality HSD and Lwala Hospital, in Kalaki HSD of Kaberamaido. There are 34 HC-IIIs, as guided by HSSP to have one HC-III at every 20,000 population. However, the three districts yet to have about 20 HC-IIs. Lwala Hospital and five HC-IIIs are health care units owned by NGO, which are collaborating closely with the government.



Figure 1-1:Health Care Units in Soroti, Kaberamaido and Katakwi Districts

HC-IIIs and HC-IVs provide the services defined by UNMHCP. Out patient services, maternal care and essential clinical cares are available at most units. However, capacity or quality of the services is yet to satisfying and needs to be improved.

The top disease in the are is malaria, and more than half of patients are diagnosed their illness as malaria at some health units. Severe malaria or anemia caused by malaria is the most common reason of patient referral to higher units. The annual report 2000 of Soroti Hospital showed 51.9% or 140 cases of children's deaths at the hospital had been diagnosed both malaria and severe anemia. The Hospital gives blood transfusions most frequently at the children's ward and more than 1,700 children were transfused because of severe anemia in the same year. These undesirable facts imply that early treatment is insufficient.

The Intermittent Presumptive Treatment (IPT) is indispensable for antenatal care in the area, however the ratio of second IPT is very low both at the health centres and the hospitals. Most pregnant women take the antenatal check-up once or twice only, and this might be one reason of low implementation of IPT. Health units are sometimes running out of quinine or fensider, although they have enough chloroquine tablets, and this can be another reason.

UNMHCP intends to expand tuberculosis control with the Directly Observed Treatment Short-course (DOTS) strategy. However, it seems difficult to practice it in the area at the present having less HC-II and community level health staff. Another problem is poor laboratory service of health centres. Most HC-IIIs can not perform even basic microscopy including sputum smear test only because they have no laboratory staff.

The rate of institutional delivery is low in the area. It is estimated about 30% in Soroti and about 15% in Kaberamaido and Katakwi. Most health centres have no light in their delivery rooms, although deliveries are rather at night than daytime in the area. The maternal records of health centres imply some significant difference between health care units with light and without it. Some health centres with light in delivery rooms have bigger number of deliveries at night than daytime, though the others without light have deliveries only in the daytime.

Poor transportation and communication hinders the health service activities in the area. Most HC-IIIs have no communication, and the units are almost isolated from each other. Staff of HC-III run to HC-IV for an ambulance vehicle in case of emergency transportation. This situation surely gives a heavy burden on their obstetric care. The maternal mortality at Soroti Hospital was 23 cases against 2,587 live births in 2001. This ratio is much worse than Ugandan MMR 510 as reported by the government, although the sample size is too small to be interpreted as MMR. There are few logical evidences of relation of emergency transportation and maternal deaths in the hospital. However there is quite big importance to improve the patient transportation in these three districts.

All the health care units provide immunisation service. The out-reach services by health centres take an important roles. However, poor transportation is a problem again, and some health centres with less staff can not implement all their out-reach services. Better transportation such as motorcycle can decrease their burden.

Soroti Hospital also has several problems to be solved. The hospital is not equipped with essential medical apparatuses necessary for their diagnosis and treatment. A too old X-ray apparatus is not enough for diagnosis. Basic ultrasound diagnosis is not available yet. The hospital performs few biochemical tests for jaundice, hepatic or renal function although it has certain amount of microscopy for malaria, intestinal worms and other infectious diseases. A regional referral hospital can preferably performs overall clinical examinations, however it is difficult to realise all at a time. Basic biochemistry is reasonable and practicable next step for the hospital. The hospital's operation service also requires improvement. The hospital has used ether for general anaesthesia. It is now required to shift it gradually as the government's

policy to introduce anaesthesia with halothane or other anaesthetics at regional referral hospitals.

In 2001, the Ministry of Health (MOH) made a request for the Japanese grant aid with the purpose to improve PHC services and referral system in the area. The request included medical equipment for Soroti Regional Referral Hospital, seven HC-IVs, 30 HC-IIIs, five NGO units and offices of DDHSs. However, some items in these requirements were provided before the basic design study team was dispatched to Uganda. Both Japanese and Ugandan sides discussed and agreed to avoid the duplication of the equipment item already procured.

Out of 30 HC-IIIs listed in the original request, Ongongoja HC-III was not opened when the basic design study for the project started in August 2002. It was too difficult to include it because there was no prospect to open it. On the other hand, Lwala Hospital was not listed in the original request, although it is the headquarters of Kalaki HSD.

MOH and DDHSs showed the study team their final request after consideration including the above issues. The final request from the Ugandan side was presented with the importance on maternal care, communication and transportation in the area, diagnosis and treatment of Soroti Hospital.

Health Care Units	are Units Equipment Requested	
Soroti Regional Referral Hospital	X-ray Basic Bucky System, Ultrasound Scanner,	131 items
	Table OD Light ECC Monitor Delivery Pad Infant Warmer	
	Table, OF Light, ECO Monitor, Derivery Bed, Infant warmer,	
	Dental Unit, Mortuary Reirigerator, etc.	
HC-IV (7 units)	Radio Call, Solar Electric System, Ambulance for Patient	6 items
	Transportation, Motorcycle for Out-Reach Service, Equipment	
	to be used in OP Theatre, Water Tank	
HC-III (29 units)	Radio Call, Solar Electric System, Motorcycle for Out-Reach	4 items
	Service, Water Tank	
NGO units	Radio Call, Solar Electric System, Motorcycle for Out-Reach	22 items
HC-III(5 units), Lwala Hospital	Service, Diagnostic Set, Hospital Bed, Patient Screen, etc.	
Offices of DDHS	Radio Call (Station), Radio Call (Ambulance), Solar Electric	4 items
	System	

Table 1-1: Summary of Final Request

Chapter 2 Contents of the Project

Chapter 2. Contents of the Project

2-1 Basic Concept of the Project

Implementation of UNMHCP with strengthening of health care delivery system are the mainstream of the health development in Uganda based on HSSP under framework of PEAP. The activation of health service in the rural area is a most important key issue. HC-IVs as headquarters of HSDs and HC-IIIs serving some 20,000 population are gradually improved in the districts of Soroti, Kaberamaido and Katakwi. Soroti Hospital has been upgraded from a district hospital to a regional referral hospital. Necessary wards have been constructed and health personnel recruited to some extent. The components of UNMHCP shall be ensured at all the health centres. The reliable diagnosis shall be realised at Soroti Hospital. Besides, the service activities of these health care units need to be connected to realise the service delivery system that nets the rural area. The functional system of patient transportation strongly desired in the whole area.

The project has been designed to improve the service activities of health care units included in the project, with the overall goal to improve the service delivery of health care in the area. In order to achieve these objectives, adequate staffing, essential equipment, maintenance of facilities and equipment, health education and motivating the rural population are required. The essential equipment can be provided under the Japanese grant aid, and at the same time, the own efforts by the Ugandan side should be continued.

2-2 Basic Design of the Requested Japanese Assistance

2-2-1 Design Policy

(1) Scope of the Project

The project provides the equipment to be used for health care services of Soroti Regional Referral Hospital, HSD headquarters (HC-IVs and Lwala Hospital), and HC-IIIs in the districts of Soroti, Kaberamaido, and Katakwi. The project put emphasis on maternal care, and respective services at all the health care units included in the project. However, equipment for diagnosis and treatment other than maternal care is limited for Soroti Hospital. The project also attaches the great importance on transportation and communication for health care in the area, and procures radio calls for health centres, ambulance vehicles for HSDs, and motorcycles for out-reach services. The project excludes the three HC-IIIs in Soroti Municipality. These HC-IIIs close to Soroti Hospital do not provide delivery service, and their burden of transportation and communication is less being located in Soroti Municipality. For these reasons, the said input by this project is thought unnecessary for these three.





(2) Policy of Equipment Planning

Each equipment item requested by the Ugandan side was closely examined based on the study result. The equipment to be procured has been determined after excluding some items for the reasons below.

- Equipment already procured, or can be procured by the Ugandan side
- Equipment which is not necessary for the requesting department
- Equipment for which another equipment can be used
- Existing one can be used enough

The increase of operation and maintenance cost of the health service had better be avoided. For this reason, the project procures the equipment that can be used with affordable consumables for Soroti Hospital and DDHSs, and the minimum quantity of each item.

(3) Local Agent

A product of manufacturer whose agent is located in Uganda or neighbouring countries needs to be selected regarding equipment item that requires technical service by the manufacture or its agent, and/or constant supply of consumables.

(4) Procurement from Third Countries

An item may be procured from third countries when only few Japanese manufacturers have their products that satisfy technical conditions including condition of local agents in and around Uganda.

(5) Responsibility and Ownership of Equipment

The responsible ministry of the project is MOH on behalf of the government of Uganda. The

project shall be executed under the control of the Department of Clinical Services of MOH collaborating with DDHSs of Soroti, Kaberamaido and Katakwi.

All the equipment procured by the project remains under ownership of the government. The equipment to be installed at NGO health care units shall be under control of MOH and/or DDHSs of Soroti, Kaberamaido and Katakwi, be lent by the government to NGO units, be properly used for the health service with the collaboration between government and NGO, and be kept permanently where it is installed by the project. These issues shall be agreed by the government and NGO units with their formal document.

2-2-2 Basic Plan

(1) Equipment Plan for Soroti Regional Referral Hospital

[Diagnostic Service]

The project procures the equipment for the basic image diagnosis and clinical testing as the minimum request for a regional referral hospital. The five items to be used for image diagnosis shall be procured. These shall be installed at X-ray ward of the hospital. One spectrophotometer shall be procured for the basic biochemistry testing at the central laboratory of the hospital. Microscope, colorimeter, and others shall be replaced. The equipment plan and comparison with the final request is shown below.

A. Image Diagnosis

Code	Equipment	Request
A-01	X-ray Basic Bucky System	1
A-02	X-ray Protective Clothing	3
A-03	X-ray Darkroom Equipment	1
A-04	X-ray Film Viewer	10
A-05	Ultrasound Scanner	1
	X-ray Cassettes	5

Plan	
1	for basic
1	aprons
1	dark ro
1	wall mo
1	1 unit fo
	to be inc

Note
for basic radiography
aprons in 2 sizes
dark room lamp, film hunger
wall mounted type
1 unit for basic diagnosis
to be included in X-ray system

B. Clinical Laboratory

		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~		
Code	Equipment	Request	Plan	
B-01	Spectrophotometer	1	1	for basic
B-02	Microscope	4	2	
B-03	Colorimeter	2	1	to replace
B-04	Water Distiller	3	1	-
	Haemoglobin Meter	2		B-01, B-0



[Maternal Care]

The project procures 10 items to be used for maternal and newborn care at the Maternal Ward, and seven items for diagnosis and treatment at the MCH/FP Department in OPD block.

C. Maternal Ward (Ward 4)

Code	Equipment	Request
C-01	Delivery Bed	5
C-02	Instrument Delivery Set	10
C-03	Vacuum Extractor	2
C-04	Suction Pump (Electric)	2
C-04	Patient Trolley	2
C-06	Dispenser Trolley	2
C-07	Autoclave (Bench Type)	2
C-08	Infant Warmer	3
C-09	Baby Incubator	3
<u>C-10</u>	Phototherapy Unit	
	Ultrasound Scanner(Maternity)	1
	Infant Pump	5
	X-ray Film Viewers	2
	Resuscitator (Adult)	2
	Resuscitator (Child)	2
	Hospital Beds	40
	Baby Cots	20
	Patient Screen	5

Note
to replace 3 delivery beds
2 sets per 1 delivery bed
1 vacuum extractor
1 suction pump
1 unit for each 2 wings
1 unit for Maternal ward
1 unit for newborn room
A-05 to be used
not necessary for delivery
existing ones are enough
to be procured by Ugandan side

D. MCH/FP department in OPD

Code	Equipment	Request		Plan
D-01	Examination Couch	4		2
D-02	Examination Light	4		2
D-03	Diagnostic Set (MCH)	4]	2
D-04	Weighing Scale (Adult)	2		2
D-05	Weighing Scale (Child)	2]	2
D-06	Instrument Trolley	4		2
D-07	Autoclave (Bench Type)	2		2
	Patient Screen	4	1	



to be procured by Ugandan side

[Out-Patient Department]

The equipment below was requested for OPD and dental clinic. The equipment to be procured was examined to provide the essential items for general clinic, paediatric clinic, eye clinic, casualty and dental clinic in OPD.

