

## **Appendices**

## 1. Member List of the Survey Team

Preparatory Survey (August 15 to September 23, 2010)

No.	Name	Assignment title	Organization
1	Mr. Katsuji MIYATA	Leader	Deputy Resident Representative, Japan International Cooperation Agency Zambia Office
2	Mr. Kenichi KOMADA	Technical Advisor	National Center for Global Health and Medicine
3	Ms. Kaoru OHZEKI	Project Coordinator	Human Development Department, Japan International Cooperation Agency
4	Mr. Naoki TOMINAGA	Project Manager & Architectural Planner	Nihon Sekkei, Inc.
5	Ms. Makiko UEMURA	Architectural & Natural Condition Researcher	Nihon Sekkei, Inc.
6	Mr. Takahisa ISOBE	Facilities Planner	Nihon Sekkei, Inc.
7	Mr. Yasuhiko YANAGI	Construction & Cost Planner	Nihon Sekkei, Inc.
8	Mr. Takashi OGAWA	Equipment Planner 1	Fujita Planning, Co., Ltd.
9	Mr. Yosuke UMEMIYA	Equipment Planner 2/ Procurement & Cost Planner 2	Fujita Planning, Co., Ltd.
10	Ms. Hiromi SUWA	Medical Condition & Organization Researcher	Fujita Planning, Co., Ltd.
11	Mr. Hans Park	Architectural Designer (assistant)	Nihon Sekkei, Inc.

Explanation on Draft Report (March 8 to March 19, 2009)

No.	Name	Assignment title	Organization
1	Mr. Tomoya Yoshida	Leader	Financing Facilitation and Procurement Supervision Department Japan International Cooperation Agency
2	Ms. Kaoru OHZEKI	Project Coordinator	Human Development Department, Japan International Cooperation Agency
3	Mr. Naoki TOMINAGA	Project Manager & Architectural Planner	Nihon Sekkei, Inc.
4	Mr. Takashi OGAWA	Equipment Planner 1	Fujita Planning, Co., Ltd.
5	Mr. Hans Park	Architectural Designer (assistant)	Nihon Sekkei, Inc.

## 2. Study Schedule

### Preparatory Survey (August 15 to September 23, 2010)

			JICA Members			Consultant Members								
			Technical Adviser	Leader	Project Coordinator	Project Manager & Architectural Planner	Medical Condition & Organization Researcher	Architectural & Natural Condition Researcher	Architectural Designer (Assistant)	Equipment Planner 2/ Procurement & Cost Planner	Facilities Planner	Equipment Planner 1	Construction & Cost Planner	
1	15 Aug	Sum	same as Consultant			Narita - Hong Kong - Johannesburg -								
2	16 Aug	Mon				- LUSAKA, Courtesy Call to JICA Zambia Office								
3	17 Aug	Tue				Courtesy Call to EOJ and MOH, Explain Inception Report, Confirm inventory schedule								
4	18 Aug	Wed				Visit University Teaching Hospital and 1st level referral district hospital								
5	19 Aug	Thu				Survey on Chipata HC and Matero HC								
6	20 Aug	Fri				Survey on Kanyama HC, Chawama HC and Lusaka Provincial Hospital								
7	21 Aug	Sat				Survey on Chilenge HC								
8	22 Aug	Sun		Narita - Hong Kong - Johannesburg -	Team Meeting					Narita - Hong Kong - Johannesburg -				
9	23 Aug	Mon		- LUSAKA	Ministry of Finance and National Planning, Preparation of Report, Request Estimate to Local Consultant					- LUSAKA				
					Team Meeting									
10	24 Aug	Tue			Courtesy Call to EOJ, JICA office and MOH			Survey on other donors & collection of local information						
11	25 Aug	Wed			Meeting with University Teaching Hospital									
12	26 Aug	Thu			Survey on Chipata HC and Matero HC									
13	27 Aug	Fri			Survey on Kanyama HC and Chawama HC									
14	28 Aug	Sat			Survey on Chilenge HC, Lusaka District Hospital and other									
15	29 Aug	Sun			Team Meeting									
16	30 Aug	Mon			Survey on 1st level referral district hospital							Narita - Hong Kong - Johannesburg -		
17	31 Aug	Tue			Team Meeting							- LUSAKA		
18	1 Sep	Wed			Meeting with HC, technical cooperation project members			Meeting with Local Consultant, Survey on other Ministry and agent						
19	2 Sep	Thu			Meeting with HC, technical cooperation project members			Survey on other Ministry and agent						
20	3 Sep	Fri			Meeting with MOH			Meeting with Local Consultant						
21	4 Sep	Sat			Team Meeting			Survey on children's hospital and other						
22	5 Sep	Sun			Team Meeting									
23	6 Sep	Mon			Meeting with MOH			Site Survey, Meeting, Data collection						
24	7 Sep	Tue			Meeting with MOH on Minutes of Discussions			Site Survey, Meeting, Data collection	Lusaka - Johannesburg	Site Survey, Meeting, Data collection				
25	8 Sep	Wed			Signing of Minutes of Discussions Report to JICA Office & EOJ			Site Survey, Meeting, Data collection	- Hong Kong - Narita	Site Survey, Meeting, Data collection				
26	9 Sep	Thu		Lusaka - Johannesburg -	Site Survey			Site Survey, Meeting, Data collection		Site Survey, Meeting, Data collection				
27	10 Sep	Fri		- Hong Kong - Narita	Site Survey			Site Survey, Meeting, Data collection		Site Survey, Meeting, Data collection				
28	11 Sep	Sat			Team Meeting							Team Meeting	Lusaka - Johannesburg -	Team Meeting
29	12 Sep	Sun			Team Meeting							Team Meeting	- Hong Kong - Narita	Team Meeting
30	13 Sep	Mon			Meeting with MOH on Technical Note							Survey on other Ministry		Survey on Procurement
31	14 Sep	Tue			Signing on Technical Note, Report to JICA Office and EOJ							Survey on other Ministry		Survey on Procurement
32	15 Sep	Wed			Lusaka - Johannesburg -							Survey on other Ministry		Survey on Procurement
33	16 Sep	Thu			- Hong Kong - Narita							Survey on other Ministry		Survey on Procurement
34	17 Sep	Fri										Survey on other Ministry		Survey on Procurement
35	18 Sep	Sat										Survey on other Ministry		Survey on Procurement
36	19 Sep	Sun										Lusaka - Johannesburg -		Lusaka - Johannesburg -
37	20 Sep	Mon										Survey on Procurement		Survey on Procurement
38	21 Sep	Tue										Survey on Procurement		Survey on Procurement
39	22 Sep	Wed										Johannesburg -		Johannesburg -
40	23 Sep	Thu										- Hong Kong - Narita		- Hong Kong - Narita

Explanation on Draft Report (March 8 to March 19, 2011)

			JICA Members		Cosultant Members		
			Leader	Project Coordinator	Project Manager & Architectural Planner	Equipment Planner 1	Architectural Planner
1	8 Mar	Tue			Leave Narita ~ Hong Kong ~ Johannesburg ~		
2	9 Mar	Wed			~ Arrive at Lusaka Meeting with JICA Zambia Office		
3	10 Mar	Thu			Courtesy call on MoH, Presentation of Draft final report		
4	11 Mar	Fri			Meeting with MOH/PHL/DHMT		
5	12 Mar	Sat	Leave Narita ~ Hong Kong ~		Internal Meeting		
6	13 Mar	Sun	~ Hong Kong ~ Johannesburg ~		Internal Meeting		
7	14 Mar	Mon	~ Arrive at Lusaka		Discussion on M/D and Draft final Report (MoH)		
8	15 Mar	Tue	Discussion on M/D (MoH)				
9	16 Mar	Wed	Signing of M/D				
10	17 Mar	Thu	Report to JICA Zambia Office & EoJ				
11	18 Mar	Fri	Leave Lusaka ~ Johannesburg ~				
12	19 Mar	Sat	~ Hong Kong ~ Narita				

### 3. List of Parties Concerned in the Recipient Countries

	Name	Organisation
	<b>Zambia side</b>	
1	<b>Ministry of Health</b>	
	Dr. Peter Mwaba	Acting Permanent Secretary
	Dr. C. Simoonga	Acting Director (Planning and Budgeting)
	Mubita Luwabelwa	Acting Deputy Director (Planning and Budgeting)
	K.C. Mulalelo	Chief Planner
	Tsibu G. Bbuku	Medical Equipment Specialist
	Wamulume Jason	Principal Planner
2	<b>Provincial Health Office</b>	
	Dr. Tackson Lambart	Lusaka PMO
	Christopher Sinkala	Principal Medical Equipment Officer
	Terence Siansalama	Planner, Lusaka
	Janet S. Chilepa	Assistant Accountant
	Ngala Florence	Chief Enu Officer
3	<b>District Health Office</b>	
	Roy Chawuma	District Medical Officer
	Clara Mbwili-Muleya	Acting District Medical Officer
	Stanley Kunda	Principal Environment Health Officer
	Emmanuel Musiwa	Medical Equipment Co-ordinator
	Dr. Matimba M Chiko	Ag. MPD
	Dalitso Sakala	Environmental Health Technologist
	Happy N. Chipulu	Assistant Nursing Officer, Nursing Care Department
	Wendy Kumbuyo	RM-MCH Department
	Clevinah Mizanda	Environmental Health Technologist
	Eddie C. Musonda	Manager Administration
	Getrude Nkonde Kasankha	Senior Human Resource Manager Officer
	Fredrick Muleya	Assistant Account
	George Kadimba	Lusaka DHO Pharmacist
	Lazarus Sibanda	Procurement Officer
	Doreen Mwondela	Oral/School Health Programme Officer
	Dr. M. Masaninga	CCE LDHMT
	Dr. C.Y Msiska	District Medical Office
	Nsama Davy	Chief Laboratory Scientist
4	<b>Chilenje Health Centre</b>	
	Mrs. M.S. Chibbela	Health Centre In-Charge
	Dr Kasanda	Medical Superintendent
	Mrs A.N. Chisanga	Environmental Health Technologist
	Mrs. M.M. Chomba	Environmental Health Technologist
	Mrs M. Chilonga	OPD In-Charge
	Mr M. Kalezhi	Nutritionist
	Mr Mutale	Lab Technician
	Ms J. Chama	Mental Health Dept.
	Mrs. J. Chipanda	MCH In-Charge

	Name	Organisation
	Dr Munira	Dental Surgeon
	Mrs N. Silwimba	ART Department
	Mrs Monde	Dental Technician
5	<b>Kanyama Health Centre</b>	
	Victoria N. Ndhlovu	Health Centre In-Charge
6	<b>Chawama Health Centre</b>	
	Evelyn Nkhata Tembo	Sister-in-Charge
	Aripdjanova Nozima	Medical Doctor
	Evans Mukalula Mwango	Environmental Health Technologist
7	<b>Chipata Health Centre</b>	
	Veronica Katubikonki	Registered Nurse
8	<b>Matero Ref. Health Centre</b>	
	Mrs Catherine C. Kasanga	Sister-in-Charge
9	<b>University Teaching Hospital</b>	
	Dr Jackson Kasoka	Senior Medical Superintendent
	Mr F. B. Mponela	Director of Finance
	Mr Richard Tumeo	Health Information Systems Officer
	Mr Gift Mumombo	Medical Records Officer
	Dr Laston Chikoya	Head Clinical Care
10	<b>Kafue District Hospital</b>	
	Dr. M.K. Lembalemba	District Medical Officer
	Dr Patrick Djemo	Position
	Ms Zgambo Timalizge	Hospital Administrator
	Mr M.P. Hodkinson	Community member, Chairman, Kafue Hospital Development Committee
	Mr Fredrick Kasonde	Hospital Information Officer
11	<b>Ministry of Works and Supply</b>	
	Boster H. Chiyaba	President, Secretariat at Buildings Department
	Wiza Kabagne	Architect Ministry of Works and Supply HQ
12	<b>ZESCO Power Company</b>	
	Mr. Augustine Musumali	Director, Engineering Development
	Mr. Daniel Mvula	Principal Engineer, Township Electrification
	Mr. Asheri Chimponaa	Engineering
	Mr. Brigh C. Kombe	Regional
13	<b>Lusaka Water and Sewage Co. Ltd</b>	
	Mr. Nyonge Phiri	Senior Engineer
	Ms. Josephine Moono	Branch Engineer
	Mr. Ndoma Joseph	Senior Engineer
	Mr. Chipili Chikamba	Asset Manager
14	<b>Lusaka City Council</b>	
	Ms Mainza Simoonga	Assistant Director, Engineering Service
	Mr. Amos M. Musonda	Director of Public Health Service
12	<b>Other</b>	
	Prof. L. Munkonge	Lusaka Apex Medical University (LAMU)
	Dr. John Mundenda	Lusaka Apex Medical University

	Name	Organisation
	<b>Japan Side</b>	
13	<b>Embassy of Japan in Zambia</b>	
	Toshihiko Horiuchi	Minister-Counsellor
14	<b>JICA Zambia Office</b>	
	Shiro Nabeya	Chief Representative
	Ippei Matsuhisa	Assistant Resident Representative
	Priscilla Likwasi	Consultant, JICA Zambia Office

4. Minutes of Discussions

**MINUTES OF DISCUSSIONS  
ON PREPARATORY SURVEY  
ON THE PROJECT FOR UPGRADING OF LUSAKA HEALTH CENTERS  
IN THE REPUBLIC OF ZAMBIA**

In response to a request from the Government of the Republic of Zambia (hereinafter referred to as "Zambia"), the Government of Japan decided to conduct a Preparatory Survey on the Project for Upgrading of Lusaka Health Centres in Zambia (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Zambia a Preparatory Survey Team (hereinafter referred to as "the Team"), which is headed by Mr. Katsuji Miyata, Deputy Resident Representative, JICA Zambia Office, and is scheduled to stay in the country from August 16 to September 19, 2010.

The Team held discussions with the officials concerned of the Government of Zambia 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 Preparatory Survey Report.

Lusaka, September 8, 2010



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Dr. Peter Mwaba  
Permanent Secretary  
Ministry of Health  
The Republic of Zambia



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Mr. Katsuji Miyata  
Leader  
Preparatory Survey Team  
Japan International Cooperation Agency



## ATTACHMENT

### 1. Objective of the Project

The objective of the Project is to improve delivery of basic health services through upgrading of Urban Health Centres in Lusaka District to first level district hospitals.

The Zambian Government has plans to upgrade five (5) Urban Health Centres, Kanyama, Matero Ref., Chilenje, Chipata and Chawama. However both sides agreed that the Grant Aid Project will focus on two (2) Urban Health Centres, Matero Ref. and Chilenje.

### 2. Project sites

Project sites are Matero and Chilenje, in Lusaka District, as shown in Annex -1-1, 1-2, and 1-3.

### 3. Responsible and Implementing Agency

The Responsible and Implementing Agency is Ministry of Health, through Lusaka Provincial Medical Office and Lusaka District Health Management Team.

Organization charts of the above agencies are shown in Annex-2.

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

The list of requested items and its priority finally agreed upon between the Government of Zambia and the Team is shown in Annex-3 (facilities) and Annex-4 (equipments). JICA will assess the appropriateness of the request with the following criteria and will recommend to the Government of Japan for approval.

- Economic and Social Viability
- Technical Feasibility
- Manageable and Administrative Competence of Organization Concerned
- Financial Allocation by Japanese side
- No duplication of similar support by other Development Partners

### 5. Japan's Grant Aid Scheme

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

5-2. Zambian side will take the necessary measures, as described in Annex-6, for smooth implementation of the Project.

### 6. Schedule of the Study

6-1. Consultants will proceed to further studies in Zambia until September 19, 2010.

6-2. JICA will prepare the draft preparatory survey report and dispatch a mission team after the consent of Japanese Government in order to explain the report's contents in February, 2011.

6-3. In case that the contents of the report is accepted in principle by the Government of Zambia, JICA will complete the final preparatory survey report and send it to the Government of Zambia.

6-4 The above schedule is tentative and subject to change.

## 7. Other relevant issues

### 7-1. Land use

Both sides agreed that Zambian side will secure the land to construct new facilities in Chilenje by the end of October 2010 and will submit JICA Zambia Office the documents ensuring the land use by the City Council. In case this document is not submitted, the construction components in Chilenje will be excluded.

### 7-2. Undertakings by Zambian side

In addition to the major undertakings described in Annex-6, Zambian side confirmed;

- (1) to conduct necessary land clearance and relocation of the existing facilities, as described in Annex-1-2, 1-3 in or around the Project site before starting the construction of new facilities,
- (2) to remove the existing X-ray machine in Matero Ref., and to supply power necessary for new equipments.

### 7-3. Sustainability of the Project

- (1) Zambian side agreed to assign sufficient number of qualified staff, shown in Annex-7 for service operation of new facilities and equipments.
- (2) Zambian side agreed to allocate sufficient budgets to manage the upgraded hospitals, to operate the equipment supplied by the Project, and to cover the provision of spare parts, consumables, reagents, and periodical maintenance contracts.

### 7-4. Improvement of Infrastructures

Zambian side agreed to complete necessary improvement of infrastructures before the commencement of the construction work by the Grant aid, as described in Annex-8.

### 7-5. Maintenance Organization and Staff of the Project

Zambian side shall ensure to deploy sufficient number of skilled staff for management and operation/ maintenance services (electrical mechanical, and equipment) as described in Annex-9.

### 7-6. Soft-component for Facilities and Equipment

Zambian side requested technical support for facility (buildings, electrical, mechanical, and so on) and equipment maintenance. The Team will assess the need of the request.



7-8. Tax exemption for the Project

Zambian side shall take necessary measures to exempt Japanese Nationals who will be engaged in the Project from all duties and related fiscal charges which may be imposed in Zambia with respect to the import and local procurement of equipment and services supplied under the verified contract.

7-9. Confidentiality of the Project

Both sides confirmed that the drawings, equipment and other technical information related to the Project shall not be released before the tender to be held in the implementation stage.

Annex-1-1 Location Map of the Project sites

Annex-1-2 Ground plan of Matero Ref. Health Centre

Annex-1-3 Ground plan of Chilenje Health Centre

Annex-2 Organization Chart of Ministry of Health, Lusaka Provincial Medical Office, and Lusaka District Health Management Team

Annex-3 Facility List

Annex-4 Equipment List

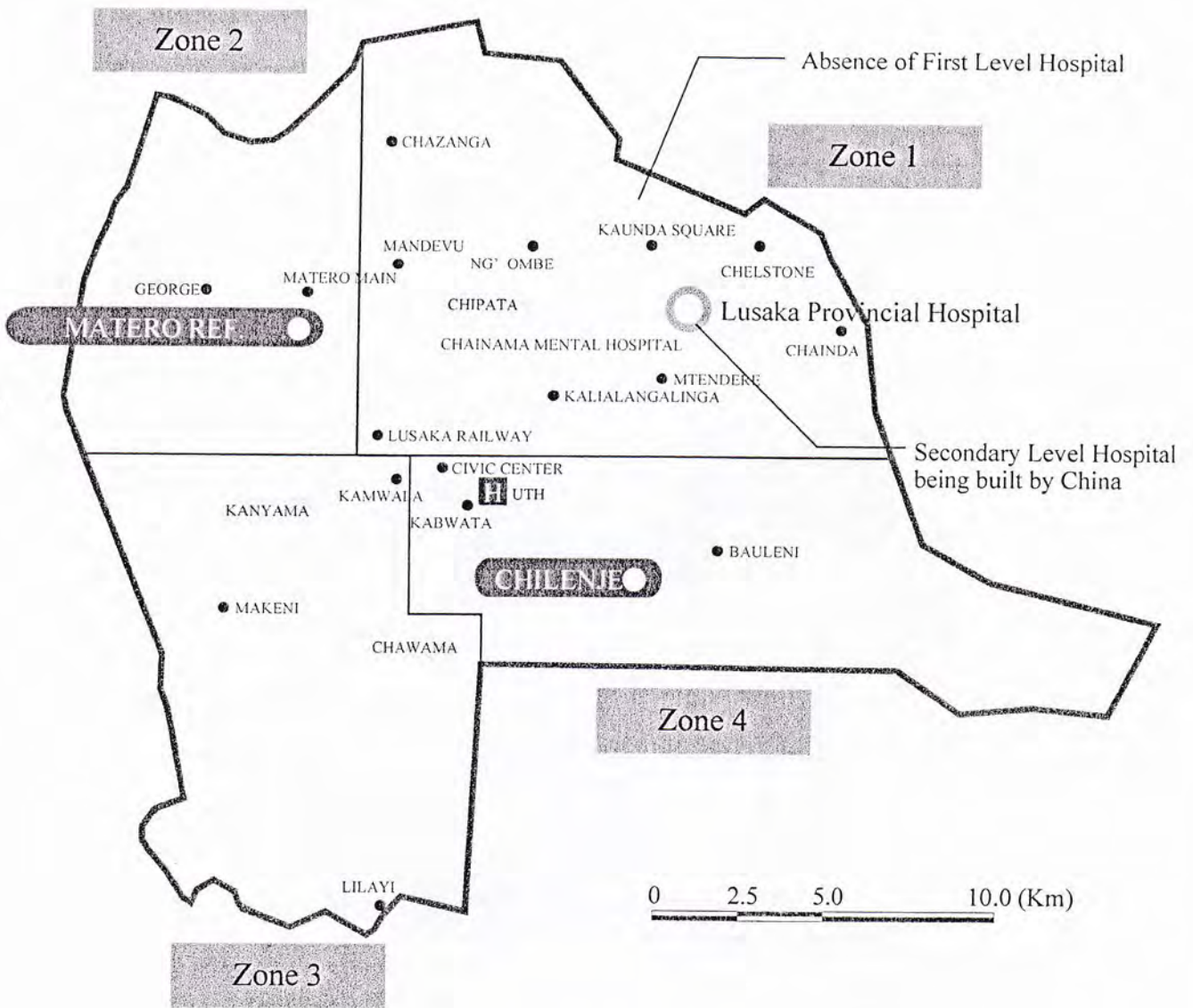
Annex-5 Japan's Grant Aid





Annex-6 Major Undertakings to be Taken by Each Government

Annex-7 List of staff necessary for the upgraded hospitals

Annex-8 List of infrastructure works

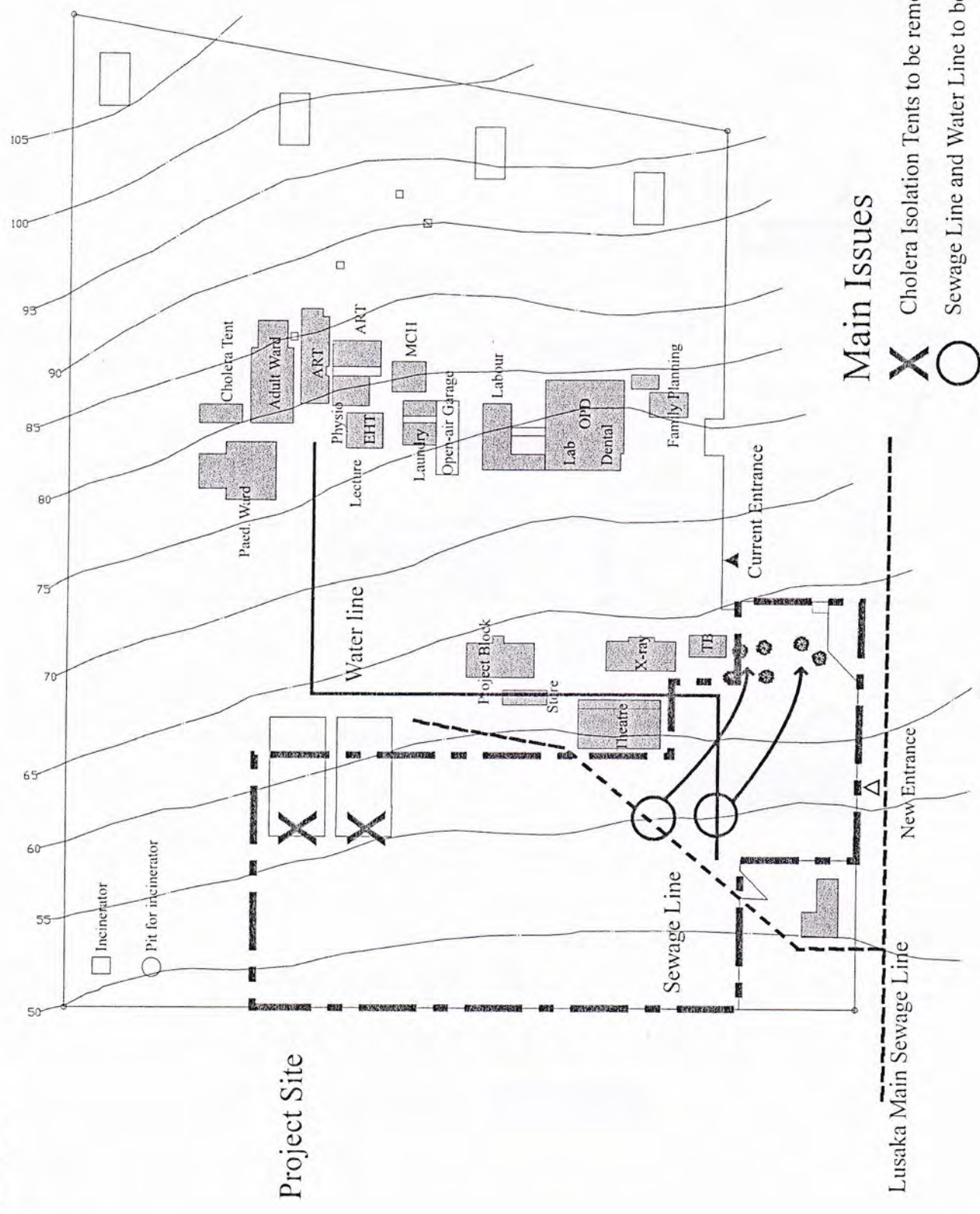
Annex-9 Maintenance organization and staff necessary for the upgraded hospitals



-  3rd Level Hospital
-  2nd Level Hospital
-  Project Site, 1st Level Hospital
-  LUSAKA 1st Level Hospital Plan (Not included)