Request for OPD	
Accident and Emergency Unit Equipment	1
Operating Light (Mobile)	1
Suction Pump (Electric)	2
Examination Couch	5
Examination Light	6
Diagnostic Set	6
Dressing Set	6
Weighing Scale (Adult)	5
Weighing Scale (Child)	5
Instrument Trolley	6
Refrigerator	4
Autoclave (Bench Type)	6
Patient Screen	2

	Plan	and	distribution for each clinics	
--	------	-----	-------------------------------	--

Operating Table, Operating Light , Suction Pump, Endtracheal Set, Resuscitator for casualty
each 1 for general, paediatric, eye clinics
each 1 for general, paediatric, eye clinics and casualty
each 1 for general, paediatric, eye clinics and casualty
each 1 for general, paediatric clinics and casualty
1 for general clinic
1 for paediatric clinic
each 1 for general, paediatric, eye clinics and casualty
each 1 for general, paediatric, eye clinics and casualty
each 1 for general, paediatric, eye clinics and casualty
to be procured by Ugandan side

Request for Dental Clinic		Plan and distribution for each clinics
Dental Unit Complete	2	1 for dental clinic
Forceps Set Dental	2	existing ones are enough
Hand Instruments Dental	2	to be included in Dental unit
Autoclave (Bench Type)	2	1 for dental clinic
Dental X-ray	1	(to be installed X-ray ward)
Automatic X-ray Film Processor	1	can be convered by A-03
Dental Cabinet	2	1 for dental clinic
Instrument Trolley	2	1 for dental clinic

The equipment to be procured for the general clinic, paediatric clinic, eye clinic, casualty and dental clinic respectively is shown below. One each examination couch, examination light, refrigerator, autoclave shall be procured for the general, paediatric and eye clinics. One each dental unit, dental cabinet and dental X-ray shall be procured for dental treatment, though the dental X-ray shall be installed at X-ray Ward instead of OPD. One operating table, operating light, endotracheal set and resuscitator shall be procured for the casualty.

E. General Clinic

Code	e Equipment	Q'ty
E-01	Examination Couch	1
E-02	Examination Light	1
E-03	Diagnostic Set	1
E-04	Dressing Set	1
E-05	Weighing Scale (Adult)	1
E-06	Instrument Trolley	1
E-07	Refrigerator	1
E-08	Autoclave (Bench Type)	1

F. Paediatric Clinic

Code	Equipment	Q'ty
F-01	Examination Couch	1
F-02	Examination Light	1
F-03	Diagnostic Set	1
F-04	Dressing Set	1
F-05	Weighing Scale (Child)	1
F-06	Instrument Trolley	1
F-07	Refrigerator	1
F-08	Autoclave (Bench Type)	1

G. Eye Clinic

Code	Equipment	Q'ty
G-01	Examination Couch	1
G-02	Examination Light	1
G-03	Diagnostic Set	1
G-04	Instrument Trolley	1
G-05	Refrigerator	1
G-06	Autoclave (Bench Type)	1

I. Dental Clinic

I. DUI		
Code	Equipment	Q'ty
I-01	Dental Unit Complete	1
I-02	Dental Cabinet	1
I-03	Dental X-ray	1
I-04	Instrument Trolley	1
I-05	Autoclave (Bench Type)	1

H. Casualty

11. Ca	sually	
Code	Equipment	Q'ty
H-01	Operating Table	1
H-02	Operating Light (Mobile)	1
H-03	Suction Pump (Electric)	1
H-04	Endtracheal Set (Adult)	1
H-05	Endtracheal Set (Child)	1
H-06	Resuscitator (Adult)	1
H-07	Resuscitator (Child)	1
H-08	Examination Light	1
H-09	Diagnostic Set	1
H-10	Dressing Set	1
H-11	Instrument Trolley	1
H-12	Refrigerator	1
H-13	Autoclave (Bench Type)	1

[Operation Theatre and Blood Bank]

The 10 items shall be procured for the Main Theatre. Each two operating rooms shall be equipped with an operating table, operating light, suction pump and others, though a defibrillator, ECG monitor, and anaesthetic machine shall be shared by two rooms. The project procures the minimum equipment for storage of blood for transfusion.

J. Main Theatre



[Patient Transportation]

One ambulance vehicle adequate for patient transportation in the area shall be procured. The requested radio call station is excluded, because the existing one can be used after the project provides radio calls for other health care units.

L. Patient Transportation



[In-Patient Ward]

The equipment below was requested for the general wards and TB wards. The equipment to be procured was examined to provide the essential items for the Surgical Wards, Medical Ward, Children's Ward and TB Wards.

Request for general wards	
Diagnostic Set	10
X-ray Film Viewer	5
Weighing Scale (Adult)	4
Weighing Scale (Infant)	3
Wheel Chair	10
Patient Trolley	10
Dispenser Trolley	20
Drug Cupboard	10
Autoclave (Bench Type)	10
Hospital Beds	150
Paediatric Beds	60
Drip Stands	45

Request for TB wards 2 Microscope Diagnostic Set 2 X-ray Film Viewer 1 2 Weighing Scale (Adult) Autoclave (Bench Type) 1 Refrigerator 1 Centrifuge 1 Culture Incubator 1 Resuscitator (Adult) 1 40 Hospital Beds 3 Oxygen Cylinder

1 unit for sputum test
1 unit
 to be exlcuded
not necessary
to be procured by Ugandan side

The eight items of essential equipment shall be procured for the surgery, medical, and children's wards, and five items, TB words.

M. Surgical ward, male (Ward 1) N. Surgical ward, female (W	Nard 2) (). Medical ward (Ward 3)
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1110	in Stour maray mate (mare	<u>* * /</u>	11004	i Sicul mul dy lemaie (mu				
Code	Equipment	Q'ty	Code	Equipment	Q'ty	Code	Equipment	Q'ty
M-01	Diagnostic Set	2	N-01	Diagnostic Set	2	O-01	Diagnostic Set	2
M-02	X-ray Film Viewer	1	N-02	X-ray Film Viewer	1	O-02	X-ray Film Viewer	1
M-03	Weighing Scale (Adult)	1	N-03	Weighing Scale (Adult)	1	O-03	Weighing Scale (Adult)	2
M-04	Wheel Chair	2	N-04	Wheel Chair	2	O-04	Wheel Chair	2
M-05	Patient Trolley	2	N-05	Patient Trolley	2	O-05	Patient Trolley	2
M-06	Dispenser Trolley	2	N-06	Dispenser Trolley	2	O-06	Dispenser Trolley	2
M-07	Drug Cupboard	1	N-07	Drug Cupboard	1	O-07	Drug Cupboard	1
M-08	Autoclave (Bench Type)	1	N-08	Autoclave (Bench Type)	1	O-08	Autoclave (Bench Type)	1

P. Ch	uildren's ward (Ward 5)		Q. TI	3 wards	
Code	Equipment	Q'ty	Code	Equipment	Q'ty
P-01	Diagnostic Set	2	Q-01	Microscope	1
P-02	X-ray Film Viewer	1	Q-02	Diagnostic Set	1
P-03	Wheel Chair	2	Q-03	X-ray Film Viewer	1
P-04	Drug Cupboard	1	Q-04	Weighing Scale (Adult)	1
P-05	Autoclave (Bench Type)	1	Q-05	Autoclave (Bench Type)	1

Three equipment items to be used for the laboratory culture of tubercle bacillus are requested for TB wards. The hospital has never perform any culture testing, and the culture testing would be another step in future. For this reason, the project excludes these three items.

[Supporting Service]

The following equipment will be procured for the Pharmacy, Mortuary, Laundry, and Equipment Maintenance Workshop, which support the hospital services.

R. Pharmacy				
Code Equipment	Request	Plan		Note
R-01 Autoclave	2	1		
R-02 Balance	2	1		
R-03 Water Distiller	4	1	each 1 u	nit to be procured
R-04 Refrigerator	2	1		
R-05 Cap Sealing Machine	2	1		
Balance Semi Analytical	2		duplicate	e with R-02 Balance
Hot Plate	4			
Vacuum Filter Pump	4		not nece	ssary
Dispenser Trolley	1		existing	one is enough
S. Laundry Code Equipment S-01 Washer Extractor S-02 Iron (Roller) S-03 Laundry Trolley Flat Irons Flat Irons T. Mortuary Code Code Equipment T-01 Mortuary Refrigerator Post Mortem Table Flat Irons	Request 2 1 15 5 Request 1 1	Plan 2 1 10	2 units 1 unit 2 units for to be pro- 1 unit (2 already p	Note or each 5 wards ocured by Ugandan side Note body type) procured
U. Equipment Maintenance Work	shop			
Requested Equipment	Q'ty Code	Equipment	Q'ty	Note
Planing Machine	1			Planing Machine , Power Saw
Power Saw Mechanical	<u> </u>	Tool Set	1	Mechanical, 1001 set for
Tool set for Carpentry	<u></u>			Carpentry", Tool Set for
1001 Set for Refrigerator				Refrigerator" included
Planing Machine, Shaping	g Machine,			
Power Saw Mechanical, Shearing	g Machine,			not naccoscome or avisting ones
Tool set for Carpentry, Laptop	Computer with	Printer,		not necessary, or existing ones
Tool Set for Refrigerator, Injector	Pump Testing	Machine,		are enough
Power Wood Lathe, Spray G	un, Bench Vic	æ,		
Milling Machine, Vehicle	for Mobile We	orkshop,		
Grinder, Ladder				

(2) Equipment Plan for HSD HQ and HC-III

The project includes seven HV-IVs and Lwala Hospital and 31 HC-IIIs including five units owned by NGO. The project procures the equipment for maternal care, transportation and communication, out-reach service the above listed health units.

[Maternal Care]

The solar electric system shall be procured for the 22 units without light for delivery. The project also procures basic operating equipment for Apapai HC-IV, Serere HC-IV and Tiriri HC-IV, for which operation theatre constructed and an MO and an AA assigned from 2003.

[Transportation and Communication]

The project procures radio calls for 35 units and ambulance vehicles for six HSDs.

[Out-Reach Services]

All HSD headquarters and HC-IIIs shall be provided a motorcycle for their out-reach service.

The health centres to be included and the equipment to be procured are shown below.

	DDHS	HSD	request		units to be included					
HSD HQ		Kasilo	Apapai HC-IV	HSD-01	Apapai HC-IV					
	Soroti	Serere	Serere HC-IV	HSD-02	Serere HC-IV					
		Soroti	Tiriri HC-IV	HSD-03	Tiriri HC-IV					
	V-h-mid-	Kaberamaido	Kaberamaido HC-IV	HSD-04	Kaberamaido HC-IV					
	Kaberamaido	Kalaki	Lwala Hospital*	HSD-05	Lwala Hospital					
	Katalauri	Amuria	Amuria HC-IV	HSD-06	Amuria HC-IV					
	Katakuwi	Kapelebyong	Kapelebyong HC-IV	HSD-07	Kapelebyong HC-IV					
		Usuk	Katakwi HC-IV	HSD-08	Katakwi HC-IV					
HC-III		r	Kamod HC-III	HC-01	Kamod HC-III					
		Vasilo	Kadungulu HC-III	HC-02	Kadungulu HC-III					
		Kasho	Pingire HC-III	HC-03	Pingire HC-III					
			Kidetok HC-III*	HC-04	Kidetok HC-III					
			Atira HC-III	HC-05	Atira HC-III					
		Serere	Kateta HC-III	HC-06	Kateta HC-III					
		 	Kyere HC-III	HC-07	Kyere HC-III					
	Soroti		Dakabela HC-III	HC-08	Dakabela HC-III					
			Asuret HC-III	HC-09	Asuret HC-III					
		Soroti	Gweri HC-III	HC-10	Gweri HC-III					
			Kamuda HC-III	HC-11	Kamuda HC-III					
		 	Tubur HC-III	HC-12	Tubur HC-III					
			Eastern Div. Hu							
		Soroti mun.	Smc Disp.							
			Madera HC-III							
			Alwa HC-III	HC-13	Alwa HC-III					
		Kaberamaido	Kobulubulu HC-III	HC-14	Kobulubulu HC-III					
		 	Ochero HC-III	HC-15	Ochebo HC-III					
	Kaberamaido		Anyara HC-III	HC-16	Anyara HC-III					
		Kalaki	Bululu HC-III	HC-17	Bululu HC-III					
			Kalaki HC-III	HC-18	Kalaki HC-III					
		 	Otuboi HC-III	HC-19	Otuboi HC-III					
			Abarilela HC-III	HC-20	Abarilela HC-III					
		Amuria	Asamuk HC-III	HC-21	Asamuk HC-III					
			Orungo HC-III	HC-22	Orungo HC-III					
		, ,	Ococia HC-III*	HC-23	Ococia HC-III					
			Acowa HC-III	HC-24	Acowa HC-III					
	Katakwi	Kapelebyong	Obalanga HC-III	HC-25	Obalanga HC-III					
			Acumet HC-III*	HC-26	Acumet HC-III					
		1 1 1	Ngariam HC-III	HC-27	Ngariam HC-III					
		 	Toroma HC-III	HC-28	Toroma HC-III					
		Usuk	Aketa HC-III	HC-29	Aketa HC-III					
		1	Toroma HC-III*	HC-30	Toroma (Omodori)HC-III					
		1	Usuk HC-III*	HC-31	Usuk HC-III					