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**Main Issues**

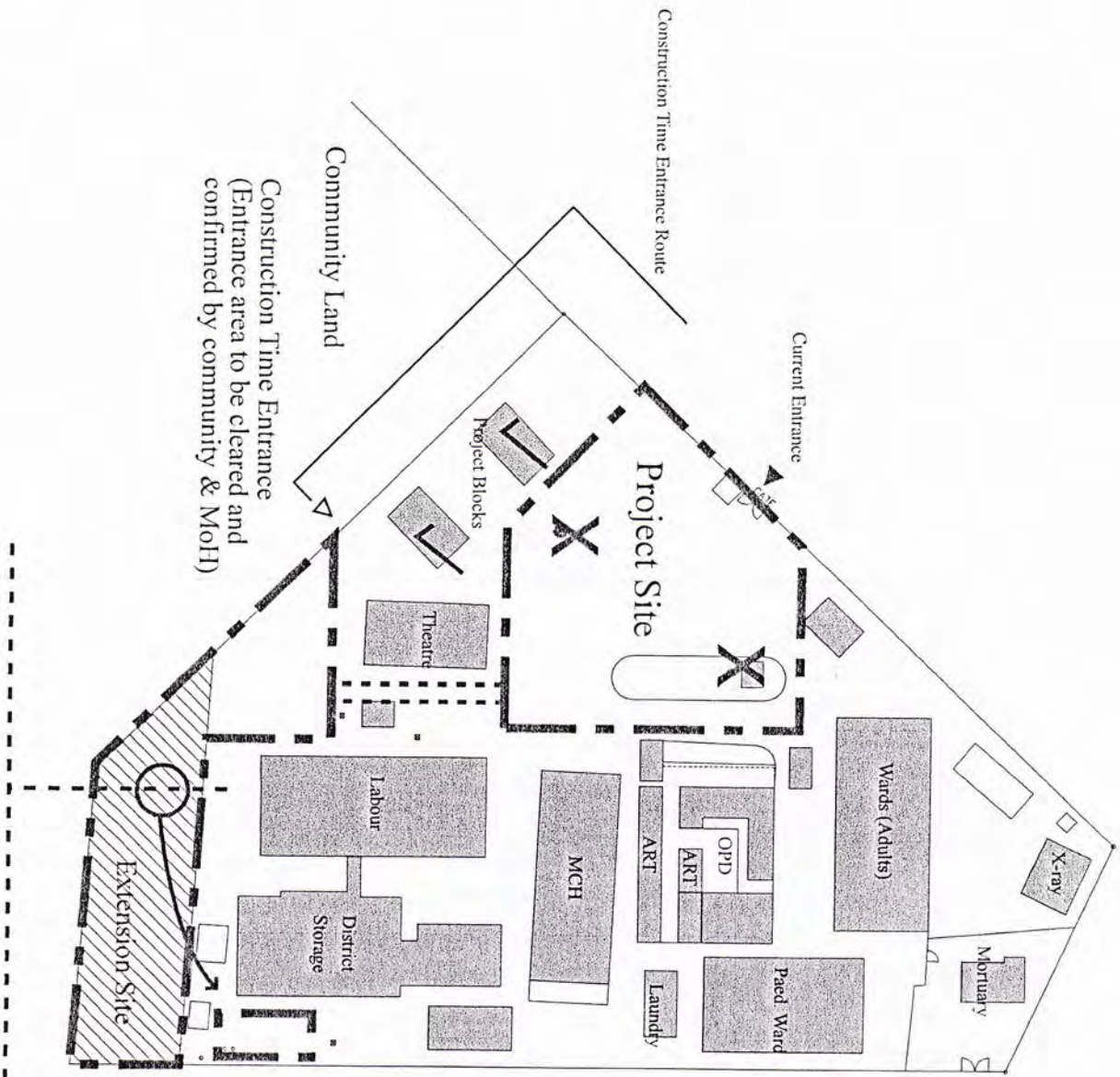
- X Cholera Isolation Tents to be removed
- O Sewage Line and Water Line to be relocated

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### Main Issues

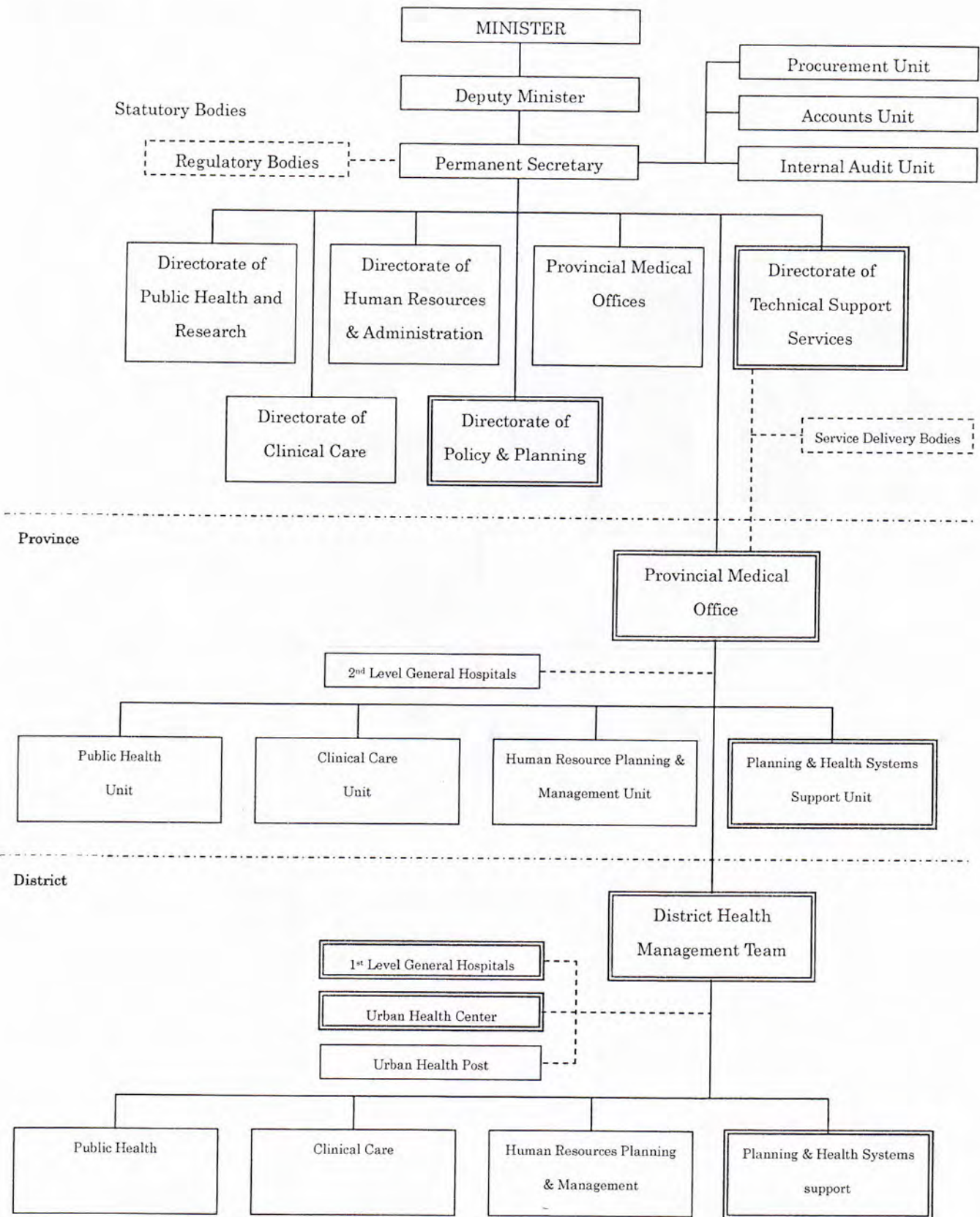
- Sewage Line to be relocated
- ▨ Extension Site
- ✕ Removal of currently out-of-use building and trees.
- ✓ For future consideration; removal of buildings to gain a smooth main entrance and larger parking space.

Project Site  
Project Site  
Project Site

W

# Annex 2

## MINISTRY OF HEALTH AT: OVERALL STRUCTURE



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# Annex 3

## FINAL REQUESTED FACILITIES LIST

### PRIORITY for SITE SELECTION

- ① Lack of referral hospital between UHC and UTH in the same zone
- ② Lack of Infrastructure
- ③ Cause of UTH congestion

### PRIORITY for FACILITIES SELECTION

- ① Direct benefit to upgraded 1st level medical services
- ② Overlapping of other donors
- ③ Ageing structure and space constraints
- ④ Requires advanced technology

A: Essential Priority  
 B: Necessary Priority  
 C: To be covered by the Zambian side

Service	Facilities	Site			
		Matero DH (Zone-2)	Chilenje DH (Zone-0)		
1st Level Hospital Services	OPD	Medical Service	Registry / Cashier	A	A
			Pharmacy	A	A
			Medical Consultation incl. Eye & ENT clinic	A	A
			Dental clinic	A	A
			Casualty	A	A
	Admin	Administration	A	B	
		Conference	A	B	
		Library	A	B	
	Diagnostic Block	Theater	existing facility	existing facility	
		CSSD (sterilisation)	existing facility	existing facility	
		Laboratory	A	existing facility	
		Medical imaging	existing facility	B	
		Maternity ward Labour ward	A	existing facility	
		Maternity ward Surgical observation	A	B	
		Surgical ward	Surgical ward	A	C
	Paediatrics ward		A	C	
	Supply	Kitchen & Laundry	existing facility	existing facility	
		Incinerator	existing facility	existing facility	
		Mortuary	existing facility	existing facility	
	DHC Service	MCH	existing facility*1	existing facility	
ART		existing facility*1	existing facility		
MCT/ TB sheets		existing facility	existing facility		
Physiotherapy		existing facility	existing facility		

existing facility\*1 : To expand the function to the existing OPD, after construction.

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# Annex 4

## Equipment List

Priority

A: High Priority

B: Middle Priority

C: Low Priority

Mark "\*" means depends on architectural planning

### Matero Ref.

No.	Name of Equipment	Q'ty	Priority		
			A	B	C
<b>Pharmacy</b>					
W-003	Analytical Balance	1	<input type="radio"/>		
W-036	Drug Cabinet, Lockable	1		<input type="radio"/>	
W-070	Mixer	1		<input type="radio"/>	
W-077	Pharmacy Heavy Duty Trolley	1			<input type="radio"/>
W-078	Pharmacy Refrigerator	1	<input type="radio"/>		
W-095	Tablet and Capsule counter	1			<input type="radio"/>
W-096	Tablet Counting Trays	1			<input type="radio"/>
W-107	Vaccine Refrigerator	1			<input type="radio"/>
W-113	Water Distiller	1		<input type="radio"/>	
<b>Medical Consultation</b>					
<b>Screening/ Consulting Room</b>					
W-020	Consulting desk and chair set	5	<input type="radio"/>		
W-030	Diagnostic Set	5	<input type="radio"/>		
W-041	Examination Couch, Gynaecological	2	<input type="radio"/>		
W-040	Examination Couch	3	<input type="radio"/>		
W-042	Examination Light	5	<input type="radio"/>		
W-109	Vaginal Speculum, 3 sizes (L, M, S)	4		<input type="radio"/>	
W-117	X-Ray Film Viewing Box	5	<input type="radio"/>		
<b>Treatment Room</b>					
W-040	Examination Couch	1	<input type="radio"/>		
W-042	Examination Light	1	<input type="radio"/>		
W-032	Dressing Instrument Set	3		<input type="radio"/>	
W-035	Drip Stand	1	<input type="radio"/>		
<b>Dental Clinic</b>					
W-004	Autoclave Electric, small	1	<input type="radio"/>		
W-058	Instrument Cabinet	1	<input type="radio"/>		
W-023	Dental Amalgamator	1	<input type="radio"/>		
W-024	Dental Film Processor	1	<input type="radio"/>		
W-025	Dental Instrument Set	3		<input type="radio"/>	
W-026	Dental Light Curing Unit	1	<input type="radio"/>		
W-027	Dental Suite	1	<input type="radio"/>		

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W



No.	Name of Equipment	Q'ty	Priority		
			A	B	C
W-028	Dental Treatment Trolley	1			○
W-029	Dental X-Ray Unit	1	○		
W-105	Ultrasonic Dental Scaler	1	○		
<b>Eye &amp; ENT</b>					
W-020	Consulting desk and chair set	1	○		
W-030	Diagnostic Set	1	○		
W-040	Examination Couch	1	○		
W-042	Examination Light	1	○		
<b>Vitals</b>					
W-030	Diagnostic Set	1	○		
W-114	Weighing Scale, Adult	1	○		
W-115	Weighing Scale, Infant	1	○		
W-040	Examination Couch	1	○		
W-042	Examination Light	1	○		
W-020	Consulting desk and chair set	1	○		
<b>ART Office</b>					
W-020	Consulting desk and chair set	1	○		
<b>Casualty</b>					
<b>Casualty</b>					
W-020	Consulting desk and chair set	1	○		
W-002	Ambu Bag for Adults and children	1	○		
W-004	Autoclave Electric, small	1	○		
W-058	Instrument Cabinet	1	○		
W-030	Diagnostic Set	2	○		
W-031	Drainage Set.	3		○	
W-032	Dressing Instrument Set	3		○	
W-035	Drip Stand	3	○		
W-075	Patient Trolley	3	○		
W-042	Examination Light	3	○		
W-067	Medicine Trolley	1			○
W-090	Stretcher on wheels	1	○		
W-091	Suction Pump Electric	1	○		
W-116	Wheel Chair	1	○		
W-117	X-Ray Film Viewing Box	1	○		
<b>ICU (Observation)</b>					
W-075	Patient Trolley	2	○		
<b>Examination Room</b>					
W-040	Examination Couch	1	○		
W-042	Examination Light	1	○		
W-030	Diagnostic Set	1	○		
<b>BID</b>					
W-090	Stretcher on wheels	1	○		
<b>Conference Room</b>					
W-123	Educational table and chair	1			○
<b>Laboratory</b>					
<b>Main Laboratory</b>					
W-003	Analytical Balance	1	○		
W-012	Blood Bank Refrigerator	1	○		