Health centres to be included

Equipment to be Procured

	Equipment	V-01 C V-02 C V-03 I V-04 E V-05 E	V-01Operating TableV-06Solar ElectricV-02Operating Light (Mobile)V-07AmbulanceV-03Instrument Set (Operation Theatre)V-08Radio CallV-04Endtracheal Set (Adult)V-09MotorcycleV-05Endtracheal Set (Child)V-09V-09											
h	ealth care unit	V-01	V-02	V-03	V-04	V-05	V-06	V-07	V-08	V-09				
HSD-01	Apapai HC-IV	1	1	1	1	1	1			1				
HSD-02	Serere HC-IV	1	1	1	1	1				1				
HSD-03	Tiriri HC-IV	1	1	1	1	1	1	1		1				
HSD-04	Kaberamaido HC-IV						1	1	1	1				
HSD-05	Lwala Hospital*							1	1	1				
HSD-06	Amuria HC-IV							1	1	1				
HSD-07	Kapelebyong HC-IV						1	1	1	1				
HSD-08	Katakwi HC-IV						1	1	1	1				
HC-01	Kamod HC-III								1	1				
HC-02	Kadungulu HC-III						1		1	1				
HC-03	Pingire HC-III								1	1				
HC-04	Kidetok HC-III*								1	1				
HC-05	Atiira HC-III						1		1	1				
HC-06	Kateta HC-III								1	1				
HC-07	Kyere HC-III						1		1	1				
HC-08	Dakabela HC-III						1		1	1				
HC-09	Asuret HC-III								1	1				
HC-10	Gweri HC-III								1	1				
HC-11	Kamuda HC-III						1		1	1				
HC-12	Tubur HC-III						1		1	1				
HC-13	Alwa HC-III						1		1	1				
HC-14	Kobulubulu HC-III						1		1	1				
HC-15	Ochero HC-III								1	1				
HC-16	Anyara HC-III								1	1				
HC-17	Bululu HC-III								1	1				
HC-18	Kalaki HC-III						1		1	1				
HC-19	Otuboi HC-III						1		1	1				
HC-20	Abarilela HC-III						1		1	1				
HC-21	Asamuk HC-III						1		1	1				
HC-22	Orungo HC-III						1		1	1				
HC-23	Ococia HC-III*								1	1				
HC-24	Acowa HC-III						1		1	1				
HC-25	Obalanga HC-III								1	1				
HC-26	Acumet HC-III*								1	1				
HC-27	Ngariam HC-III						1			1				
HC-28	Toroma HC-III						1		1	1				
HC-29	Aketa HC-III						1		1	1				
HC-30	Toroma HC-III*								1	1				
HC-31	Usuk HC-III*								1	1				
	Total	3	3	3	3	3	22	6	35	39				

(3) Equipment List

The list of all the equipment to be procured and the summary of specification are shown in table 2-1 and 2-2.

Table 2-1: List of Equipment to be Procured

	* *						So	roti	Hos	pita	1													
No	o. Equipment	A. Image Diagnosis	3. Clinical Testing	C. Maternal Ward	D. MCH/FP	3. OPD/General Clinic	1. OPD/Paediatric Clinic	J. OPD/Eye Clinic	I. OPD/Casualty	. OPD/Dental Clinic	. Main Theatre	C. Blood Bank	. Patient Transportation	A. Surgical Ward, Male	V. Surgical Ward, Female). Medical Ward	. Children's Ward	Q. TB Wards	. Pharmacy	. Laundry	. Mortuary	J. Workshop	/. HSD HQ & HC-III	Total
1	Ambulance	~	щ			ш	_щ	0		I	J	<u>, </u>	1	~	~	-0	<u> </u>		R	S	Ľ		6	7
$\frac{1}{2}$	Anasthatic Machina										1	_	1				_						0	1
2	Autoslava										1				_		-		1					1
	Autoclave (Panah Tuna)			1	2	1	1	1	1	1				1	1	1	1	1	1					12
4	Autoclave (Bench Type)			1	2	1	1	1	1	1				1	1	1	1	1						13
5	Baby incubator			1								_			_		_		1					1
	Can Saaling Machina																_		1					1
0	Cap Sealing Machine											1			_		_		1					1
	Colorimeter		1									1			_		_							1
10			1									1					_							1
10	Deep Fleezer										1	1												1
11	Delivery Red			2							1													1
12	Dentel Cabinet			5						1														1
13	Dental Unit Complete									1							_							1
14	Dental V roy									1					_		_							1
15	Dental X-ray					1	1	1	1	1				2	2	2	2	1						12
10	Diagnostic Set				2	1	1	1	1					2	2	2	2	1						13
1/	Diagnostic Set (MCH)			-	2									-	-	2	_							2
18	Dispenser Trolley	Ļ		2								_		2	2	2								8
19	Donor Couch (Blood Transfusion	n)				1	1		1			2												2
20	Dressing Set					1	1		1						-									3
21	Drug Cupboard													1	1	1	1							4
22	ECG Monitor								-		1						_							1
23	Endtracheal Set (Adult)								1		2												3	6
24	Endtracheal Set (Child)				-				1		2												3	6
25	Examination Couch				2	1	1	1	_															5
26	Examination Light				2	1	1	1	1															6
27	Infant Warmer			1																				1
28	Instrument Delivery Set			6													_							6
29	Instrument Set (Operation Theat	e)																					3	3
30	Instrument Trolley				2	1	1	1	1	1														7
31	Iron (Roller)																			1				1
32	Laundry Trolley																			10				10
33	Microscope		2									1						1						4
34	Mortuary Refrigerator													_			_				1			1
35	Motorcycle																						39	39
36	Operating Light (Mobile)								1		2						_						3	6
37	Operating Table								1		2												3	6

							Sor	oti	Hos	pita	1													
No	9. Equipment	A. Image Diagnosis	B. Clinical Testing	C. Maternal Ward	D. MCH/FP	E. OPD/General Clinic	F. OPD/Paediatric Clinic	G. OPD/Eye Clinic	H. OPD/Casualty	I. OPD/Dental Clinic	J. Main Theatre	K. Blood Bank	L. Patient Transportation	M. Surgical Ward, Male	N. Surgical Ward, Female	0. Medical Ward	P. Children's Ward	Q. TB Wards	R. Pharmacy	S. Laundry	T. Mortuary	U. Workshop	V. HSD HQ & HC-III	Total
38	Oxygen Concentrator							-			2					-							_	2
39	Patient Trolley			2										2	2	2								8
40	Phototherapy Unit			1																				1
41	Radio Call																						35	35
42	Refrigerator					1	1	1	1										1					5
43	Refrigerator (Blood Bank)											1												1
44	Resuscitator (Adult)								1															1
45	Resuscitator (Child)								1															1
46	Solar Electric System																						22	22
47	Spectrophotometer		1																					1
48	Suction Pump (Electric)			1					1		2													4
49	Tool Set																					1		1
50	Ultrasound Scanner	1																						1
51	Vacuum Extractor			1																				1
52	Washer Extractor																			2				2
53	Water Distiller		1																1					2
54	Weighing Scale (Adult)				2	1								1	1	2		1						8
55	Weighing Scale (Child)				2		1																	3
56	Wheel Chair													2	2	2	2							8
57	X-ray Basic Bucky System	1																						1
58	X-ray Darkroom Equipment	1																						1
59	X-ray Film Viewer	1									2			1	1	1	1	1						8
60	X-ray Protective Clothing	1																						1

No.	Equipment, [code]	Specification				
57	X-ray Basic Bucky System	Composition :	n : X-ray tube unit, X-ray tube support, bucky stand, table for radiography,			
	[A-01]		X-ray generator			
50	Ultrasound Scanner [A-05]	Composition :	monitor, printer, 3 probes			
47	Spectrophotometer	Cell:	square type cell	Wavelevgth:	approx. 400 - 1000mm	
	[B-01]					
33	Microscope	Binocular type		Objective lens	: 4 kinds	
	[B-02/K-05/Q-01]	Light source:	halogen lamp	Eyepiece:	10x, binocular type	
12	Delivery Beds	Type:	hydraulic-oil pump system	n		
	[C-01]	Accessories to	or delivery	11: 1:6:	d	
3	LC 001	Temperature:	approx. 24-37	Humidilier:	equipped	
27	[C-09]	Tamananatumat	manual setting	Trimor		
21	Infant warmer	Temperature:	manual setting	Type: Heater unit:	open type	
17	Diagnostia Sat (MCH)	Composition :	anhuamamanamatar statk	neater unit.	appa pop light thememotor	
11	ID-031	composition.	tongue depressor vaginal speculum kidney dish etc			
46	Solar Electric System	Solar papel:	approx 75W	Lightening arresters equipped		
	[V-06]	Battery:	200AH 12VDC	Lightening ar	esters equipped	
37	Operating Table	Type:	manual hydraulic operation	raulic operation		
	[H-01/J-01/V-01]	Accessories fo	r general surgery			
36	Operating Light (Mobile)	Lamp:	halogen	AC/DC operat	ion	
1.0	[H-02/J-02/V-02]		1, 3, or 4 lamps			
29	Instrument Set (Op Theatre)	Set for general	for general surgery and obstetrics			
	[V-03]					
22	ECG Monitor	Parameter:	ECG, respiration, SpO2, blood pressure, temperature			
	[J-09]	Battery :	Rechargeable battery equipped			
11	Defibrillator	Output:	0 - 2000J	Paddles :	for adult and children	
	[J-08]			T 7 1'		
2	Anaesthetic Machine [J-10]	Gas Supply:	gas cylinder	Vapoliser:	halothane	
41	Radio Call	Type:	VHF, 146~174MHz	Output:	at least 25W	
	[V-08]	Accessories:	hand microphone, built-in speaker, antenna and lighting arrester			
1	Ambulance	Type:	4 wheel drive			
	[L-01, V-07]	Accessories:	stretcher, attendant sheet, resuscitation set etc.			
10	Deep Freezer	Type:	chest type	Temperature:	approx30	
	[K-02]	Capacity:	400-480 litres			
43	Refrigerator (Blood Bank)	Type:	upright	Temperature:	approx. 4	
	[K-03]	Capacity:	400-480 litres			
14	Dental Unit complete	Туре:	electric hydraulic			
	[1-01]	Composition:	treatment lamp, hand instruments, compressor			
4	Autoclave(Bench Type)	Type:	table top	Temperature:	approx. 120	
-	[C,D-0//E,F-08/G-06, etc.]	Capacity:	approx. 10 litres	The second secon	100	
3	Autoclave	Type:	vertical	Temperature:	approx. 120	
50	[K-U1] Washan Fatura (Capacity:	approx. 50 litres	Dava (and in dama dama da	
52	washer Extractor	Mode:	washing and extracting	Drum type:	cylinder drum, front loading	
24	[S-U1] Mortuary Pofricareter	Capacity:	at reast TOKg	Tomporature -	ontrol aquinnad	
34	T-01	Capacity:	2 bodies	r emperature c	onu or equipped	
1	11-01	Lapacity.				

 Table 2-2: Summary of Specifications of Main Equipment

2-2-3 Basic Design Drawing

Most of equipment procured by the project will installed at the Soroti Regional Referral Hospital. The respective wards and departments are shown below.



2-2-4 Implementation Plan 2-2-4-1 Implementation Policy

The project will be officially implemented in accordance with the grant aid framework of the Japanese government, after the Japanese cabinet has approved the project, and an Exchange of Notes (E/N) has been concluded between the Japanese government and the Ugandan government. After an E/N has been concluded, a Japanese consultant firm recommended by the Japan International Cooperation Agency, JICA shall, in accordance with the grant aid framework of the Japanese government, conclude a consultant agreement with the Ministry of Health of Uganda. This agreement will come into effect on verification by the Japanese government, and on the basis of this agreement the consultant shall carry out the work relating to tenders and supervision. Procurement of equipment shall be undertaken by a Japanese supplier chosen by tender who will conclude contracts with the Ministry of Health of Uganda. This contract also shall come into effect on verification by the Japanese

supplier shall undertake the procurement, transportation and installation of the necessary equipment, and shall also carry out operational training of each item of equipment, in addition to preparing a list of manufacturers and/or agents as well as manuals and other technical materials needed for maintenance after procurement.

2-4-2 Implementation Condition

Unloading of ocean cargoes takes place at Monbasa Port of Kenya, since Uganda is a landlocked country.

2-2-4-3 Scope of Works

(1) Expenses to be born by the Japanese Government

- Costs related to the procurement of equipment for the project
- Costs related to transportation overseas and overland to each of the health care units
- Costs related to the installation and setting up of equipment
- Costs related to the test operation and the technical explanation of operation and maintenance

(2) Responsibilities of the Ugandan Side

- Provision of information and materials necessary for transportation, installation and set-up
- Obtaining of necessary permission for importing the medical equipment
- Cleaning and preparing the rooms where the equipment is installed
- Securing of enough space for unloading the equipment.
- Securing of adequate space where the equipment can be stored prior to installation.
- Securing of physical condition with regard to carrying-in and installing the equipment.
- Removal of old equipment and necessary clean up

2-4-4 Consultant Supervision

The consultant will supervise the equipment procurement and other works after carrying out tender to select the supplier of the equipment, to ensure the smooth implementation of the project. The consultant supervision includes to confirm that the equipment procured by the supplier is consistent with the descriptions laid down in the contract, to inspect the equipment and packaging in advance to shipment, to examine the situation of transportation and customs clearance, and to conduct final inspection of the equipment at the project site. The consultant entrusts a third-party inspecting organisation to inspect the entire cargo and packaging at the
pre-shipment inspection, and examine there are no discrepancies between the actual contents and those stipulated in the contracts. The consultant endeavours to have a constant grasp of the situation at the work, and provides proper advice and instruction to the executing agency in the Ugandan side and the supplier.