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W



No.	Name of Equipment	Q'ty	Priority		
			A	B	C
W-015	CD4 Counting Machine	1			○
W-016	Centrifuge	1	○		
W-017	Chair for Laboratory Worker	1			○
W-019	Chemistry Analyzer	1		○	
W-050	Haematology Analyzer	1		○	
W-054	Hot Air Oven	1	○		
W-055	Hot Plate	1	○		
W-061	Laboratory Incubator	1	○		
W-068	Micro-Haematocrit Centrifuge	1	○		
W-069	Microscope-Binocular	1	○		
W-076	PH Meter	1		○	
W-078	Pharmacy Refrigerator	1	○		
W-083	Roller Mixer	1	○		
W-112	Water Bath	1	○		
W-124	Laboratory Chair	*	○		
<b>Sterilisation</b>					
W-005	Autoclave, Electric, Medium	1	○		
W-113	Water Distiller	1	○		
<b>Bacteriology</b>					
W-121	Safety Cabinet	1	○		
<b>Medical Imaging</b>					
<b>X-ray Room</b>					
W-062	Lead Apron	1	○		
W-117	X-Ray Film Viewing Box	1	○		
W-119	X-Ray Unit, Mobile	1	○		
W-120	X-Ray Unit, Fixed	1	○		
<b>Ultrasound Room</b>					
W-106	Ultrasound Scanner, with Printer	1	○		
W-040	Examination Couch	1	○		
W-020	Consulting desk and chair set	1	○		
<b>Dark Room</b>					
W-044	Film Processor, Automatic	1	○		
W-118	X-Ray Loading Bench (Film Hopper)	1		○	
<b>Delivery</b>					
<b>Ante-Natal/ Labour Room</b>					
W-007	Bed, adult, with side cabinet and overbed table	10	○		
W-114	Weighing Scale Adult	1	○		
W-046	Foetal heart Detector	1	○		
<b>Delivery Room</b>					
W-021	Cupboard, lockable	1			○
W-005	Autoclave, Electric, Medium	1	○		
W-058	Instrument Cabinet	1	○		
W-014	Cardio-Toco Graph Machine	1		○	
W-022	Delivery Bed	4	○		
W-042	Examination Light	3	○		
W-057	Infant Cot with Mattress	4	○		
W-034	Dressing Trolley	2			○
W-035	Drip Stand	2	○		

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No.	Name of Equipment	Q'ty	Priority		
			A	B	C
W-039	Episiotomy Set/Delivery Set	6		<input type="radio"/>	
W-041	Examination Couch, Gynaecological	1	<input type="radio"/>		
W-048	Glucometer	1	<input type="radio"/>		
W-059	Instrument Trolley	1	<input type="radio"/>		
W-060	Kick About Bowl	1		<input type="radio"/>	
W-082	Resuscitaire with timer	1	<input type="radio"/>		
W-084	RPR Rotator	1	<input type="radio"/>		
W-108	Vacuum Extractor	1	<input type="radio"/>		
W-109	Vaginal Speculum, 3 sizes (L, M, S)	2		<input type="radio"/>	
W-115	Weighing Scale, Infant	1	<input type="radio"/>		
W-116	Wheel Chair	1	<input type="radio"/>		
<b>Post-Natal Room</b>					
W-007	Bed, adult, with side cabinet and overbed table	6	<input type="radio"/>		
W-057	Infant Cot with Mattress	6	<input type="radio"/>		
W-073	Neonatal Incubator	3	<input type="radio"/>		
W-079	Phototherapy Unit	1	<input type="radio"/>		
W-082	Resuscitaire with timer	3	<input type="radio"/>		
<b>Maternity Surgery</b>					
W-058	Instrument Cabinet	1	<input type="radio"/>		
W-030	Diagnostic Set	1	<input type="radio"/>		
W-034	Dressing Trolley	1		<input type="radio"/>	
W-035	Drip Stand	3	<input type="radio"/>		
W-048	Glucometer	1	<input type="radio"/>		
W-007	Bed, adult, with side cabinet and overbed table	11	<input type="radio"/>		
W-057	Infant Cot with Mattress	11	<input type="radio"/>		
W-091	Suction Pump Electric	1	<input type="radio"/>		
W-104	Trolley, Medicine	1			<input type="radio"/>
W-114	Weighing Scale Adult	1	<input type="radio"/>		
<b>Maintenance</b>					
W-122	Maintenance Set	1		<input type="radio"/>	
<b>Surgical Ward</b>					
W-005	Autoclave, Electric, Medium	1	<input type="radio"/>		
W-007	Bed, adult, with side cabinet and overbed table	*	<input type="radio"/>		
W-030	Diagnostic Set	*	<input type="radio"/>		
W-032	Dressing Instrument Set	*		<input type="radio"/>	
W-034	Dressing Trolley	*		<input type="radio"/>	
W-035	Drip Stand	*	<input type="radio"/>		
W-057	Infant Cot with Mattress	*	<input type="radio"/>		
W-091	Suction Pump Electric	1	<input type="radio"/>		
W-104	Trolley, Medicine	1			<input type="radio"/>
W-114	Weighing Scale Adult	1	<input type="radio"/>		
W-058	Instrument Cabinet	1	<input type="radio"/>		
W-116	Wheel Chair	2		<input type="radio"/>	
<b>Pediatric Ward</b>					
W-005	Autoclave, Electric, Medium	1	<input type="radio"/>		
W-007	Bed, child, with side cabinet and overbed table	*	<input type="radio"/>		
W-030	Diagnostic Set	*	<input type="radio"/>		
W-032	Dressing Instrument Set	*		<input type="radio"/>	

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No.	Name of Equipment	Q'ty	Priority		
			A	B	C
W-034	Dressing Trolley	*		<input type="radio"/>	
W-035	Drip Stand	*	<input type="radio"/>		
W-091	Suction Pump Electric	1	<input type="radio"/>		
W-104	Trolley, Medicine	*			<input type="radio"/>
W-114	Weighing Scale Pediatric	1	<input type="radio"/>		
W-058	Instrument Cabinet	*	<input type="radio"/>		
W-116	Wheel Chair	1		<input type="radio"/>	

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## Chilenje

No.	Name of Equipment	Q'ty	Priority		
			A	B	C
<b>Pharmacy</b>					
W-003	Analytical Balance	1	<input type="radio"/>		
W-036	Drug Cabinet, Lockable	1		<input type="radio"/>	
W-070	Mixer	1		<input type="radio"/>	
W-077	Pharmacy Heavy Duty Trolley	1			<input type="radio"/>
W-078	Pharmacy Refrigerator	1	<input type="radio"/>		
W-095	Tablet and Capsule counter	1			<input type="radio"/>
W-096	Tablet Counting Trays	1			<input type="radio"/>
W-107	Vaccine Refrigerator	1			<input type="radio"/>
W-113	Water Distiller	1		<input type="radio"/>	
<b>Medical Consultation</b>					
<b>Screening/ Consulting Room</b>					
W-020	Consulting desk and chair set	*	<input type="radio"/>		
W-030	Diagnostic Set	*	<input type="radio"/>		
W-041	Examination Couch, Gynaecological	*	<input type="radio"/>		
W-040	Examination Couch	*	<input type="radio"/>		
W-042	Examination Light	*	<input type="radio"/>		
W-109	Vaginal Speculum, 3 sizes (L, M, S)	*		<input type="radio"/>	
W-117	X-Ray Film Viewing Box	*	<input type="radio"/>		
<b>Treatment Room</b>					
W-040	Examination Couch	1	<input type="radio"/>		
W-042	Examination Light	1	<input type="radio"/>		
W-032	Dressing Instrument Set	3		<input type="radio"/>	
W-035	Drip Stand	1	<input type="radio"/>		
<b>Dental Clinic</b>					
W-004	Autoclave Electric, small	1	<input type="radio"/>		
W-058	Instrument Cabinet	1	<input type="radio"/>		
W-023	Dental Amalgamator	1	<input type="radio"/>		
W-024	Dental Film Processor	1	<input type="radio"/>		
W-025	Dental Instrument Set	3		<input type="radio"/>	
W-026	Dental Light Curing Unit	1	<input type="radio"/>		
W-027	Dental Suite	1	<input type="radio"/>		
W-028	Dental Treatment Trolley	1			<input type="radio"/>
W-029	Dental X-Ray Unit	1	<input type="radio"/>		
W-105	Ultrasonic Dental Scaler	1	<input type="radio"/>		
<b>Eye &amp; ENT</b>					
W-020	Consulting desk and chair set	1	<input type="radio"/>		
W-030	Diagnostic Set	1	<input type="radio"/>		
W-040	Examination Couch	1	<input type="radio"/>		
W-042	Examination Light	1	<input type="radio"/>		
<b>Vitals</b>					
W-030	Diagnostic Set	1	<input type="radio"/>		
W-114	Weighing Scale, Adult	1	<input type="radio"/>		
W-115	Weighing Scale, Infant	1	<input type="radio"/>		
W-040	Examination Couch	1	<input type="radio"/>		
W-042	Examination Light	1	<input type="radio"/>		
W-020	Consulting desk and chair set	1	<input type="radio"/>		

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<b>ART Office</b>				
W-020	Consulting desk and chair set	1	○	
<b>Casualty</b>				
<b>Casualty</b>				
W-020	Consulting desk and chair set	1	○	
W-002	Ambu Bag for Adults and children	1	○	
W-004	Autoclave Electric, small	1	○	
W-058	Instrument Cabinet	1	○	
W-030	Diagnostic Set	2	○	
W-031	Drainage Set.	3		○
W-032	Dressing Instrument Set	3		○
W-035	Drip Stand	3	○	
W-075	Patient Trolley	3	○	
W-042	Examination Light	3	○	
W-067	Medicine Trolley	1		○
W-090	Stretcher on wheels	1	○	
W-091	Suction Pump Electric	1	○	
W-116	Wheel Chair	1	○	
W-117	X-Ray Film Viewing Box	1	○	
<b>ICU (Observation)</b>				
W-075	Patient Trolley	*	○	
<b>Examination Room</b>				
W-040	Examination Couch	1	○	
W-042	Examination Light	1	○	
W-030	Diagnostic Set	1	○	
<b>BID</b>				
W-090	Stretcher on wheels	1	○	
<b>Conference Room</b>				
W-123	Educational table and chair	1		○
<b>Laboratory</b>				
<b>Main Laboratory</b>				
W-003	Analytical Balance	1	○	
W-012	Blood Bank Refrigerator	1	○	
W-015	CD4 Counting Machine	1		○
W-016	Centrifuge	1	○	
W-017	Chair for Laboratory Worker	1		○
W-019	Chemistry Analyzer	1		○
W-050	Haematology Analyzer	1		○
W-054	Hot Air Oven	1	○	
W-055	Hot Plate	1	○	
W-061	Laboratory Incubator	1	○	
W-068	Micro-Haematocrit Centrifuge	1	○	
W-069	Microscope-Binocular	1	○	
W-076	PH Meter	1		○
W-078	Pharmacy Refrigerator	1	○	
W-083	Roller Mixer	1	○	
W-112	Water Bath	1	○	
W-124	Laboratory Chair	*	○	
<b>Sterilisation</b>				
W-005	Autoclave, Electric, Medium	1	○	
W-113	Water Distiller	1	○	
<b>Bacteriology</b>				

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W-121	Safety Cabinet	1	○		
<b>Medical Imaging</b>					
<b>X-ray Room</b>					
W-062	Lead Apron	1	○		
W-117	X-Ray Film Viewing Box	1	○		
W-119	X-Ray Unit, Mobile	1	○		
W-120	X-Ray Unit, Fixed	1	○		
<b>Ultrasound Room</b>					
W-106	Ultrasound Scanner, with Printer	1	○		
W-040	Examination Couch	1	○		
W-020	Consulting desk and chair set	1	○		
<b>Dark Room</b>					
W-044	Film Processor, Automatic	1	○		
W-118	X-Ray Loading Bench (Film Hopper)	1		○	
<b>Delivery</b>					
<b>Ante-Natal/ Labour Room</b>					
W-007	Bed, adult, with side cabinet and overbed table	*	○		
W-114	Weighing Scale Adult	1	○		
W-046	Foetal heart Detector	1	○		
<b>Delivery Room</b>					
W-021	Cupboard, lockable	1			○
W-005	Autoclave, Electric, Medium	1	○		
W-058	Instrument Cabinet	1	○		
W-014	Cardio-Toco Graph Machine	1		○	
W-022	Delivery Bed	*	○		
W-042	Examination Light	3	○		
W-057	Infant Cot with Mattress	*	○		
W-034	Dressing Trolley	2			○
W-035	Drip Stand	2	○		
W-039	Episiotomy Set/Delivery Set	*		○	
W-041	Examination Couch, Gynaecological	1	○		
W-048	Glucometer	1	○		
W-059	Instrument Trolley	1	○		
W-060	Kick About Bowl	1		○	
W-082	Resuscitaire with timer	1	○		
W-084	RPR Rotator	1	○		
W-108	Vacuum Extractor	1	○		
W-109	Vaginal Speculum, 3 sizes (L, M, S)	2		○	
W-115	Weighing Scale, Infant	1	○		
W-116	Wheel Chair	1	○		
<b>Post-Natal Room</b>					
W-007	Bed, adult, with side cabinet and overbed table	*	○		
W-057	Infant Cot with Mattress	*	○		
W-073	Neonatal Incubator	3	○		
W-079	Phototherapy Unit	1	○		
W-082	Resuscitaire with timer	3	○		
<b>Maternity Surgery</b>					
W-058	Instrument Cabinet	1	○		
W-030	Diagnostic Set	1	○		
W-034	Dressing Trolley	1		○	
W-035	Drip Stand	3	○		
W-048	Glucometer	1	○		

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W-007	Bed, adult, with side cabinet and overbed table	11	<input type="radio"/>		
W-057	Infant Cot with Mattress	11	<input type="radio"/>		
W-091	Suction Pump Electric	1	<input type="radio"/>		
W-104	Trolley, Medicine	1			<input type="radio"/>
W-114	Weighing Scale Adult	1	<input type="radio"/>		
<b>Maintenance</b>					
W-122	Maintenance Set	1			<input type="radio"/>

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Annex 7 Staff Allocation

	Matero					Chilenje					
	Present		New		Balance	Present		New		Balance	
	No.of staff	No.of rooms	No.of staff	No.of rooms		No.of staff	No.of rooms	No.of staff	No.of rooms		
<b>REGISTRY / CASHER</b>											
Cashiers	6		4		-2	6		4		-2	
Medical Record Officer	0	1	1	1	1	0	1	1	1	1	
Register	9		4		-5	10		4		-6	
<b>PHARMACY</b>											
Senior Pharmacy Technologist	0		1		1	0		1		1	
Pharmacy Technologist/Technician	2	1	3	1	1	1	1	3	1	2	
Pharmacy Dispenser	1		1		0	2		1		-1	
<b>OPD</b>											
MO	1		3		2	3		3		0	
Night Superintendent	2		2		0	2		2		0	
Senior CO dermatology	0		1		1	0		1		1	
CO Phychaiaty	0		1	5	1	0	2	1	4	1	
CO (all area)	9	3	8		-1	8		8		0	
Nursing Sister	1		1		0	1		1		0	
RN	3		3		0	3		11		8	
EN	10		25		15	13		38		25	
<b>DENTAL CLINIC</b>											
Dental surgan	0		1		1	1		1		0	
Dental Therapist	3	1	2	1	-1	5	1	2	1	-3	
Dental Technologist	0		1		1	0		1		1	
Dental Attendant	1		1		0	0		1		1	
<b>EYE &amp; ENT CLINIC</b>											
CO Opthermology	0		1		1	0		1		1	
Therapist	0	0	0	1	0	0	0	0	1	0	
Attendant	0		0		0	0		0		0	
<b>CASUALTY</b>											
MO	0		1		1	0		1		1	
CO	0	0	4	1	4	0	0	4	1	4	
RN	0		2		2	0		2		2	
EN	0		5		5	0		8		8	
<b>LABORATORY</b>											
Lab Scientist	1		0		-1						
Lab Technologist	2	1	4	1	2						
Lab /Technician	1		1		0						
<b>RADIOLOGY</b>											
Senior Radiographer	0		1		1	0		1		1	
Radiographer	5	1	1	1	-4	0	1	1	1	1	
Radiograph Technologist	0		3	(existing)	3	0	(private)	3	1	3	
Medical Imaging Assistant	1		0		-1	0		0		0	
<b>MATERNITY WARD</b>	including delivery + surgical ward					including delivery + surgical ward					
-Delivery											
RMW	3	2beds	4	2beds	1						
EMW	10	(Delivery)	18	(Delivery)	8						
<b>MATERNITY WARD</b>	including delivery + surgical ward					including delivery + surgical ward					
-Surgical ward											
RMW	0	0		11beds		3	0	4	14beds	1	
EMW	0					9		18		9	
<b>WARD</b>											
-Surgical, Pediatric											
RN	5		*	beds	*						
EN	9		*		*						
Sub-total	85		*		*	67		127		60	

\*: Number will be depended on the architecutal plan.

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## Annex 8

Project Site	Infrastructure Development Work and Improvement Work to be done by Zambian Side
Matero Ref.	Medium voltage 11KVA electrical power shall be provided to the new substation of the 'upgraded health facilities'. There are frequent and long power blackouts during the rainy season and Zambian side shall improve the power supply condition at the site.
	Lusaka Water shall provide access to water to the 'upgraded health facilities'. Japanese side will connect the piping to existing deepwell line for emergency purposes.
	The sewer line of the 'upgraded health facilities' shall be connected to Lusaka Sewer main
	Zamtel line shall be connected to the new PABX at the 'upgraded health facilities'.
Chilenje	Medium voltage 11KVA electrical power shall be provided to the new substation of the 'upgraded health facilities'.
	Lusaka Water shall provide access to water to the 'upgraded health facilities'. Japanese side will connect the piping to existing deepwell line for emergency purposes.
	The sewer line shall be connected to Lusaka Sewer main at the 'upgraded health facilities'
	Zamtel line shall be connected to the new PABX at the 'upgraded health facilities'.

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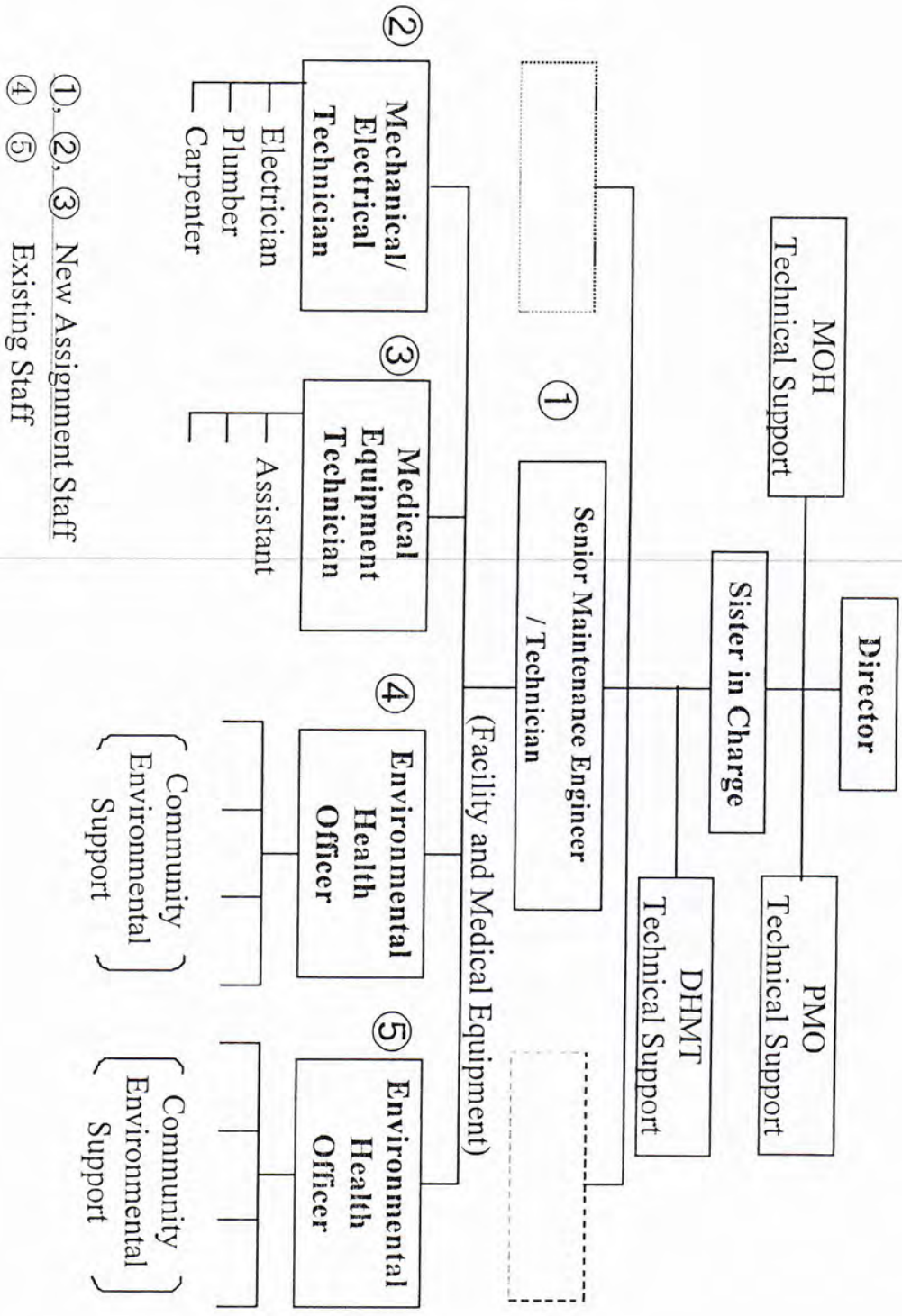
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# Annex 9

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## 1st Level Hospital Maintenance Organization

(Matero Ref., Kanyama, Chilenje)



- ①, ②, ③ New Assignment Staff
- ④ ⑤ Existing Staff

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**MINUTES OF DISCUSSIONS  
ON PREPARATORY SURVEY  
ON THE PROJECT FOR UPGRADING OF LUSAKA HEALTH CENTRES  
IN THE REPUBLIC OF ZAMBIA  
(EXPLANATION ON DRAFT REPORT)**

Japan International Cooperation Agency (hereinafter referred to as “JICA”) dispatched a Preparatory Survey (Outline Design) Team on the Project for Upgrading of Lusaka Health Centres (hereinafter referred to as “the Project”) to the Republic of Zambia (hereinafter referred to as “Zambia”) from August to September, 2010, and through discussion, field survey, and technical examination of the survey results in Japan, JICA prepared a draft report of the study.

In order to explain and to consult the government of Zambia on the contents of the draft report, JICA sent to Zambia a Draft Report Explanation Team (hereinafter referred to as “the Team”), which is headed by Mr. Tomoya YOSHIDA, Advisor of the Project Management Division II, Financing Facilitation and Procurement Supervision Department, JICA, from March 9 to 17, 2011.

In the course of discussions, both parties confirmed the main items described on the attached sheets.

Lusaka, 16 March, 2011



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Dr. Peter MWABA  
Permanent Secretary  
Ministry of Health  
The Republic of Zambia



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Mr. Tomoya YOSHIDA  
Leader  
Preparatory Survey Team  
Japan International Cooperation Agency

## ATTACHMENT

### 1. Components of the Draft Report

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

### 2. Japan's Grant Aid Scheme

The Zambian side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Zambia as explained by the Team.

### 3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items send it to the Government of Zambia by May 2012. The tentative schedule of the Project is described in Annex-1.

### 4. Confidentiality of the Project Design

Both sides confirmed that all information related to the Project including cost estimation of the Project described in Annex-2, detailed specification of the facilities, the equipment and other technical information shall not be released to any outside party before the signing of all the Contract(s) for the Project.

### 5. Other Relevant Issues

5-1. Zambian side agreed to secure and allocate the necessary staff and budget as described in Annex-3, to operate and maintain the constructed hospitals and medical equipment procured under the Project properly and effectively as described in Annex-4.

5-2. Zambian side will take the necessary measures to conduct the undertakings in a timely manner, including necessary infrastructure and construction works as described in Annex-5.

5-3. Both sides confirmed that the list of equipment to be provided in the Project was agreed upon as is listed in Annex-6.

5-4. Zambian side agreed to remove the existing X-ray machine in Matero UHC and to supply power necessary for new equipment.

5-5. Zambian side agreed to allocate necessary staff for a proper and sustainable operation and maintenance of the facilities and the equipment to be provided under the Project as described in Annex-7.

5-6. Both side agreed upon the fields of technical assistance to build capacity by use of Soft component program of the Project.

5-7. Both sides agreed to change the Project Title from "the Project for Upgrading of Lusaka health Centres" to "the Project for Upgrading of Lusaka Health Centres to District Hospitals".

- 5-8. Both sides confirmed the procedure for certifying District Hospitals. For accreditation of Matero and Chilenje District Hospitals, Ministry of Health and Ministry of Works and Supply will monitor and inspect the facilities and equipments during the construction time. The Health Professions Council of Zambia will inspect the facilities for certification after completion of the construction works, as described in Annex-1.
- 5-9. Both sides understood that it is essential to operationalise the new operating theatres in order to attain the Project goals. Zambian side has agreed to complete the construction and equip the new theatres by the end of 2011.

- Annex-1 Tentative Schedule of the Project
- Annex-2 Cost Estimation of the Project
- Annex-3 The Staff and Budget Allocation of MoH
- Annex-4 Utility and Maintenance Cost
- Annex-5 Zambian Side Scope of Works and Costs
- 1 Major Undertakings to be taken by Both Sides
  - 2 Zambian side Scope of Works and Costs for Matero UHC
  - 3 Zambian side Scope of Works and Costs for Chilenje UHC
- Annex-6 List of Medical Equipments
- 1 For Matero UHC
  - 2 For Chilenje UHC
- Annex-7 Maintenance Organization Chart of Matero District Hospital and Chilenje District Hospital.