2-2-4-5 Procurement Plan

(1) Requirement of Local Agent

Generally, medical equipment requires a constant supply of consumables and technical service by a manufacturer or its agent. The most of consumables for the equipment to be procured by the project are available at the National Medical Store (NMS), the Joint Medical Store (JMS), or other stores in Uganda, and the local workshop can carry out preventive maintenance as mentioned in "2-4 Project Operation Plan". However, technical services by manufacturers and/or their agents are indispensable for some of the equipment in case of repair and/or replacement of parts. For this reason, the products of the manufacturers that have local agents in Uganda or Nairobi in Kenya need to be procured for the items below.

No.	Equipment		No.	Equipment		
1	Ambulance		15	Dental X-ray		
2	Anaesthetic Machine		22	ECG Monitor		
3	Autoclave		26	Examination Light		
5	Baby Incubator		31	Iron (Roller)		
6	6 Balance 11 Defibrillator		34	Mortuary Refrigerator		
11			35	Motorcycle		
14	Dental Unit Complete		36	Operating Light (Mobile)		

No.	Equipment
38	Oxygen Concentrator
41	Radio Call
46	Solar Electric System
47	Spectrophotometer
50	Ultrasound Scanner
52	Washer Extractor
57	X-ray Basic Bucky System

(2) Possibility of Procurement from Third Countries

Based on survey results on the market trends in and around Uganda including the existence of manufacturers' agents, the products of third countries may be procured for the items below.

Tal	ble	2-4	: E	qui	pment	Ma	ybe	Procured	from	Third	Countries
							~				

No.	Equipment	No.	Equipment	No.	Equ
2	Anaesthetic Machine	15	Dental X-ray	42	Refrigerator
3	Autoclave	22	ECG Monitor	43	Refrigerator
4	Autoclave (Bench Type)	26	Examination Light	46	Solar Electri
5	Baby Incubator	27	Infant Warmer	47	Spectrophot
6	Balance	31	Iron (Roller)	48	Suction Pun
7	Cap Sealing Machine	33	Microscope	49	Tool Set
8	Centrifuge	34	Mortuary Refrigerator	50	Ultrasound S
9	Colorimeter	36	Operating Light (Mobile)	52	Washer Extr
10	Deep Freezer	37	Operating Table	53	Water Distil
11	Defibrillator	38	Oxygen Concentrator	55	Weighing S
14	Dental Unit Complete	41	Radio Call	57	X-ray Basic

No.	Equipment
42	Refrigerator
43	Refrigerator (Blood Bank)
46	Solar Electric System
47	Spectrophotometer
48	Suction Pump (Electric)
49	Tool Set
50	Ultrasound Scanner
52	Washer Extractor
53	Water Distiller
55	Weighing Scale (Child)
57	X-ray Basic Bucky System

2-2-4-6 Quality Control Plan

The equipment to be procured under the project shall be selected from ready-made models that have been successfully delivered to medical institutions in various countries. Those products shall comply with JIS, BS or DIN standards.

2-4-7 Implementation Schedule

The implementation process of this project consists of two phases: tendering procedure and equipment procurement/installation. The Figure below shows the implementation schedule from the signing of the E/N to the completion of the project.



Figure 2-3: Implementation Schedule

2-3 Obligations of Recipient Country

The works to be done by the Ugandan side for this project are mentioned in "2-2-4-3 Scope of Works". MOH and DDHS's of the three districts need to pay particularly close attention to the following matters.

To prepare the budgetary plan within the Ugandan government regarding the implementation of this project.

To make necessary arrangements to expedite procedures for customs clearance and inland transportation of the procure equipment.

To furnish Japanese nationals whose services are required in connection with this project necessary facilities, and to ensure their safety.

To exempt the suppliers and their affiliates from customs duties and other forms of taxation.

To bear expenses necessary for the Banking Arrangement (B/A) and issuance of the Authorisation to Pay (A/P).

To secure safe places necessary for the storage and sorting of the equipment in Soroti region.

To assign a radiologist to Soroti Hospital

To assign a Medical Officer (MO) and an Anaesthetic Assistant(AA) to Apapai HC-IV, Serere HC-IV and Tiriri HC-IV

To provide the three districts with their own radio frequencies

There is no particular need for preparatory construction at the facilities of the health care units included in the project, since Soroti Hospital has been renovated and the operation theatres have been constructed at HC-IVs recently. The only physical works required is a removal of the existing X-ray apparatus at Soroti Hospital and X-ray protection of the window there. It probably will be feasible within the hospital workshop, although it costs the hospital as shown below to borrow a machine to move the apparatus and to buy materials for protection.

- Removal of existing X-ray apparatus with machine:	660,000 Ush
- X-ray protection of window with concrete or blocks:	500,000 Ush

2-4 Project Operation Plan

2-4-1 Maintenance of Equipment

A maintenance system is now being carried forward in Uganda. It is the system that the equipment maintenance workshops of regional referral hospitals maintain the medical equipment of heath care units in the respective regions. The Wabigalo workshop in Kampla is the headquarter, and the workshops of the regional referral hospitals are branches. Mbale branch has been in charge of the northeast part of the country including these three districts. The workshop of Soroti Hospital has been designated as the new branch of the system, and the three districts are under the responsibility of Soroti branch from this year. The branches offers operational and maintenance service upon the annual contributions by hospitals and HSDs. The repair of medical equipment, such as radiological or ME apparatuses, is generally restricted to engineers qualified by the manufacturer and/or its agent. Accordingly, workshops can do nothing more for these types of medical equipment than to refer the problems or requirements to manufacturers' agents in Kampala or Nairobi in practice. On the other hand, it is crucial for the rural health care units to maintain wards, water tanks and other furniture. These physical works by the workshops should be encouraged. DDHSs of three districts have started paying annual contributions to Soroti workshop. It is strongly desired this system will function in terms of good maintenance of the health care units covered by the project.

2-4-2 Operation and Maintenance Cost

The operation and maintenance cost for the equipment to be procured by the project is estimated, and the projected increment of recurrent cost is examined here.

(1) Operation Cost of Equipment

The consumables necessary to operate the apparatuses are X-ray film, reagent for spectrophotometer and others as shown in table 2-5.

Table 2-5: 0	peration Cost o	of Equipment to be Pr	ocurea	unit: Usn			
Consumable	s and Unit Price	Projected Annual Co	Cost	Total	Inc	rement	
X-ray Appar	ratus						
film	900/pc	2,000 sheets	2,000 sheets	1,800,000	1,828,800	50%	914,400
developer, fiz	xer 2,400/set	once a month	12 sets	28,800			
Dental X-ray	y						
film	420/pc	500 tests	500 sheets	210,000	210,000	100%	210,000
Spectrophot	ometer						
reagent	290/test	1200 tests	1,200 tests	348,000	348,000	100%	348,000
ECG Monito)r						
electrode	1,800/pc	500 patients x 3 pcs	1,500 pcs	2,700,000	2,700,000	100%	2,700,000
Baby Incuba	itor						
filter	180/pc	once a month	12 sheets	2,160	2,160	100%	2,160
Ultrasound S	Scanner						
gel	35/g	300 patients x 5 g	1,500 g	52,500	66,900	100%	66,900
recording pap	per 4,800/roll	300 patients x 2 sheets	3 rolls	14,400			
		(200 sheets = 1 roll)					
Anaesthesia	Machine						
anaesthetics	40,500 /250ml	30 patients x 50ml	1,500 ml	243,000	663,000	100%	663,000
circuit	140,000 /pc	1 pc per every 10 patie	ents 3 pcs	420,000			
Ambulance							
diesel fuel	1,700 /litre	24,000km	2,400 litres	4,080,000	4,137,500	50%	2,068,750
		(consumption 10km/lit	tre)				
oil	1,700 /litre	5 litres x 5 times	25 litres	42,500			
oil filter	5,000/pc	every other oil change	3 pcs	15,000			
Motorcycle							
fuel	1,800 /litre	9,600km	384 litres	691,200	691,200	80%	552,960
		(consumption 25km/lit	tre)				

The unit price shown in the table refers the price list of NMS, JMS and local stores in Uganda. The annual consumption is projected mainly based on the numbers of patients or tests of Soroti Hospital. The situation of Jinja Hospital, which uses halothane for about 10% of its major operations, was taken into consideration to estimate the annual usage of an anaesthesia machine at Soroti Hospital. Fuel consumption was assumed 2,000km per month for an ambulance, 800km for a motorcycle.

The annual costs of consumables shown in the table other than X-ray film and fuel are totally new expenditure, because the hospital yet to use those equipment items. Accordingly, 100% of costs shall be interpreted as increment. X-ray films and fuel are not new necessity, although the number of X-ray tests would increase with full functioning apparatus, and the patient transportation would also increase with smooth communication by radio call. The cost increment is assumed 50% for X-ray films and ambulance fuel, 80% for motorcycle.

(2) Spare Parts Cost

Some equipment requires replacement of spare parts periodically. The necessary spare parts for the equipment procured by the project are shown in Table 2-6. Prices in the table also refer the local prices in and around Uganda, and the frequency refers general recommendation by manufacturers.

Table 2-6: Cost of Spare Parts of Equipment to be Procuredunit: Ush										
Equipment	Equipment Spare parts						ual Cost	Total		
X-ray Basic Bucky System	X-ray tube	13,000,000	/1 pc	every five years	1/5	pc	2,600,000	2,600,000		
ECG Monitor	patient cable	80,000	/1 set	once a year	1	pc	80,000	96,000		
	NIBP cuff	16,000	/1 roll	once a year	1	pc	16,000			
Operation Light	halogen lamp	35,000	/1 pc	4 pcs, once a year	4	pcs	140,000	140,000		
Examination Light	lamp	3,500	/1 pc	once a year	1	pc	3,500	3,500		
Phototherapy Unit	lamp	3,500	/1 pc	4 pcs, once a year	4	pcs	14,000	14,000		
X-ray film viewer	lamp	3,500	/1 pc	5 pcs, once a year	5	pcs	17,500	17,500		
Autoclave	gasket	120,000	/1 pc	once a year	1	pc	120,000	120,000		
Autoclave(Bench type)	gasket	120,000	/1 pc	once a year	1	pc	120,000	120,000		
Oxygen Concentrator	air filter	5,250	/1 pc	4 times a year	4	pcs	21,000	28,000		
	bacteria filter	7,000	/1 pc	once a year	1	pc	7,000			

Table 2-6: Cost of Spare Parts of Equipment to be Procured

(3) Increments of Recurrent Cost

The increment of recurrent cost of Soroti Hospital and DDHSs is projected as shown in table 2-7 and 2-8.

Equipment	0'+	Consu	mables	Spare	T . (. 1			
Equipment	Qty	per Unit	Sub Total	per Unit	Sub Total	Total		
X-ray Basic Bucky System	1	914,400	914,400	2,600,000	2,600,000	3,514,400		
Dental X-ray	1	210,000	210,000	-	-	210,000		
Spectrophotometer	1	348,000	348,000	-	-	348,000		
ECG Monitor	1	2,700,000	2,700,000	96,000	96,000	2,796,000		
Baby Incubator	1	2,160	2,160	-	-	2,160		
Ultrasound Scanner	1	66,900	66,900	-	-	66,900		
Anaesthesia Machine	1	663,000	663,000	-	-	663,000		
Oxygen Concentrator	1	-	-	28,000	28,000	28,000		
Operating Light	3	-	-	140,000	420,000	420,000		
Examination Light	6	-	-	3,500	21,000	21,000		
Phototherapy Unit	1	-	-	14,000	14,000	14,000		
X-ray Film Vewer	8	-	-	17,500	140,000	140,000		
Autoclave	1	-	-	120,000	120,000	120,000		
Autoclave (Bench type)	13	-	-	120,000	1,560,000	1,560,000		
Ambulance	1	2,068,750	2,068,750			2,068,750		
Total			6.973.210		4,999,000	11.972.210		

Table 2-7: Increments of Recurrent Cost of DDHSs

unit: Ush

Table 2-8: Increments of Recurrent Cost of Soroti Hospital										
DDUG	E	0/4-1	Consu	mables	Spar	T . (. 1				
DDHS	Equipment	Qty	per Unit	Sub Total	per Unit	Sub Total	Totai			
	Ambulance	1	2,068,750	2,068,750			2,068,750			
Sarati	Motorcycle	15	552,690	8,290,350			8,290,350			
Sorou	Operation lamp	3			140,000	420,000	420,000			
	Total			10,359,100		420,000	10,779,100			
	Ambulance	2	2,068,750	4,137,500			4,137,500			
Kaberamaido	Motorcycle	9	552,690	4,974,210			4,974,210			
	Total			9,111,710			9,111,710			
	Ambulance	3	2,068,750	6,206,250			6,206,250			
Katakwi	Motorcycle	15	552,690	8,290,350			8,290,350			
	Total			14,496,600			14,496,600			

Table 2-8: Increments of Recurrent Cost of Soroti Hospital

The budget for PHC is expected to increase about 60% from FY2001 to FY 2003 when the project is completed. The above increments of recurrent cost of DDHSs, which are equivalent to about 3~6% of non-wage recurrent in FY 2001 would not bring any burden to their management.