Annex 3: The Staff and Budget Allocation of MoH

Expenditure	Salary Unit	No. of Staff	Start of Construction	During Construction	After Completion	1 Year After Completion	2 Years After Completion	Note
			2012	1-6/2013	7-12/2013	2014	2015	
Matero UHC			2012	1-6/2013	7-12/2013	2014	2015	Unit: Zambian Kwacha
Staff Allocation				For Training				
Doctors	82,511,100	3		123766650	123766650	247533300	247533300	
Clinical Officers	24,171,924	6		72515772	72515772	145031544	145031544	
Technicians	24,171,924	2		24171924	24171924	48343848	48343848	
Utility & Maintenance Cost						503,463,800	546,263,800	See Annex 4
Zambian Side Scope of Work			417,290,000		623,090,000			See Annex 5-2
Total			417,290,000		1,063,998,692	944,372,492	987,172,492	

Expenditure	Salary Unit	No. of Staff	Start of Construction	During Construction	After Completion	1 Year After Completion	2 Years After Completion	Note
			2012	1-6/2013	7-12/2013	2014	2015	
Chitenje UHC			2012	1-6/2013	7-12/2013	2014	2015	Unit: Zambian Kwacha
Staff Allocation				For Training				
Doctors	82,511,100	1		41255550	41255550	82511100	82511100	
Clinical Officers	24,171,924	7		84601734	84601734	169203468	169203468	
Technicians	24,171,924	1		12085962	12085962	24171924	24171924	
Utility & Maintenance Cost						413,763,680	449,163,680	See Annex 4
Zambian Side Scope of Work			126,360,000		423,200,000			See Annex 5-3
Total			126,360,000		699,086,492	689,650,172	725,050,172	

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Annex 4: Utility and Maintenance Costs

(Unit: Zambian Kwacha)

Matero UHC

	Expense Item	First Year	Second Year and Beyond
Utility Costs	1 Electricity Charge	124,395,600	124,395,600
	2 Phone Charge	9,792,000	9,792,000
	3 Generator Fuel Charge	41,395,200	41,395,200
	4 Water Charge	62,208,000	62,208,000
	5 Oxygen Gas Charge	11,484,000	11,484,000
Maintenance Costs	6 Building Running Cost	0	12,800,000
	7 Outsourcing Cost for Facility Equipment Maintenance	0	30,000,000
	8 Medical Equipment Maintenance Cost	254,189,000	254,189,000
	Total	503,463,800	546,263,800

Chilenje UHC

	Expense Item	First Year	Second Year and Beyond
Utility Costs	1 Electricity Charge	99,616,080	99,616,080
	2 Phone Charge	8,352,000	8,352,000
	3 Generator Fuel Charge	22,579,200	22,579,200
	4 Water Charge	41,472,000	41,472,000
	5 Oxygen Gas Charge	6,890,400	6,890,400
Maintenance Costs	6 Building Running Cost	0	10,400,000
	7 Outsourcing Cost for Facility Equipment Maintenance	0	25,000,000
	8 Medical Equipment Maintenance Cost	234,854,000	234,854,000
	Total	413,763,680	449,163,680

DM TY

Annex 5-1: Major Undertakings to Be Taken by Both Sides

To be covered by the Japanese Side	To be covered by the Zambian side
	To secure and prepare land
	To get building permission (EIA)
	To clear, level and reclaim the site when needed
	1) Dismantle unnecessary structures.
	2) Dismantle existing building within the site
	3) Relocate existing electrical power cable crossing the site
	4) Relocate existing telephone line crossing the site
	5) Relocate existing water pipe crossing the site
	1) 6) Relocate existing sewer
	To construct gates and fences in and around the site
To construct roads	To construct the parking lot
1) Within the site	1) Outside the site
To construct Exterior Work within the site	To construct roads
1) Grading, Lighting, Storm Drainage Ditch	1) Outside the site
Building Construction	
1) Architectural Work Incl. built-in furniture and medical curtains	
2) Electrical Work Power Supply, Lighting and Socket Outlet, Lightning Protection and Earthing, Telephone Piping, Public Address, Intercom, Fire Alarm, Piping for PC Network.	
3) Mechanical Work Water Supply, Drainage, Hot Water Supply, Sanitary, Fixture, LPG Supply, Fire Fighting, Air Conditioning and Ventilation, Rain Water Utilization	
4) Other Work Generator, Oxygen Gas Supply, Laboratory Waste Water Treatment System, Water Tank (Only Matero)	
Electricity, Telephone, Water Supply, Drainage and other supply	Electricity, Telephone, Water Supply, Drainage and other supply
1) Electricity	1) Electricity
a. Drop wiring and internal wiring within the site	a. Incoming high-voltage line to the main circuit breaker and related work (incl. installation of hand holes and off-site poles)
b. Main circuit breakers and transformer	b. Connection cabling work between substation and existing main distribution panel
c. Piping to the main circuit breaker from site boundary, including manholes and handholes	c. Work on-site and off-site construction changes
a. Branch breaker and piping system to existing main distribution panel within the site	
2) Water Supply	2) Water Supply
① Provide on-site facilities with tank, elevated water tower, water reservoir, water supply to new buildings	a. Connection work of City Water to site, including meter installation
① Provide water supply capacity and piping to existing facilities within the site	b. Work on-site and off-site construction changes
	c. Well piping construction
3) Drainage	3) Drainage
a. On-site drainage	a. Off-site plumbing and drainage (Incl. connection pit)
	b. Work on-site and off-site construction changes
4) Telephone System	4) Telephone System
a. Provide wiring on-site and for new buildings	a. Provide telephone main trunk line to the main distribution frame/panel (MDF) (Off-site poles, installation of hand holes and wiring)
b. Provide on-site piping and hand hole	b. Work on-site and off-site construction changes
5) Other Infrastructure	5) Other Infrastructure
a. Wireless radio, power supply and plumbing for emergency telephone	a. Relocation of radio, antenna and cabling for wireless radio system if necessary
6) Furniture and Equipment	6) Furniture and Equipment
a. Curtain rails and medical curtains	a. Curtains and blinds
b. Medical furniture and fixed furniture	b. General furniture
c. Supply and installation of medical equipment	c. Linen

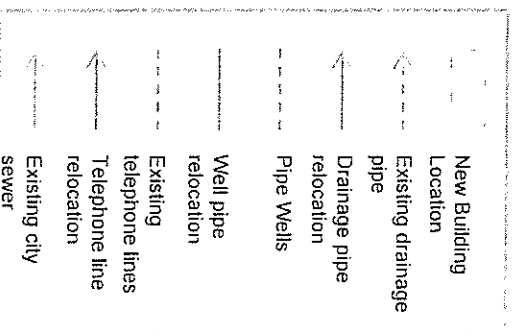
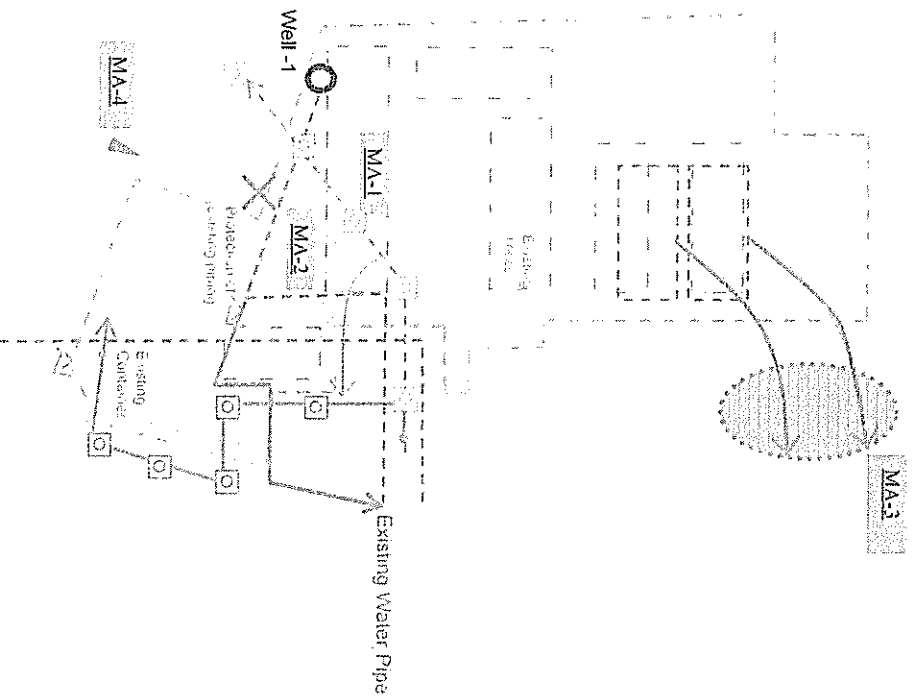
PM TY

Annex 5-2: Zambian Side Scope of Works and Costs for Matero UHC

Item	Approx. M Kwacha	Approx. M JPY	Schedule	
MA-1	208.6	3.8	Before Construction with FY 2012 Budget (By March 2012)	
MA-2	76.9	1.4		
MA-3	10.9	0.2		
MA-4				
MA-5	54.9	1		
MA-6	71.4	1.3		
MA-7	5.19	0.1		
MA-8	Incl. In MA-1	Incl. In MA-1		
MA-9				
Sub Total	417.29	7.8		
Power Incoming Work	51.9	1		During Construction with FY 2013 Budget (By June 2013)
Telephone Incoming Work	4.2	0.07		
Water Incoming Work	10.9	0.2		
Sewer Connection Work	4.2	0.07		
Removal of old X-ray unit	10.9	0.2		
Sub Total	502.39	1.54		
MA-10	54.9	1	Alter Construction with FY 2013 Budget (from July 2013)	
MA-11	54.9	1		
MA-12	10.9	0.2		
Sub Total	120.7	2.2		
Total	1040.38	11.54		

Before Construction Work ( By March 2012)

Construction plans for the site while maintaining the functionality of the existing facilities, relocation of existing facilities.



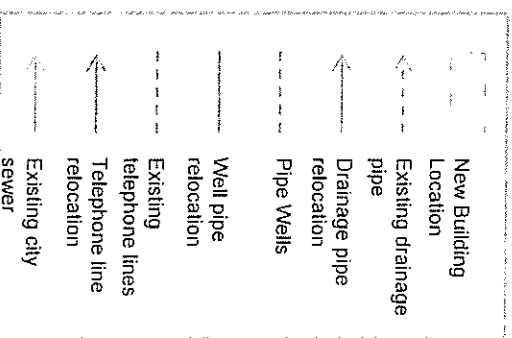
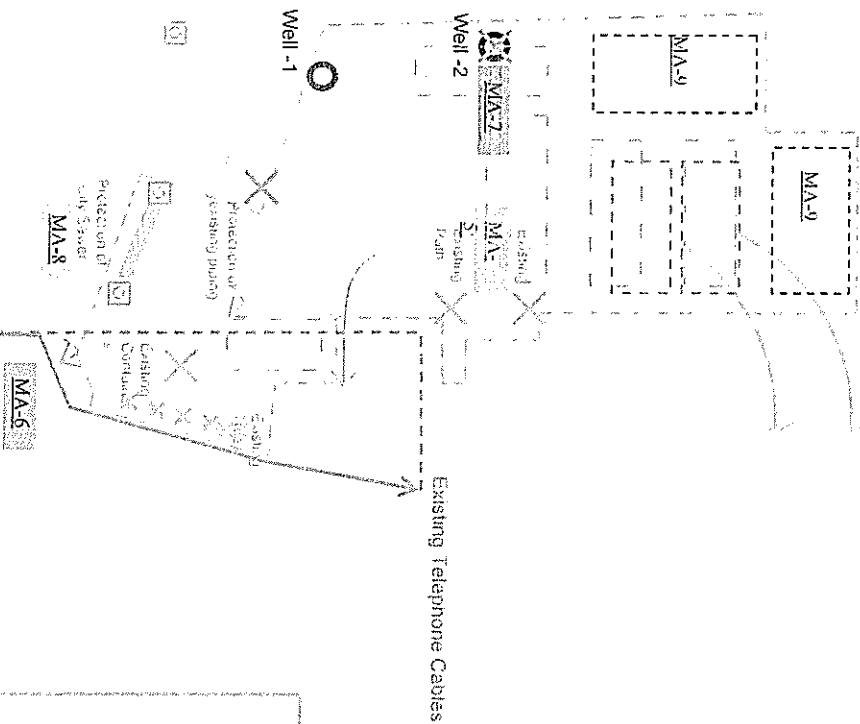
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Annex 5-2: Zambian Side Scope of Works and Costs for Matero UHC

Item	Approx. M Kwacha	Approx. M JPY	Schedule
MA-1	208.6	3.8	
MA-2	76.9	1.4	
MA-3	10.9	0.2	Before Construction with FY 2012 Budget (By March 2012)
MA-4			
MA-5	54.9	1	
MA-6	71.4	1.3	
MA-7	5.49	0.1	
MA-8	Incl. In MA-1	Incl. In MA-1	
MA-9			
Sub Total	417.29	7.8	
Power Incoming Work	54.9	1	
Telephone Incoming Work	4.2	0.07	During Construction with FY 2013 Budget (By June 2013)
Water Incoming Work	10.9	0.2	
Sewer Connection Work	4.2	0.07	
Removal of old X-ray unit	10.9	0.2	
Sub Total	502.39	1.54	
MA-10	54.9	1	
MA-11	54.9	1	After Construction with FY 2013 Budget (from July 2013)
MA-12	10.9	0.2	
Sub Total	120.7	2.2	
Total	1040.38	11.54	

Before Construction Work ( By March 2012)

Construction plans for the site while maintaining the functionality of the existing facilities, relocation of existing facilities.



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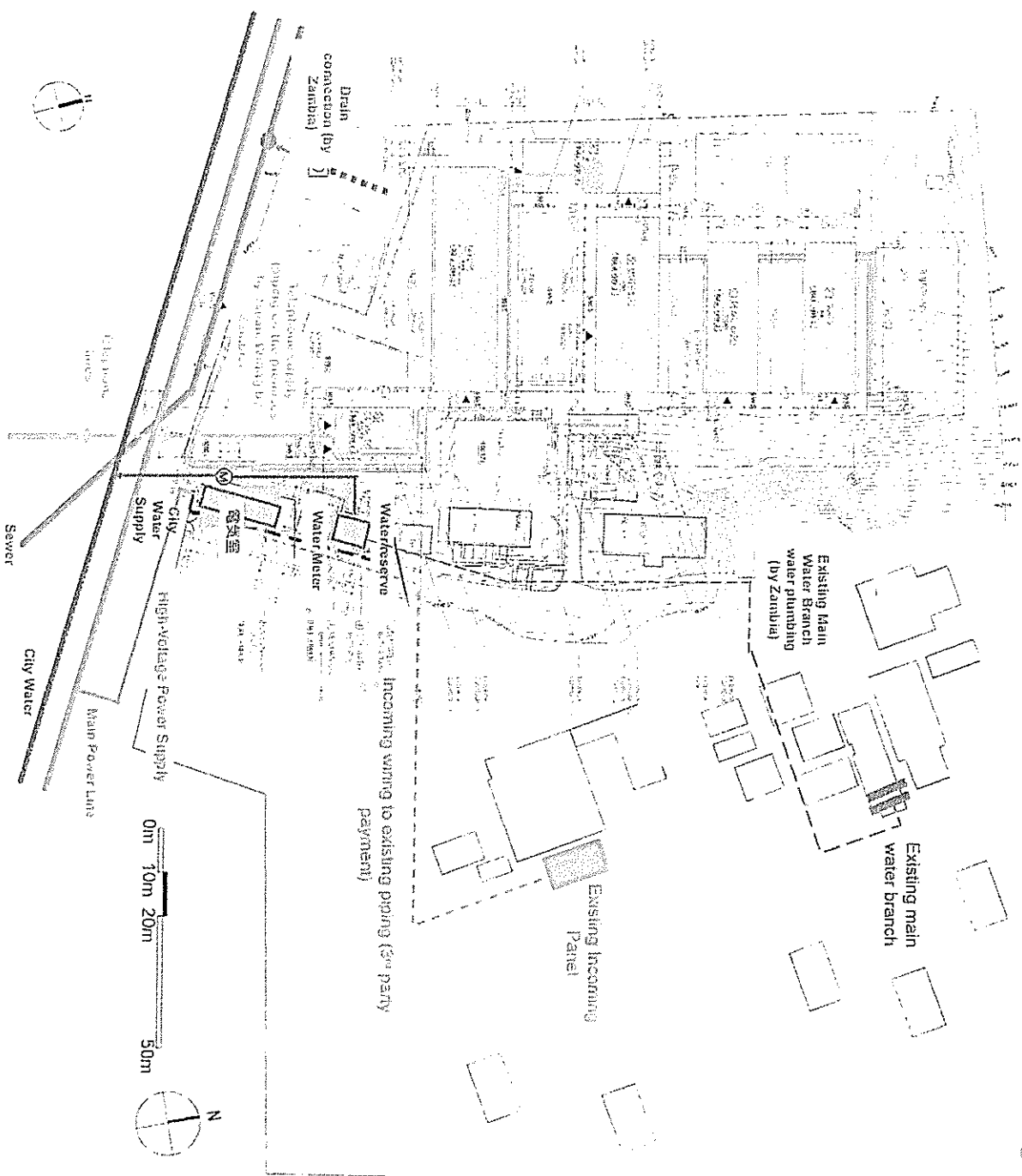
Annex 5-2: Zambian Side Scope of Works and Costs for Matero UHC

During Construction Work ( March 2012 – June 2013)

Construction plans for the site while maintaining the functionality of the existing facilities, relocation of existing facilities.

PM TY

Item	Approx. M Kwacha	Approx. M JPY	Schedule
MA-1	208.6	3.8	
MA-2	76.9	1.4	
MA-3	10.9	0.2	Belote Construction with FY 2012 Budget (by March 2012)
MA-4			
MA-5	54.9	1	
MA-6	71.4	1.3	
MA-7	5.49	0.1	
MA-8	Incl. In MA-1	Incl. In MA-1	
MA-9			
Sub Total	417.29	7.8	
Power Incoming Work	54.9	1	
Telephone Incoming Work	4.2	0.07	During Construction with FY 2013 Budget (By June 2013)
Water Incoming Work	10.9	0.2	
Sewer Connection Work	4.2	0.07	
Removal of old X-ray unit	10.9	0.2	
Sub Total	502.39	1.54	
MA-10	54.9	1	
MA-11	54.9	1	After Construction with FY 2013 Budget (from July 2013)
MA-12	10.9	0.2	
Sub Total	120.7	2.2	
Total	1040.38	11.54	

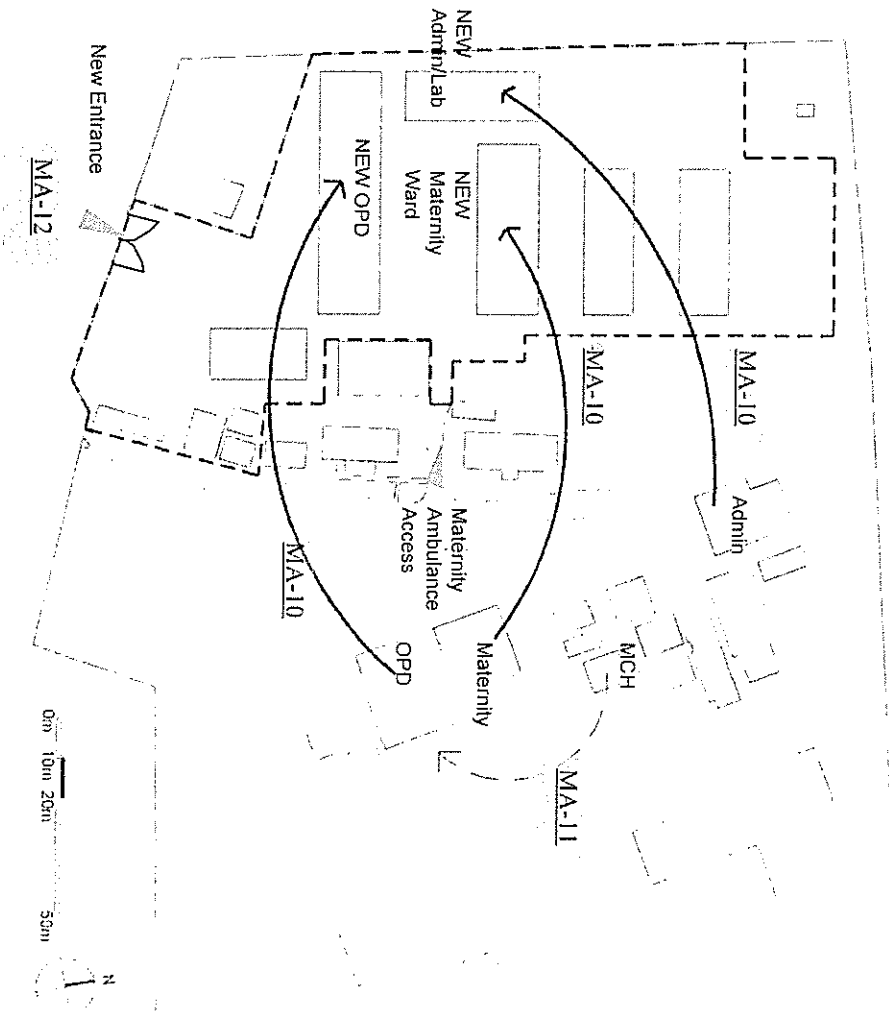


Annex 5-2: Zambian Side Scope of Works and Costs for Matero UHC

Item	Approx. M Kwacha	Approx. M JPY	Schedule
MA-1	208.6	3.8	
MA-2	76.9	1.4	
MA-3	10.9	0.2	Before Construction with FY 2012 Budget (by March 2013)
MA-4			
MA-5	54.9	1	
MA-6	71.4	1.3	
MA-7	5.49	0.1	
MA-8	Incl. in MA-1	Incl. in MA-1	
MA-9			
Sub Total	417.29	7.8	
	54.9	1	
	4.2	0.07	During Construction with FY 2013 Budget (By June 2013)
	10.9	0.2	
	4.2	0.07	
	10.9	0.2	
Sub Total	502.39	1.54	
MA-10	54.9	1	After Construction with FY 2013 Budget (from July 2013)
MA-11	54.9	1	
MA-12	10.9	0.2	
Sub Total	120.7	2.2	
Total	1040.38	11.54	

After Construction Work ( From July 2013)

Construction plans for the site while maintaining the functionality of the existing facilities, relocation of existing facilities.



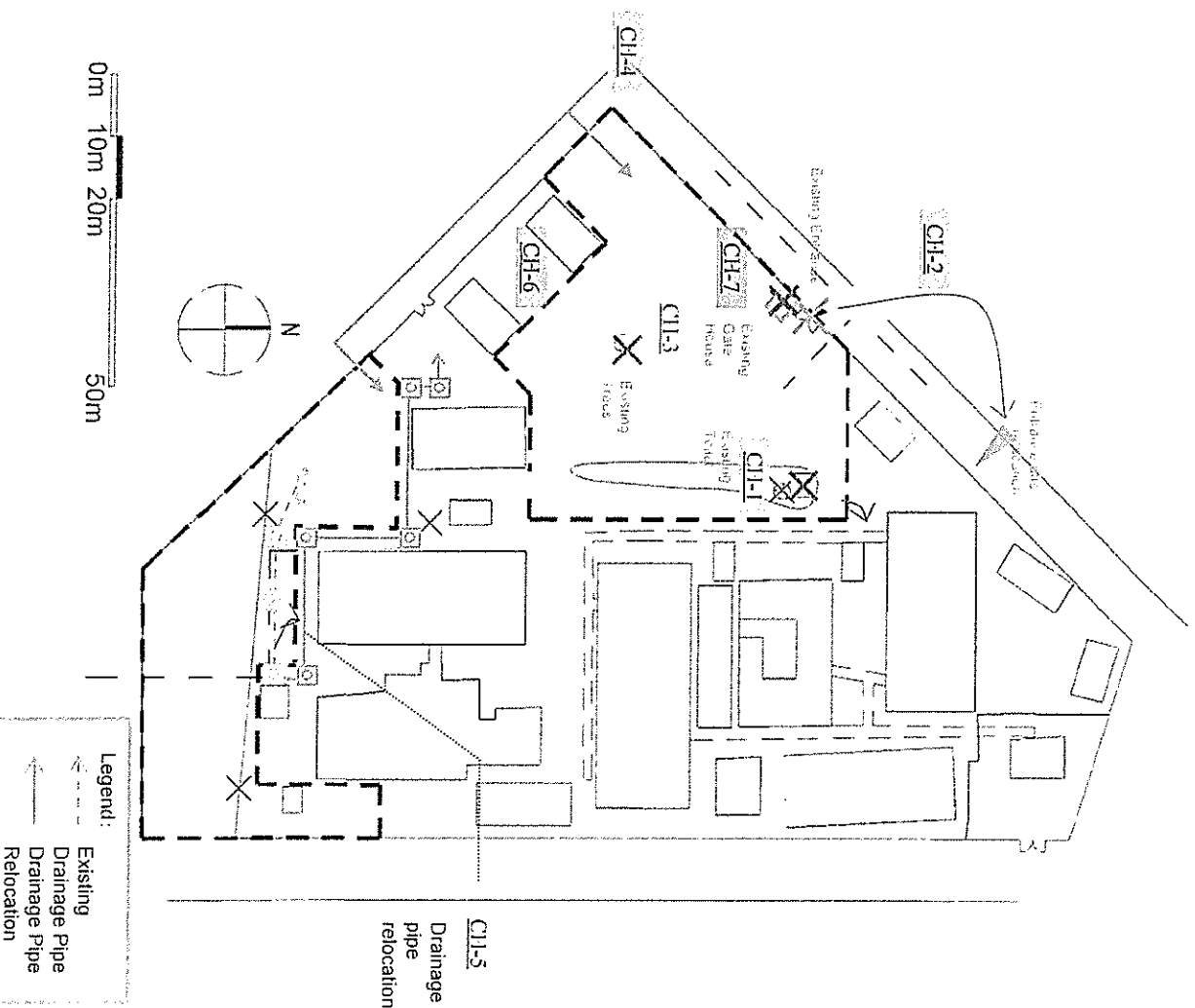
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Annex 5-3: Zambian Side Scope of Works and Costs for Chilenje UHC