The budget for regional referral hospitals will increase about 6%, however the cost increment with respect to the equipment procured by the project, about 2% of non-wage recurrent of FY 2001 would not be a serious problem for the hospital management.

unit: .000 Ush

	Non-wage Recurrent	Projected Increment			
	FY 2001	Consumables	Spare parts	Total	/
Soroti DDHS	324,000	10,359	420	10,779	3.30%
Katakwi DDHS	277,000	9,112	-	9,112	3.30%
Kaberamaido DDHS	274,000	14,497	-	14,497	5.30%
Soroti Hospital	535,000	6,973	4,999	11,972	2.20%

Chapter 3 Project Evaluation and Recommendations

Chapter 3. Project Evaluation and Recommendations

3-1 Project Effect

The health care units in the districts of Soroti, Kaberamaido and Katakwi has been improved in accordance with HSSP. Wards are renovated or constructed. Basic instruments are provided. MOH and DDHSs continue their effort on recruiting of personnel as well. Now, it is strongly desired to solve some crucial problems that impeding the service activities of maternal care and patient transportation in the area, and hindering reliable diagnosis and treatment by Soroti Hospital. The input by the project is most important equipment for those services by Soroti Hospital, HC-IVs and HC-IIIs in the area. The full functioning of these health units is a prerequisite for equitable distribution of health services, namely access to UNMHCP for the rural population in the area.

The project will benefit about 700,000 rural population in the area. In addition, improvement of Soroti Hospital will also benefit the population in other districts in the northeastern part of the country.

[Direct Effect]

- Diagnostic services of Soroti Hospital improve.

The diagnostic equipment to be procured by the project will enable Soroti Hospital to perform appropriate examination, such as general X-ray, ultrasound diagnosis, and basic biochemical tests.

- Maternal care in the are improves.

The solar electric systems for HC-IVs and HC-IIIs will ensure that all the health units providing delivery service in the area have the lighting for delivery at night. The basic surgical equipment for three HC-IVs will ensure that all HC-IVs in the area are able to perform Caesarean section.

- Transportation and communication of health units improves.

The radio calls for HC-IVs and HC-IIIs and the ambulances for Soroti Hospital and HC-IVs will ensure patient transportation in all HSDs and between HSDs and Soroti Hospital.

[Indirect Effect]

- Time required to transport a patient in the area reduces.

After the improved transportation and communication are put to practical use, the time required to transport a patient will be reduced with adequate management by HSDs.

- Institutional delivery in the area increases.

The lighting at delivery space make rural population positive toward childbirth at health units. The deliveries are rather at night than daytime in the area. The lighting of all the delivery rooms of HC-IVs and HC-IIIs will increase the night deliveries at health units, and result in the increase of institutional delivery.

- Children's immunisation in the area increases.

After the motorcycles improve the efficiency of out-reach activities of HC-IVs and HC-IIIs, the number of immunised children in the area will increase when adequate health education is given and vaccine supply stays stable.

	I	
Present situation and problems	Relevant measures to be taken by the	Project effect and extent of
	project (work covered by grant)	improvement
Soroti Hospital can't perform adequate	Diagnostic equipment for hospital	General X-ray, ultrasound diagnosis,
examinations for diagnosis, because of	- X-ray basic Bucky System,	basic biochemistry testing are ensured
insufficient diagnostic apparatuses	Ultrasound Scanner,	at the hospital.
	Spectrophotometer,	
	Colorimeter, etc.	
Most health centres aren't equipped with	- Solar Electric System for HC-IV/III	Safe delivery at health centres is ensured
lighting for delivery, although		at night.
deliveries are rather at night than		
daytime.		
Some HC-IVs can't perform Caesarean	Operation Equipment for HC-IV	All HC-IVs can perform Caesarean
sections yet, because operating	- Operating Table,	sections.
equipment is not provided.	Operating Light	
	Instrument Set, etc.	
Lack of communication and	-Radio Call for HC-IV/III	Means of patient transportation is
transportation takes health units	- Ambulance for Soroti Hospital and HC-	ensured.
terribly long time to transport a patient.	IV	
Out-reach services aren't implemented as	- Motorcycle for HC-IV/III	Transportation of out-reach service
planned, because health centres don't		improves.
have adequate transportation.		

Table 3-1	Effects of Pro	iect Implementation	and Extent of Im	provement of Present Situation
1 and 0-1		Icci impicincination	i and Battint of imp	JI OV CHICHE OF I I COCHE DICUALION

Overall Goal: Health service delivery in the area improves.

The project makes input to the activities at HC-IIIs, HC-IVs, and Soroti Hospital giving the importance on maternal care and patient transportation. Patient transportation time would be a biggest indicator that shows the improvement of health service delivery by the input of this project. Considerable improvement of patient transportation can be expected, when the radio calls and ambulances are properly and effectively used by HC-IIIs and HC-IVs, including good collaboration between HSDs. The distances between HC-IV and related HC-IIIs are within the range of an hour and half by car in each HSD, 1 to 1.5 hours from an HSD to

Soroti Hospital. In view of this fact, it is expected the time to transport a patient from an HC-III to higher units; HC-IV, Lwala Hospital or Soroti Hospital will be within three hours.

Project Objective: Service activities of health care units included by the project improve.

The achievement of the objective would be indicated by the facts on improvement of maternal care in the area and diagnostic service by Soroti Hospital.

- HC-IIIs and HC-IVs equipped with radio calls

39 units of HC-IIIs and IVs in the three districts other than three HC-IIIs not covered by this project are all located outside the coverage of telephones or cellular phones. Radio communication is the only practical way of emergency calls for these health units. However, only 4 of 39 units have radio calls so far. The project ensures the communication at all 39 units.

HC-IIIs and HC-IVs that have radio communication

Year 2002	4 units out of 39 (10%)
Year 2005 (after the project completes)	all 39 units (100%)

- HC-IIIs and HC-IVs with lighting for delivery at night

It is estimated approximately 70% of all childbirth are at night in the area. All 39 units of HC-IVs and HC-IIIs covered by the project offer delivery service, however delivery rooms of only 17 units have lighting. The project ensures the lighting for delivery at all 39 units.

HC-IIIs and HC-IVs which have lighting for delivery

Year 2002	17 units out of 39 (43%)	
Year 2005 (after the project completes)	all 39 units (100%)	

- HC-IVs capable of Caesarean sections

Out of eight HC-IVs, only five units are currently capable of performing Caesarean sections. The project provides operating equipment for the rest three units, and ensures the capability of Caesarean sections at all HC-IVs.

HC-IVs which are capable of Caesarean sections

Year 2002	5 units out of 8 (62%)
Year 2005 (after the project completes)	all 8 units (100%)

- Ultrasound diagnosis at Soroti Hospital

The project procures an ultrasound scanner in combination with assignment of a radiologist to Soroti Hospital by MOH. Image diagnosis is not available at any other health units in the area, and there is a considerable demand for the ultrasound diagnosis at the hospital. Obstetric diagnosis such as gestation progress especially needs to be realised with respect to back support to maternal care at PHC level. The hospital annually has 6,000 antenatal attendants and 3,500 admissions to the maternal ward, including referrals from health centres. It is expected that the hospital performs about 300 ultrasound examinations for obstetric diagnosis.

Ultrasound diagnosis of pregnant women at Soroti Hospital

Year 2002	impossible
Year 2005 (after the project completes)	possible (about 300 cases annually expected)

- X-ray examinations at Soroti Hospital

The hospital performs about 200 X-ray tests monthly. The existing old equipment is so deteriorated that accurate focus is hardly obtained when abdominal or thoracic X-ray is required. The project renews the said equipment and ensures general radiography for diagnosis. Accordingly, the number of X-ray tests is expected to increase by about 50 cases monthly.

X-ray examinations at Soroti Hospital

Year 2002	200 cases monthly
Year 2005 (after the project completes)	250 cases monthly

3-2 Recommendations

(1) Laboratory Service at Health Centres

The routine laboratory service at PHC level is indispensable to improve the service quality in accordance with UNMHCP implementation. HC-IVs in the area performs necessary tests, however most HC-IIIs are not capable yet because they do not have a laboratory assistants (LA). The shortage of qualified laboratory staff is nation wide difficulty. It takes considerable time to fulfil the required personnel, although DDHSs are making much effort in recruiting LAs. On the other hand, PHC level is not required overall laboratory examinations but basic examination such as microscopy. Some donors considers technical assistance to give on-the-job training to health staff at health units in order that they can perform basic microscopy with the current staff, although the feasibility should be carefully examined. The involvement of DDHSs and HSDs is crucial to determine the possibility and practicability of microscopy by

current staff at respective HSDs. If it were feasible, it would be worth while as an available measure to set HC-IIIs to start basic laboratory service.

(2) Improvement of activities in health statistics

The health units are required to report their activities with the Health Management Information System (HMIS) monthly and annually. Unfortunately, the accuracy of the record is doubtful at the status, because of many simple mistakes. Most units do not have a record assistant (RA). However, the problems are rather poor working environment at health centres having no lighting, no calculators or stationery, with too much statistical work including graphing and insufficient instruction given to staff of health centres. Although there is no doubt on the necessity of HMIS, it seems necessary to take some measures to obtain accurate records. The volume of recording work at health centres can be reconsidered, or the clear enough instruction can be provided.

Appendices

1. Member List of the Study Team	
Masaya FUJIMOTO Team Leader	Deputy Director Second Project Management Division Grant Aid Management Department Japan International Cooperation Agency (JICA)
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Kenji HIRAMATSU Facilities and Utilities Planner	Yachiyo Engineering Co., Ltd.
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Chiharu ABE Chief Consultant/ Regional Health Plan	International Techno Center Co., Ltd.
Hiroshi TASEI Equipment Planner 1	International Techno Center Co., Ltd.
Kenji HIRAMATSU Facilities and Utilities Planner	Yachiyo Engineering Co., Ltd.

2. Study Schedule

(1) Basic Design Study

No.	Dat	e		Activity
1	Aug-28	Wed	Narita/LHR. LHR/(Abe)	
2	Aug-29	Thu	NBO(Abe)	Narita/LHR. LHR/
			meeting with EOJ in Kenva(Abe)	
3	Aug-30	Fri	NBO/EBB(Abe)	/EBB
0	1108 00		meeting with JOCV/JICA office	preparation of study in Soroti region
			meeting with EOI in Uganda	proputation of study in boroti region
			meeting with MOH	
4	Δμα 31	Sat	moving to Soroti	
5	Aug-51	Sat	moving to Soloti	
5	Sep-01	Mon	Sereti District Office	maating with Sorati Daliga
0	Sep-02	MOI	masting with DDHS Scroti Kabaramaida Kat	incetting with Soloti Police
7	Sam 02	Tue	DDUS Katalawi	akwi
0	Sep-05	Tue	DDRS, Kalakwi	survey at Katakwint-iv, Usuk nt-ill NGO
0	Sep-04	wed	survey at Amuria HC-IV, Asamuk HC-III, Ach	owa HC-III
0	G 05	T1	survey at Soroll Hosp.	niarket survey at Soroti mun.
9	Sep-05	Thu T	survey at Kapelebyong HC-IV, Acumet HC-III	, Obalanga HC-III
10	Sep-06	Fri	DDHS, Kaberamaido	DDHS, Katakwi
11	a 07	G .	survey at KaberamaidoHC-IV, Alwa HC-III	DDH5, Soroti
11	Sep-07	Sat	meeting in the team	
12	Sep-08	Sun	INARITA/LHK. LHK/(Fujimoto, Nagai)	moving to Kampala (Abe, Hirobe)
15	Sep-09	Mon	/EBB(Fujimoto, Nagai)	market survey at Kampala (Hirobe)
			meeting with EOJ in Uganda	survey at Soroti Hosp.
	a	-	meeting with MOH, MOFA	
14	Sep-10	Tue	meeting with MOFEP (Fujimoto)	survey at Soroti Hosp.
			visiting DISH office(Nagai, Abe)	
1.7	a 11	*** 1	moving to Soroti (Fujimoto, Nagai, Abe)	
15	Sep-11	Wed	DDHS, Katakwi	survey at Aketa HC-III
	~		visiting KatakwiHC-IV, Usuk HC-III NGO, As	amuk HC-III
16	Sep-12	Thu	DDHS, Soroti	market survey at Kampala(Hirobe)
			visiting Soroti Hosp.	
			moving to Kampaia	:- II:
17	C 12	Est	survey at Kobulubulu HC-III, Ocero HC-III(10	JO, HIRainaisu)
1/	Sep-15	ГП	meeting with FOI	survey at Soroli Hosp. (10j0, Hiraliatsu)
			meeting with MOH and signing of M/D	market survey at Kampala(Hirobe)
10	Sam 14	Cat	meeting with MOII and signing of M/D	montrat survey at Kammala (Uiraha)
18	Sep-14	Sat	EDD (NIDO (Entimate Lingha)	market survey at Kampala(Hirobe)
20	Sep-15	Sun	EDD/NDO(Fujiliolo, Hilobe)	market survey at Nairobi(Hiroba)
20	Sep-10	MOI	meeting with FOL in Kenve(Fujimote)	market survey at Narrobi(Hirobe)
			visiting Vaheremeide UC IV Lucle Hear (Nea	ai Aha)
			survey at Bululu HC III Kalaki HC III Apyor	al, AUC)
21	Sop 17	Tuo	visiting Scroti Hosp	markat survey at Nairobi(Hiroba)
21	Sep-17	Tue	survey at Dakabala HC III. Abarilara HC III	market survey at Wanobi(Tinobe)
22	Son 19	Wad	survey at Dakabela IIC-III, Abalileta IIC-III	HC III (Nagai Aba)
22	Sep-18	weu	visiting Selele HC-IV, Kidelok HC-III, Fight	ok HC III
			survey at Kamod HC-III, Pluglie HC-III, Kidet	OK HC-III
22	Sam 10	Thu	moving to Kampaia(Nagai, Abe)	and the survey at Nanobi(Hildbe)
23	Sep-19	1 IIU	meeting with EQL in Liganda (Nagai, Abe)	survey at HC-IIIs III Soloti IIIuli.
			visiting Mulago Hosp(Nagai)	market survey at Narrobi(Hirobe)
			masting with WHO(Aba)	
24	Son 20	Eri	EDD/LUD_LUD/(Nagei)	aurrent at Agurat HC III. Gwari HC III
24	Sep-20	L 11	usiting USAID/AIM(Aba)	visiting Mhale branch URTS
			visiting USAID/Allvi(AUC)	visiting widdle dialicii, UDIS,
			moving to Soroti(Abe)	market survey at maroot(mirobe)
25	Sor 21	Set	Norita(Nagoi)	auguar at Tigigi HC IV Types HC II
25	Sep-21	Sat	inarita(inagai)	survey at IIIIII HC-IV, IUDUI HC-III
26	Sam 22	Carr	maating in the team	market survey at marrout(mirobe)
20	Sep-22	Sun	inteeting in the team	montrat anymany of Noinabi/II: b-)
21	Sep-25	MOU	Survey at Selete nC-IV, Attira nC-III, Kateta	market survey at mairool(mirobe)
	1	1	IIC-III. KVEIE IIC-III. Källiuud IIC-III	

No.	No. Date		Activity		
28	Sep-24	Tue	survey at Orungo HC-III, Ococia HC-III,	market survey at Nairobi(Hirobe)	
	-		Apapai HC-IV, Kadungulu HC-III		
29	Sep-25	Wed	survey at Toroma HC-III, Toroma HC-III	market survey at Nairobi	
			NGO, KatakwiHC-IV, Ngariam HC-III		
30	Sep-26	Thu	survey at Mbale Workshop	market survey at Nairobi(Hirobe)	
			moving to Kampala (Ichikawa, Hiramatsu)	leaving NBO (Hirobe)	
31	Sep-27	Fri	survey at Soroti Hosp.	LHR. LHR/(Hirobe)	
				EBB/LHR(Ichikawa)	
32	Sep-28	Sat	survey at Kapelebyong HC-IV, Amuria HC-IV		
			LHR/(Ichikawa)	Narita(Hirobe)	
33	Sep-29	Sun	Narita(Ichikawa)		
34	Sep-30	Mon	DDHS, Soroti	survey at Serere HC-IV	
35	Oct-01	Tue	meetingWith MOH at Soroti Hosp.	meeting with SOCADIDO	
			visiting Tiriri HC-IV, Serere HC-IV, Kyere HC-III with MOH		
36	Oct-02	Wed	survey at Soroti Hosp.		
37	Oct-03	Thu	DDHS, Katakwi	survey at Soroti Hosp.	
38	Oct-04	Fri	DDHS, Kaberamaido	survey at Lwara Hosp.	
39	Oct-05	Sat	DDHS, Soroti, Kaberamaido, Katakwi		
40	Oct-06	Sun	moving to Kampala(Abe, Tasei, Tojo)		
41	Oct-07	Mon	survey at NMS, JMS	visiting Mulago Hosp	
			visiting Workshop, Wabigalo		
42	Oct-08	Tue	meeting with JOCV/JICA office	meeting with MOH	
			meeting with EOJ	meeting with WHO	
43	Oct-09	Wed	meeting with UCMB		
44	Oct-10	Thu	meeting with MOH		
45	Oct-11	Fri	EBB/NBO(Abe)	EBB/LHR(Tasei, Tojo)	
			meeting with JICAOffice in Kenya		
46	Oct-12	Sat	LHR. LHR/(Abe, Tasei, Tojo)		
47	Oct-13	Sun	Narita(Abe, Tasei, Tojo)		

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No.	Dat	te	Activity		
1	Dec-01	Sun	Narita/LHR. LHR/		
2	Dec-02	Mon	/NBO(Nagai, Abe)	/EBB(Tasei, Hiramatsu)	
			JICAKenyaoffice(Nagai, Abe)		
			NBO/EBB(Nagai, Abe)		
3	Dec-03	Tue	meeting with JOCV/JICA office		
			meeting with EOJ in Uganda		
			meeting with MOH		
4	Dec-04	Wed	meeting Mulago Hosp, X-ray dept.		
			meeting with MOH		
			meeting with MOFA		
5	Dec-05	Thu	moving to Soroti		
6	Dec-06	Fri	survey at Soroti Hosp., Lwala Hosp	visiting out-reach site	
7	Dec-07	Sat	meeting with DDHS, Soroti, Kaberamaido, Ka	takwi	
			visiting Serere HC-IV, Kyere HC-III		
			moving to Soroti		
8	Dec-08	Sun	meeting in the team		
9	Dec-09	Mon	meeting with MOH		
10	Dec-10	Tue	meeting with MOH and signing of M/D	meeting with UNFPA	
			meeting with JOCV/JICA office	meeting with Mulago Hosp	
			meeting with EOJ in Uganda		
11	Dec-11	Wed	EBB/LHR. LHR/(Nagai)	visiting Jinja Hosp(Abe, Tasei, Hiramatsu)	
				moving to Soroti	
12	Dec-12	Thu	Narita(Nagai)		
			survey at Soroti Hosp., Serere HC-IV		
			survey at Kaperebyong HC-IV, Amuria HC-IV		
13	Dec-13	Fri	survey at KaberamaidoHC-IV, Lwala Hosp, Ka	atakwiHC-IV	
14	Dec-14	Sat	visiting health centre in Tororo distric		
			moving to Kampala		
15	Dec-15	Sun	meeting in the team		
16	Dec-16	Mon	visiting Mulago Hosp		
			visiting UNFPA office		
17	Dec-17	Tue	meeting with EOJ in Uganda	meeting with AIM	
			meeting with JOCV/JICA office	meeting with MOFEP	
18	Dec-18	Wed	EBB/LHR		
19	Dec-19	Thu	LHR/		
20	Dec-20	Fri	/Narita		

(2) Explanation of Draft Final Report

Ministry	of Foreign Affairs James M. Mugume	Director, International Co-operation,
Ministry	of Finance Planning and Econor	nic Development
iviniisti y	Patrick Ocailap	Commissioner, Aid Liason Department
Ministry	of Health	
	Brigadre Jim Muhwezi	Minister
	Richard Muhinda	Permanent Secretary
	Sam Zaramba	Director Health Services
		(Clinical and Community Health Services)
Depart	tment of Clinical Service	
I	Amandua Jacinto	Assistant Commissioner
	S.S.B. Wanda	Assistant Commissioner
Divisio	on of Health Infrasturucture	
	Peter Webmre	Engineer
DDUG		
DDU2	Nicholas Olympa	Director of District Health Service Service
	Thomas Malinga	Director of District Health Service, Sololi
	Thomas A Onvige	Director of District Health Service, Kaberallaido
	Thomas A. Onyige	Director of District Health Service, Katakwi
Hospitals		
	H.Kasozi	Head, Radiology Department, Mulago Hospital
	Michael G. Kawooya	Radiology Department, Mulago Hospital
	J.V.B. Tindimwebwa	Head, Anaesthesia Department, Mulago Hospital
	Bernard Odu	Medical Superintendent, Soroti Hospital
	Benon Wanume	Medical superintendent, Jinja Hospital
	Mildred Latigo	Departmet of Manpower Development, MOH
		(Mbale Hospital)
WHO		
W110	Olive Sentumbwe	Family Health and Population Advisor
	Onve Sentumowe	r anny ricardi and r optiation Advisor
UNFPA		
	James Kuriah	Representative
	Henry Kalule	Assistant Representative
	Nestor Owomuhangi	Programme Officer, Reproductive Health

3. List of Parties Concerned in the Recipient Country

4. Minutes of Discussions (1) Basic Design Study

MINUTES OF DISCUSSIONS ON THE BASIC DESIGN STUDY ON THE PROJECT FOR IMPROVEMENT OF HEALTH CARE SERVICE SYSTEM IN SOROTI REGION

In response to a request from the Government of the Republic of Uganda, the Government of Japan decided to conduct a basic design study on the Project for Improvement of Health Care Service System in Soroti Region (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Uganda the Basic Design Study Team (hereinafter referred to as "the Team"), which is headed by Mr. Masaya Fujimoto, Deputy Director, Second Management Division, Grant Aid Management Department, Japan International Cooperation Agency, and is scheduled to stay in the country from August 30 to October 11, 2002.

The Team held discussions with the officials concerned of the Government of Uganda 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.

Kampala, September 13, 2002

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Mr. Fujimoto Masaya Leader Basic Design Study Team Japan International Cooperation Agency

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Dr. Zaramba Sam Director for Health Services (Clinical and Community Health Services) Ministry of Health, Republic of Uganda

ATTACHMENT

1. Objective of the Project

The objective of the Project is to improve the health care service system in Soroti region in the Republic of Uganda, through the procurement of basic equipment.

- 2. Responsible Ministry and Implementing Agency
- 2-1 The Responsible Ministry is the Ministry of Health of the Republic of Uganda.
- 2-2 The Implementing Agency is the Health Infrastructure Division, Department of Clinical Services, Ministry of Health.
- 3. Health Care Facilities to be Included in the Project

The Ugandan side finally requested the health care facilities, in the districts of Soroti, Kaberamaido and Katakwi, to be included by the Project as described in Annex-1 after the discussion with the Team.

4. Items Requested by the Ugandan side

The Ugandan side finally requested the items to be provided by the Project as described in Annex-2 after the discussion with the Team.

5. Appropriateness of the Request

The Japanese side will examine appropriateness of each health care facility and each equipment item to be included by the Project based on the study result by the Team.

6. Selection of Equipment

The criteria to select the equipment described in Annex-3 was mutually agreed, on the condition that the final component of the Project would be decided based on the further studies in Japan.

7. Japan's Grant Aid Scheme

The Ugandan side understands the Japan's Grant Aid Scheme explained by the Team, as described in Annex-4.

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

8. Schedule of the Study

8-1 The consultants will continue their further study in Uganda until October 11, 2002.

- 8-2 JICA will prepare a draft report and dispatch a mission in order to explain its contents in November 2002.
- 8-3 In case that the Government of Uganda accepts the contents of the draft report in principle, JICA will complete the final report and send it to the Government of Uganda around March, 2003.

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9. Other relevant issues

9-1 Budgets for Operation and Maintenance of Equipment

The Ugandan side has agreed to secure and allocate the enough budgets to operate and maintain the equipment provided by the Project properly and effectively.

9-2 Staff Recruitment and Capacity Building

The Ugandan side has agreed to promote the staff recruitment and capacity building for the effective use of the equipment provided by the Project.

9-3 Strengthening of Health Care Service System

The Ugandan side explained that the Ministry of Health and the Directors of District Health Services, DDHSs had supplied the health care facilities with the basic medical equipment under the District Health Service Project, DHSP. The Ugandan side, at the same time, emphasised the importance of improvement of communication, transportation and other health infrastructure with respect to the health care service network of the equipped facilities. The Japanese side expressed the understanding of the importance and effectiveness of improving the service network in these districts.

9-4 Effective Use of Equipment

The Japanese side pointed out some equipment supplied by DHSP was not in good use yet, and strongly requested that MOH and DDHSs would take appropriate measures to improve the situation before the Japanese mission visits Uganda in November. The Japanese side also requested the Ugandan side the immediate commencement of full functioning of the Soroti Regional Workshop.

9-5 Assistance to NGO Health Care Facilities

The Ugandan side strongly requested the improvement of the NGO health care facilities in view of their indispensability in health care service network in Uganda. The Japanese side explained the conditions of the Japan's general grant aid and limitation on the scheme, which generally include the facilities owned by government. For these reasons, the Japanese side explained that the Project could hardly include those NGO facilities though the necessity of assistance was recognised with their roles and activities in the health care service system. The Ugandan side expressed the understanding of these explanations.

9-6 Improvement of Incinerator

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The Japanese side explained the requested incinerator would be difficult to be included by the Project from viewpoints of segregated disposal, environmental influence and other conditions at present. The Ugandan side understood the explanation and expressed the opinion that the process of medical waste would be improved by self-effort of the Ugandan side.

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Annex-1

Requested Health Care Facilities to be Included by the Project

1. Soroti Regional Referral Hospital

2. Health Centres IV

No.	Health Unit	District	County
1	Apapai (Kasilo Health Sub-District)	Soroti	Kasilo
2	Serere (Serere Health Sub-District)	Soroti	Serere
3	Tiriri (Soroti Health Sub-District)	Soroti	Soroti
4	Kaberamaido	Kaberamaido	Kaberamaido
5	Amuria	Katakwi	Amuria
6	Kapelebyong	Katakwi	Kapelebyong
7	Katakwi	Katakwi	Usuk

3. Health Centres III

No.	Health Unit	District	County	Sub-County
1	Kamod	Soroti	Kasilo	Bugondo
2	Kadungulu	Soroti	Kasilo	Kadungulu
3	Pingire	Soroti	Kasilo	Pingire
4	Atiira	Soroti	Serere	Atiira
5	Kateta	Soroti	Serere	Kateta
6	Kyere	Soroti	Serere	Kvere
7	Dakabela	Soroti	Soroti	Arapai
. 8	Asuret	Soroti	Soroti	Asuret
9	Gweri	Soroti	Soroti	Gweri
10	Kamuda	Soroti	Soroti	Kamuda
11	Tubur	Soroti	Soroti	Tubur
12	Eastern Div. Hu	Soroti	Soroti Municip.	Eastern
13	SMC Disp.	Soroti	Soroti Municip.	Western Ward
14	Madera	Soroti	Soroti Municip.	Northern Ward
15	Alwa	Kaberamaido	Kaberamaido	Alwa
16	Kobulubulu	Kaberamaido	Kalaki	Kobulubulu
17	Ochero	Kaberamaido	Kalaki	Ochero
18	Anyara	Kaberamaido	Kalaki	Anyara
19	Bululu	Kaberamaido	Kalaki	Bululu
20	Kalaki	Kaberamaido	Kalaki	Kalaki
21	Otuboi	Kaberamaido	Kalaki	Otuboi
22	Abarilela	Katakwi	Amuria	Abarilela
23	Asamuk	Katakwi	Amuria	Asamuk
24	Orungo	Katakwi	Amuria	Orungo
25	Acowa	Katakwi	Kapelebyong	Achowa
26	Obalanga	Katakwi	Kapelebyong	Obalanga
27	Ngariam	Katakwi	Usuk	Ngariam
28	Toroma	Katakwi	Usuk	Toroma
29	Aketa	Katakwi	Usuk	Usuk

ix

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4. Offices of District Director Health Service

No.	. DDHS (
1	Soroti
2	Kaberamaido
3	Katakwi

5. Sorøti Regional Workshop of Medical Equipment

6. NGO Health Care Facilities

No.	Health Unit	District	County	Sub-County
1	Kidetok Health Center III	Soroti	Kasilo	Pingire
2	Ococia Health Center III	Katakwi	Amuria	Orungo
3	Acumet Health Center III	Katakwi	Kapelebyong	Kapelebyong
4	Toroma Health Center III	Katakwi	Usuk	Toroma
5	Usuk Health Center III	Katakwi	Usuk	Usuk
6	Lwala Hospital	Kaberamaido	Kalaki	Otuboi

Note: The equipment items to be provided for respective facilities shall be examined based on the criteria described in Annex-3.

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Annex-2-1

Priority order of Departments in Soroti Regional Referral Hospital

- X-ray and Imaging Department
- Blood Transfusion Department
- Pharmacy Department
- Main Theatre
- Maternity Wards
- MCH and Family Planing Department
- Laundry
- Dental Department
- · Central Laboratory
- Out Patient Department
- General Wards
- Administration Department
- Mortuary
- TB Wards

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1 Out Patient Department Equipment Q'ty 1-01 Autoclave (Bench Type) 6 1-02 Diagnostic Equipment Set 6 1-03 Dressing Set 6 1-04 **Examination Light** 6 1-05 Instrument Trolley 6 1-06 **OP** Light Mobile 1 1-07 Refrigerator 4 1-08 Suction Pump (Electric) 2 1-09 Weighing Scale (Child) 5 1-10 Weighing Scale (Adult) 5 1-11 Patient Screen 2 1-12 **Examination** Couch 5 1-13 Accident and Emergency Unit Equipment 1

Requested Equipment Items to be Provided by the Project

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ACH and	I Family Planning Department	•
	Equipment	Q'ty
2-01	Autoclave (Bench Type)	2
2-02	Diagnostic Equipment Set	4
2-03	Examination Light	4
2-04	Examination Couch	4
2-05	Patient Screen	, 4
2-06	Weighing Scale (Adult)	2
2-07	Weighing Scale (Child)	5
2-08	Instrument Trolley	4
2-09	Examination Light	2

3 Dental D	epartment	
	Equipment	Q'ty
3-01	Dental Unit Complete	2
3-02	Forceps Set Dental	2
3-03	Hand Instruments Dental	2
3-04	Autoclave (Bench Type)	2
3-05	Dental X-ray	1
3-06	Automatic X-ray Film Processor	1
3-07	Dental Cabinet	2
3-08	Instrument Trolley	2

Central L	aboratory	
	Equipment	Q'ty
4-01	Colorimeter	2
4-02	Spectrophotometer	1
4-03	Haemoglobin Meter	2
4-04	Microscope	4
4-05	Water Distiller	3

Soroti Regional Referral Hospital

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<u>1000 Ir</u>	ansitusion Department	
	Equipment	Q'ty
5-01	Donor Couch (Blood Transfusion)	2
5-02	Centrifuge	1
5-03	Deep Freezer	2
5-04	HIV Testing Machine	
5-05	Microscope	4
5-06	pH Meter	2
5-07	Blood Bank Refrigerator	2

o Pharmac	y Department	
	Equipment	O'ty
6-01	Autoclave	2
6-02	Balance	
6-03	Balance Semi Analytical	2
6-04	Water Distiller	4
6-05	Hot Plate	4
6-06	Refrigerator	2
6-07	Vacuum Filter Pump	1
6-08	Dispenser Trolley	4
6-09	Cap Sealing Machines	2

Main The	eatre	<u> </u>
	Equipment	Q'ty
7-01	Anaesthetic Machine	1
7-02	Defibrillator	1
7-03	ECG Monitor	1
7-04	Electro Surgical Unit	2
7-05	Instrument Set Anaesthesia, Adult	1
. 7-06	Instrument Set Anaesthesia, Paediatric	1
7-07	OP Light Mobile	2
7-08	OP Table	2
7-09	Oxygen Concentrator	2
7-10	Resuscitator (Adult)	2
7-11	Resuscitator (Child)	2
7-12	Suction Pump (Electric)	2

A-Kay an	d Imaging Department	
	Equipment	Q'ty
8-01	Ultrasound Scanner	1
8-02	X-ray Cassettes	1
8-03	X-ray Darkroom Equipment	1
8-04	X-ray Protective Clothing	3
8-05	X-ray Basic Buckeye system	1
8-06	X-ray Film Viewers	1

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9 Wards		
	Equipment	Q'ty
9-01	Hospital Beds	150
9-02	Paediatric Beds	60
9-03	Patient Trolley	10
9-04	Dispenser Trolley	20
9-05	Drug Cupboard	10
9-06	Drip Stands	45
9-07	Autoclave (Bench Type)	10
9-08	Diagnostic Set	10
9-09	Weighing Scale (Adult)	<u>`4</u>
9-10	Weighing Scale (Infant)	3
9-11	X-ray Film Viewers	5
9-12	Wheel Chair	10

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10 Maternit	y Wards	· · · · · · · · · · · · · · · · · · ·
	Equipment	Q'ty
10-01	Hospital Beds	40
10-02	Baby Cots	20
10-03	Delivery Beds	5
10-04	Patient Screen	5
10-05	Patient Trolley	2
10-06	Resuscitator (Adult)	2
10-07	Resuscitator (Child)	2
10-08	Suction Pump (Electric)	2
10-09	Infant Pump	5
10-10	Infant Warmer	3
10-11	Baby Incubator	3
10-12	Autoclave (Bench Type)	2
10-13	Dispenser Trolley	2
10-14	Ultrasound Scanner(Maternity)	1
10-15	Instrument Delivery Set	10
10-16	X-ray Film Viewers	2

11 TB War	ds	x
	Equipment	Q'ty
11-01	Hospital Beds	40
11-02	Weighing Scale (Adult)	2
11-03	Diagnostic Set	2
11-04	Refrigerator	1
11-05	Microscope	2
11-06	Centrifuge	1
11-07	Culture Incubator	1
11-08	Oxygen Cylinder	3
11-09	Resuscitator (Adult)	1.
11-10	Autoclave (Bench Type)	1
11-11	X-ray Film Viewers	1

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xiv

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12 Laundry		·
	Equipment	O'tv
12-01	Washer Extractor	2
12-02	Iron (Roller)	<u> </u>
12-03	Laundry Trolley	15
12-04	Flat Irons	

13 Administration Department

	Equipment	O'tv
13-01	Radio Call (Station)	1
13-02	Radio Call (Ambulance)	1

14 Mortuary		
	Equipment	Q'ty
14-01	Mortuary Refrigerator	1
14-02	Post Mortem Table	1

Health Centres IV

	Equipment	O'tv/HC IV
1	Radio Call (Station)	1
2	Solar Electric system	1
3	Ambulance for Patient Transportation	1
4	Motorcycle for Out-reach Services	1
5	Water Tank	1
6	Equipment to be used in Operation Theatre	1

Health Centres III

No

1	Equipment	O'ty/HC III
1	Radio Call (Station)	1
2	Solar Electric system	1
3	Motorcycle for Out-reach Services	<u> </u>
3	Water Tank	1

Offices of District Director Health Services

· · · · · · · · · · · · · · · · · · ·	Equipment	Q'ty/Office
1	Radio Call (Station)	1
2	Radio Call (Ambulance)	1
3	Solar Electric system	1

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Soroti Regional Workshop

	Equipment	O'tv
1	Tool Set for Refrigerator	1
2	Milling Machine	
3	Grinder	1
4	Shaping Machine	1
5	Shearing Machine	1
6	Injector Pump Testing Machine	1
7	Planing Machine	
8	Power Saw Mechanical	1
9	Power Wood Lathe	$-\frac{1}{1}$
10	Spray Gun	1
11	Bench Vice	
12	Vehicle for Mobile Workshop	1
13	Laptop Computer with Printer	-+
14	Tool set for Carpentry	
15	Ladder	

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NGO Health Care Facilities

	Equipment	O'ty/HC III
1	Radio Call (Station)	1
2	Solar Electric System	1
3	Motorcycle for Out-reach Services	1
4	Delivery Beds	1
5	Diagnostic Equipment Set	2
6	Dressing Set	2
7	Delivery Instrument set	2
8	Sterilizer	2
9	Resuscitator set(Child)	1
10	Resuscitator set (Adult)	
11	Weighing Scale (Adult)	1
12	Weighing Scale (Infant)	1
13	Hospital Beds	4
14	Paediatric Beds	3
15	Instrument Trolley	2
16	Sucker, Foot operate	1
17	Stretcher	1
18	Instrument Trolley	1
19	Instrument-cabinet	1
20	Dispenser Trolley	1
21	Examination Couch	1
22	Patient Screen	2

Note: The equipment plan for respective health care facilities shall be examined based on criteria described Annex-3 after further study and analysis in Japan. Duplication of existing equipment shall be carefully avoided.

Annex-3

Criteria on Selection of Equipment

The high priority shall be given to the equipment items as follow.

- Equipment that gives big benefit and/or effect to health care facilities in line with the Project objective
- Equipment that is indispensable for the basic health care service provided at the facilities included by the Project
- Equipment that is appropriate for the technical level of the facilities included by the Project
- Equipment that is highly cost-effective from viewpoints of operation and maintenance
- Equipment that replaces an old and deteriorated equipment item used in daily health care service
- Equipment that supplements the lacking distinctly in its quantity

The low priority shall be given to the equipment items as follow.

- Equipment that duplicates an item already provided by DHSP

- Equipment that requires extremely high cost for operation and maintenance
- Equipment that requires consumables and/or spare parts not available in Uganda
- Equipment that may cause environmental pollution
- Equipment that has low cost-effectiveness
- Equipment that is for personal use by staff persons
- Equipment that is requested quantitatively more than necessity

xviii

Annex-4

Japan's Grant Aid Scheme

1. Japan's Grant Aid Procedures

(1) The Japan's Grant Aid Program is executed by the following procedures.

Application (request made by a recipient country)

Study (Basic Design Study conducted by JICA)

Appraisal & Approval (appraisal by the Government of Japan and approval by the Cabinet of Japan)

Determination of Implementation (Exchange of Notes between both Governments) **Implementation** (implementation of the Project)

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

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

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

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

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

2. Contents of the Study

(1) Contents of the Study

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

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

e) estimation of cost of the project.

The contents of the original request are not necessarily approved in their initial form as

the contents of the Grant Aid project. The Basic Design of the project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

Final project components are subject to approval by the Government of Japan and therefore may differ from an original request. Implementing the project, the Government of Japan requests the recipient country to take necessary measures involved which are itemised on Exchange of Notes.

(2) Selection of Consultants

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

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

3. Japan's Grant Aid Scheme

(1) What is Grant Aid?

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

(2) Exchange of Notes (E/N)

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

- (3) "The period of the Grant Aid" means one Japanese fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedure such as Exchange of Notes, concluding a contract with (a) consulting firm(s) and (a) contractor(s) and a final payment to them must be completed.
- (4) Under the Grant, in principle, products and services of origins of Japan or the recipient country are to be purchased.

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

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

(5) Necessity of the "Verification"

The Government of the recipient country or its designated authority will conclude

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NO

contracts denominated in Japanese yen with Japanese nationals. The Government of Japan shall verify those contracts. The "Vérification" is deemed necessary to secure accountability to Japanese tax payers.

(6) Undertakings Required to the Government of the Recipient Country

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

- a) to secure land necessary for the sites of the project prior to the installation work in case the project is providing equipment,
- b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,
- c) to secure buildings prior to the installation work in case the project is providing equipment,
- d) to ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid,
- e) to meet customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts,
- f) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(7) Proper Use

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

(8) Re-export

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

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

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Annex-5

Major Undertakings to be taken by Each Government

No.	Items	To be covered	To be covered
		by the Grant	by the Recipient
		Aid	side
	To bear the following commissions to a bank of Japan for the	-	
· `	banking services based upon the B/A		
[1) Advising commission of A/P		
<u>-</u>	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		
	or third countries to the recipient country	• • • •	
. ;	2) Paying tax 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 meet 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 facilities		
	constructed and equipment provided under the Grant Aid		
6	To bear all the expenses, other than those to be borne by the		
	Grant Aid, necessary for execution of the Project including		
	operation and maintenance costs of the equipment		•

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(2) Explanation of Draft Final Report

MINUTES OF DISCUSSIONS ON THE BASIC DESIGN STUDY ON THE PROJECT FOR IMPROVEMENT OF HEALTH CARE SERVICE SYSTEM IN SOROTI REGION IN THE REPUBLIC OF UGANDA (EXPLANATION ON DRAFT REPORT)

In August 2002, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team on the project for Improvement of Health Care Service System in Soroti Region (hereinafter referred to as "the Project") to the Republic of Uganda (hereinafter referred to as "Uganda"), and through discussion, field survey, and technical examination of the results in Japan, JICA prepared a draft report of the Study.

In order to explain to and consult with Uganda on components of the draft report, JICA sent to Uganda the Draft Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Dr. Nobuhiko Nagai, International Medical Center of Japan, Ministry of Health, Labour and Welfare, from 2 to 18 December, 2002.

As a result of discussions, 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.

Kampala, December 10, 2002

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Dr. Nagai Nobúhiko Leader Draft Report Explanation Team Japan International Cooperation Agency

Dr. Zaramba Sam Director for Health Services (Clinical and Community Health Services) Ministry of Health, Republic of Uganda

xxiii
1. Components of the Draft Report

The Government of Uganda agreed and accepted in principle the components of the draft report explained by the Team. The list of equipment is attached to Annex.

2. Japan's Grant Aid scheme

The Ugandan side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Uganda as explained by the Team and described in Annex-4 and Annex-5 of the Minutes of Discussions signed by both parties on September 13, 2002.

3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to the Government of Uganda in March 2003.

4. Other relevant issues

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- 4-1 Both parties agreed to the followings with respect to the equipment to be installed at the health care units owned by NGO.
- a. The equipment installed at NGO health care units shall be under control of the government of Uganda(Ministry of Health) and the local governments of Soroti, Kaberamaido and Katakwi Districts.
- b. The equipment remains under ownership of the government.
- c. The equipment shall be lent by the government to the NGO units, be properly used for the health service with the collaboration between government and NGO, and be kept permanently where it is installed by the Project.
- d. The above mentioned issues shall be agreed by the government and the NGO units with formal document, when the Project is implemented, by the completion of the Project.
- e. The photocopy of said formal document shall be submitted to the Japanese side.

4-2 The Ugandan side shall assign the following personnel by March 2003.

- a. 1 Radiologist and 2 radiographers to Soroti Regional Referral Hospital.
- b. 1 Dental surgeon and 3 public health dental assistants to Soroti Regional Referral Hospital.
- c. 1 Medical Officer each for Tiriri HC-IV, Apapai HC-IV and Serere HC-IV.
- d.- 1 Anaesthesia assistant each for Tiriri HC-IV, Apapai HC-IV and Serere HC-IV.
- 4-3 The Japanese side recommended that the Ugandan side give the training of ultrasound diagnosis to the medical doctors of Soroti Regional Referral Hospital. The Ugandan side undertook to carry out this exercise.

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- . 4-4 The Ugandan side agreed that the radiation shielding on windows of X-ray room of Soroti Regional Referral Hospital shall be borne by the Ugandan side, and shall be completed before the installation of equipment procured by the Project.
- 4-5 Both parties confirmed that the equipment specifications and the other technical information shall not be released before the tender to be held in the implementation stage of the Project.
- 4-6 The Ugandan side strongly requested that an Anaesthetic Machine(Boyle's) would be provided by the Project for Main Theatre of Soroti Regional Referral Hospital with respect to improvement of the anaesthetic technique of the hospital.

The Japanese side expressed the Team's view that the issue had better be improved as nation wide anaesthetic technique of medical middle cadre under a comprehensive programme including practical training of anaesthesia and surgery, sustainable and stable supply of Halothane, and other relevant aspects. The Team will have further study on this issue during their stay and in Japan.

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Annex Equipment List and Quantity Soroti Regional Referral Hospital

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Category	No.	Equipment	Q'ty
1. Image Diagnosis	1-01	X-ray Basic Buckeye System	1
	1-02	X-ray Protective Clothing	1
	1-03	X-ray Darkroom Equipment	1
	1-04	X-ray Film Viewers	1
	1-05	Ultrasound Scanner	1
2. Clinical Testing	2-01	Spectrophotometer	1
	2-02	Microscope	2
	2-03	Colorimeter	1
	2-04	Water Distiller	1
3. Maternal Ward	3-01	Delivery Beds	3
	3-02	Instrument Delivery Set	6
	3-03	Autoclave (Bench Type)	1
	3-04	Suction Pump (Electric)	1
	3-05	Vacuum Extractor	1
	3-06	Patient Trolley	2
· · ·	3-07	Dispenser Trolley	2
	3-08	Infant Warmer	1
· · ·	3-09	Baby Incubator	1
······································	3-10	Phototherapy Unit	1
4. MCH and Family Planing	4-01	Autoclave (Bench Type)	2
	4-02	Diagnostić Set (MCH)	2
· · · · ·	4-03	Examination Light	2
	4-04	Examination Couch	2
	4-05	Weighing Scale (Adult)	2
	4-06	Weighing Scale (Child)	2
	4-07	Instrument Trolley	2
5. OPD	5-01	Autoclave (Bench Type)	5
· ,	5-02	Instrument Trolley	5
	5-03	Examination Couch	3
	5-04	Diagnostic-Set	4
	5-05	Examination Light	4
	5-06	Refrigerator	4
	5-07	Dressing Set	3
	5-08	OP Light (Mobile)	. 1
•	5-09	Suction Pump (Electric)	1
· · · · ·	5-10	Weighing Scale (Child)	1
	5-11	Weighing Scale (Adult)	1
	<u>5-12</u>	Endtracheal set (Adult)	1
	<u>5-13</u>	Endtracheal Set (Child)	1
	5-14	Resuscitator (Adult)	.1
	5-15	Resuscitator (Child)	1
•	5-16	OP Table	1
· ·	5-17	Dental Unit Complete	1
	5-18	Dental Cabinet	1
	5-19	Dental X _T ray	1
6. Major Theatre	6-01	OP Table	2
	6-02	OP Light (Mobile)	2
	6-03	Endtracheal Set (Adult)	2
	6-04	Endtracheal Set (Child)	2
	6-05	Oxygen Concentrator	2
	6-06	Suction Pump (Electric)	2
	6-07	X-ray Film Viewers	2

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Category	No.	Equipment	O'ty
6. Major Theatre	6-08	Defibrillator	1
· · · · · · · · · · · · · · · · · · ·	6-09	ECG Monitor	1
7. Blood Bank	7-01	Donor Couch (Blood Transfusion)	2
	7-02	Deep Freezer	1
	7-03	Blood Bank Refrigerator	1
	7-04	Centrifuge	1
	7-05	Microscope	1
8. Patient Transportation	8-01	Ambulance	1
9. Wards	9-01	Drug Cupboard	4
	9-02	Autoclave (Bench Type)	4
	9-03	Weighing Scale (Adult)	4
	9-04	X-ray Film Viewers	4
Ч.,	9-05	Diagnostic Set	8
	9-06	Wheel Chair	8
	9-07	Patient Trolley	6
	9-08	Dispenser Trolley	6
10. TB Wards	10-01	X-ray Film Viewers	1
· · · · ·	10-02	Diagnostic Set	1
	10-03	Autoclave (Bench Type)	1
	10-04	Weighing Scale (Adult)	1
	10-05	Microscope	1
11. Pharmacy	11-01	Autoclave	1
	11-02	Balance	1
	11-03	Wàter Distiller	1
	11-04	Refrigerator	1
	11-05	Cap Sealing Machine	1
12. Laundry	12-01	Washer Extractor	2
	12-02	Iron (Roller)	1
	12-03	Laundry Trolley	10
13. Mortuary	13-01	Mortuary Refrigerator	1
14. Workshop	14-01	Tool Set	1

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Health Centre

Item No.	Equipment	Totel O'ty
HC-01	OP Table	.3
HC-02	OP Light (Mobile)	3
HC-03	Instrument Set (Operation Theatre)	3
HC-04	Endtracheal Set (Adult)	3
HC-05	Endtracheal Set (Child)	3
HC-06	Solar Electric System	22
HC-07	Ambulance	6
HC-08	Radio Call	35
HC-09	Motorcycle for Out-reach Services	39

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Health Care Unit		Equipment								
Unit No,	Name	HC-01	HC-02	HC-03	HC-04	HC-05	HC-06	HC-07	HC-08	HC-09
HSD-01	Apapai HC-IV	1	1	1	1	1	1			1
HSD-02	Serere HC-IV	1	1	1	.1	1				1
HSD-03	Tiriri HC-IV	1 1	1	1	1	1	1	1		1
HSD-04	Kaberamaido HC-IV				· ·		1	1	1 1	1
HSD-05	Lwala Hospital						<u>`</u>	1	1	1
HSD-06	Amuria HC-IV							1	1	1
) HSD-07	Kapelebyong HC-IV		,				<u>`</u> 1	1	1	
HSD-08	Katakwi HC-IV						1	1	1	1
HIII-01	Kamod HC-III			, , , , , , , , , , , , , , , , , , ,			ч, ,		1	1
HIII-02	Kadungulu HC-III		, ·				1		1	1
HIII-03	Pingire HC-III								1	1
HIII-04	Kidetok HC-III							, ,	1	1
HIII-05	Atiira HC-III		· · ·			1	1		1	1
HIII-06	Kateta HC-III								1	1
HIII-07	Kyere HC-III						1	· · · · · · · · · · · · · · · · · · ·	1	1
HIII-08	Dakabela HC-III						1		1	1
HIII-09	Asuret HC-III							· · · · ·	1	- 1
HIII-10	Gweri HC-III					1	3 1		1	- Î
HIII-11	Kamuda HC-III						1	· ,	1	1
HIII-12	Tubur HC-III		• •				1		1	1
HIII-13	Alwa HC-III						1	÷	1	1
HIII-14	Kobulubulu HC-III						1		ì	1
HIII-15	Ochero HC-III						<u> </u>		1	1
HIII-16	Anyara HC-III					· · · /		, , ,	1	1
HIII-17	Bululu HC-III								1	1
HIII-18	Kalaki HC-III	,		;	î	·	1		1	1
HIII-19	Otuboi HC-III						1		1	1
HIII-20	Abarilela HC-III					· · · ·	1		1	1
HIII-21	Asamuk HC-III	· · · ·					1		1	1
HI11-22	Orungo HC-III						1		1	1 .
HIII-23	Ococia HC-III						[1	1
HIII-24	Acowa HC-III						1		1	1
HIII-25	Obalanga HC-III							<u> </u>		1
HIII-26	Acumet HC-III				··· ···		···,		1	1
HIII-27	Ngariam HC-III					· · · · · · · · · · · · · · · · · · ·	1			1
HIII-28	Toroma HC-III						1		1	$-\overline{1}$
HIII-29	Aketa HC-III						1	· · · · · ·	1	-
HIII-30	Toroma (Omodori) HC-III		; <u>, , , , , , , , , , , , , , , , , , ,</u>						1	- <u>-</u>
HIII-31	Usuk HC-III		· · · ·	·			·····	·		1
	Total	3	3	3	3	3	22	6	35	39

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