Item	Approx. M Kwacha	Approx. M JPY	Schedule	
CH-1	To demolish toilet structure	5.49	0.1	Before Construction with FY 2012 Budget (by March 2012)
CH-2	To relocate current main entrance during construction time	5.49	0.1	
CH-3	To clear Project Sites of trees, shrub and garbage	10.9	0.2	
CH-4	To provide access between Project Sites	5.49	0.1	
CH-5	Relocate main sewer piping and catch basins within site and protect the relocation piping and ensure coordination of new facilities being built.	65.8	1.2	
CH-6	To ensure access to Project Block during construction.			
CH-7	To demolish the guard house	5.49	0.1	
CH-8	Relocate septic tank and soak pit	Incl. In CH-5	Incl. In CH-5	
CH-9	Change the location of antenna support cables to ensure	16.8	0.3	
CH-10	Reroute north side sewer line in the site	Incl. in CH-5	Incl. in CH-5	
CH-11	Demolish the boundary wall in the site	10.9	0.2	
CH-12	Ensure temporary site during construction time			
	<b>Sub Total</b>	<b>126.36</b>	<b>2.3</b>	
	Power Incoming Work	131.6	2.4	
	Telephone Incoming Work	4.2	0.07	
	Water Incoming Work	65.8	1.2	
	Sewer Connection Work	100.9	2	
	<b>Sub Total</b>	<b>302.5</b>	<b>5.67</b>	
CH-13	To move medical services from current facilities to new facilities	54.9	1	During Construction with FY 2013 Budget (By June 2013)
CH-14	Proposed relocation plan to move Wards to current OPD building (Proposal)	54.9	1	
CH-15	To create a new entrance to site in addition to ensure other entrances such new as service entrances	10.9	0.2	
	<b>Sub Total</b>	<b>120.7</b>	<b>2.2</b>	
	<b>Total</b>	<b>549.56</b>	<b>10.17</b>	

Before Construction Work ( By March 2012)

Construction plans for the site while maintaining the functionality of the existing facilities, relocation of existing facilities.



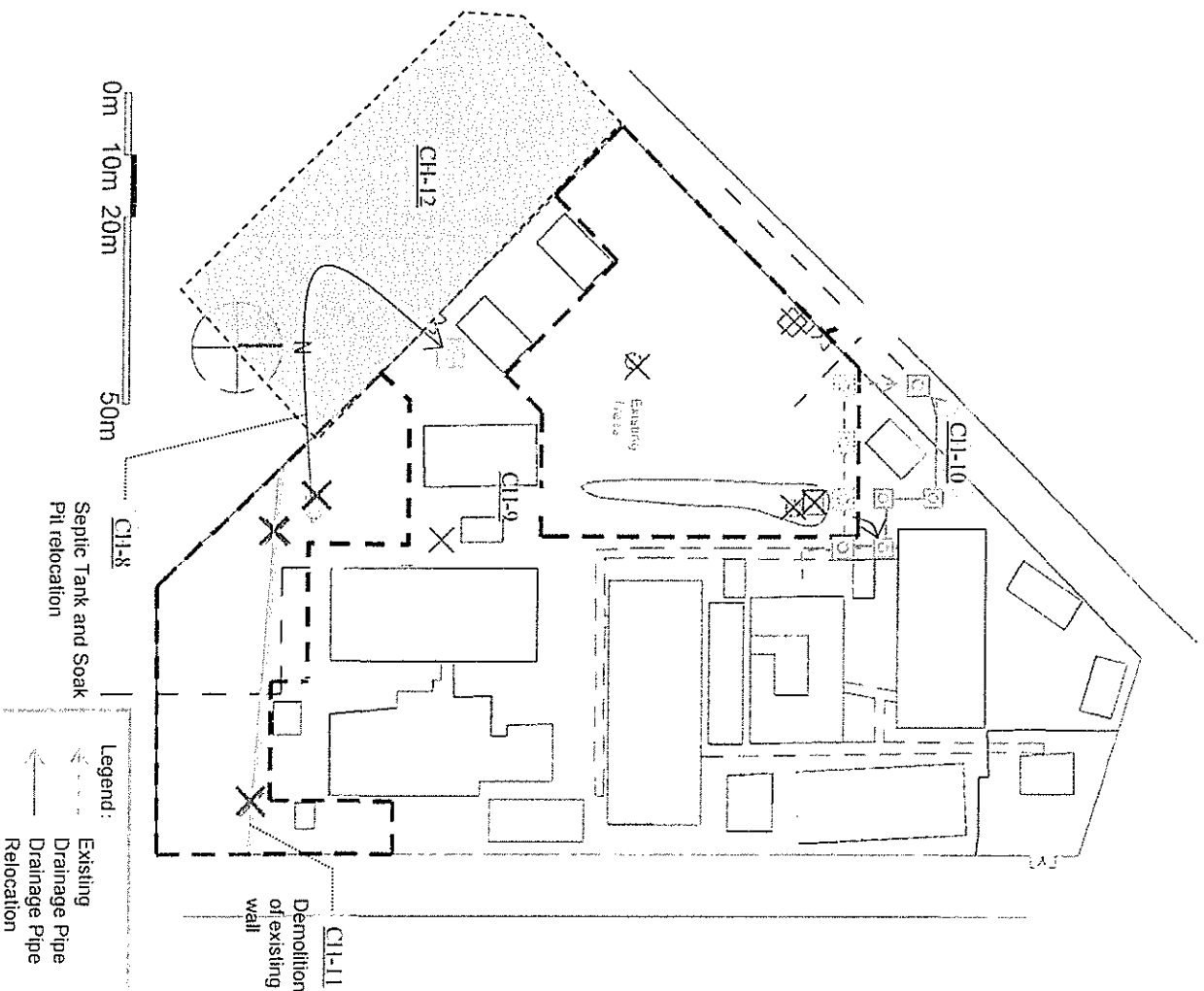


Annex 5-3: Zambian Side Scope of Works and Costs for Chilenge UHC

Item	Approx. M Kwacha	Approx. M JPY	Schedule	
CH-1 To demolish toilet structure	5.49	0.1	Before Construction with FY 2012 Budget (by March 2012)	
CH-2 To relocate current main entrance during construction time	5.49	0.1		
CH-3 To clear Project Sites of trees, shrub and garbage	10.9	0.2		
CH-4 To provide access between Project Sites	5.49	0.1		
CH-5 Relocate main sewer piping and catch basins within site and protect the relocation piping and ensure coordination of new facilities being built.	65.8	1.2		
CH-6 To ensure access to Project Block during construction.				
CH-7 To demolish the guard house	5.49	0.1		
CH-8 Relocate septic tank and soak pit	Incl. In CH-5	Incl. In CH-5		
CH-9 Change the location of antenna support cables to ensure	16.8	0.3		
CH-10 Reroute north side sewer line in the site	Incl. in CH-5	Incl. in CH-5		
CH-11 Demolish the boundary wall in the site	10.9	0.2		
CH-12 Ensure temporary site during construction time				
Sub Total	126.36	2.3		
Power-Incoming Work	31.6	2.4		During Construction
Telephone Incoming Work	4.2	0.07		Construction with FY 2013 Budget (By June 2013)
Water Incoming Work	65.8	1.2		
Sewer Connection Work	100.9	2		
Sub Total	302.5	5.67		
CH-13 To move medical services from current facilities to new facilities	54.9	1	After Construction with FY 2013 Budget (from July 2013)	
CH-14 Proposed relocation plan to move Wards to current OPD building ( Proposal )	54.9	1		
CH-15 To create a new entrance to site in addition to ensure other entrances such new as service entrances	10.9	0.2		
Sub Total	120.7	2.2		
Total	549.56	10.17		

Before Construction Work ( By March 2012 )

Construction plans for the site while maintaining the functionality of the existing facilities, relocation of existing facilities.

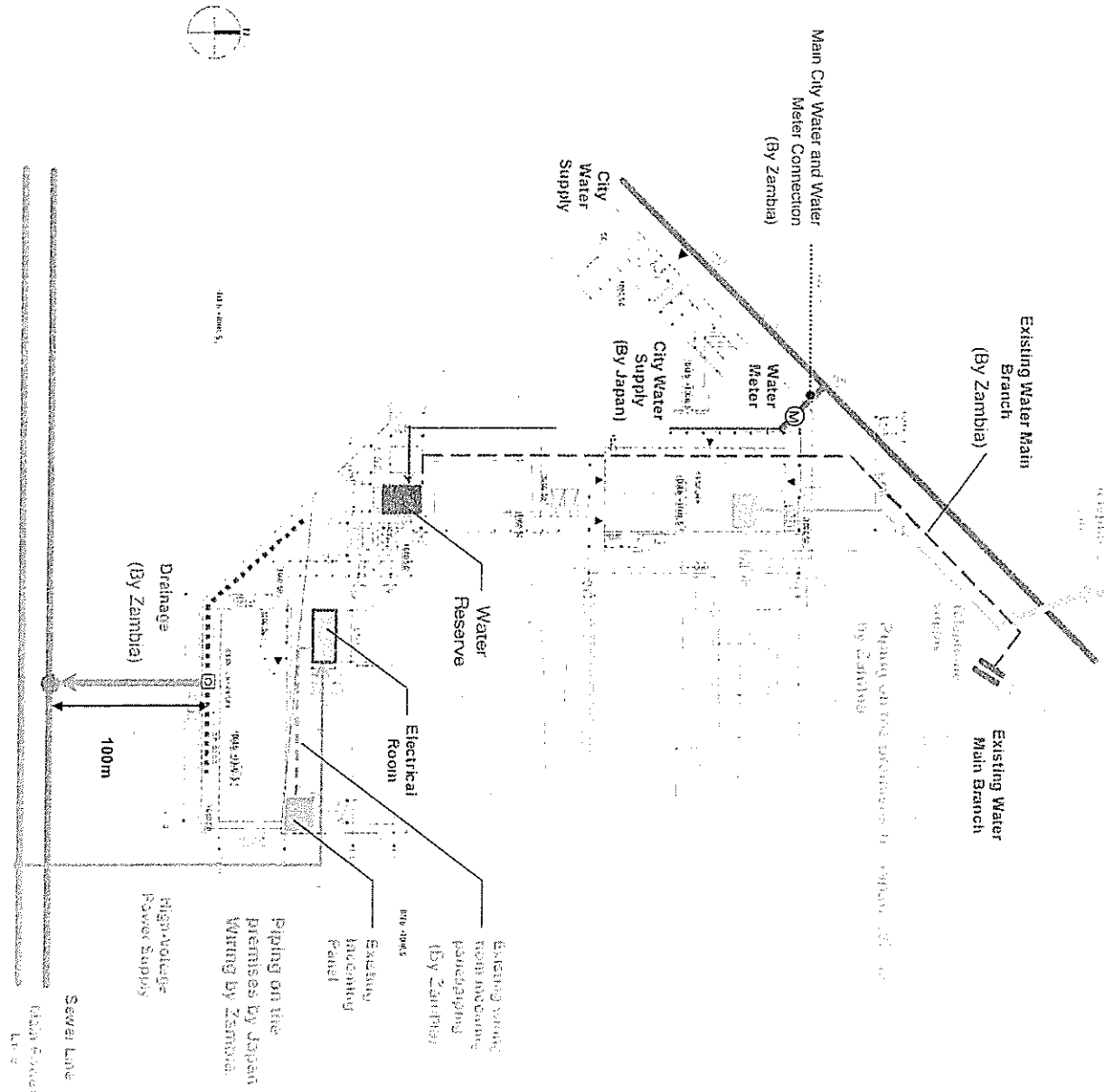


Annex 5-3: Zambian Side Scope of Works and Costs for Chilenge UHC

During Construction Work ( March 2012 – June 2013)

Construction plans for the site while maintaining the functionality of the existing facilities, relocation of existing facilities.

Item	Approx. M Kwacha	Approx. M JPY	Schedule		
CH-1	To demolish toilet structure	5.49	0.1	Before Construction with FY 2012 Budget (by March 2012)	
CH-2	To relocate current main entrance during construction time	5.49	0.1		
CH-3	To clear Project Sites of trees, shrub and garbage	10.9	0.2		
CH-4	To provide access between Project Sites.	5.49	0.1		
CH-5	Relocate main sewer piping and catch basins within site and protect the relocation piping and ensure coordination of new facilities being built.	65.8	1.2		
CH-6	To ensure access to Project Block during construction.				
CH-7	To demolish the guard house	5.49	0.1		
CH-8	Relocate septic tank and soak pit	Incl. In CH-5	Incl. In CH-5		
CH-9	Change the location of antenna support cables to ensure	16.8	0.3		
CH-10	Reroute north side sewer line in the site	Incl. In CH-5	Incl. In CH-5		
CH-11	Demolish the boundary wall in the site	10.9	0.2		
CH-12	Ensure temporary site during construction time				
	<b>Sub Total</b>	<b>126.36</b>	<b>2.3</b>		
	Power Incoming Work	131.6	2.4		During
	Telephone Incoming Work	4.2	0.07		Construction with
	Water Incoming Work	65.8	1.2	FY 2013 Budget	
	Sewer Connection Work	100.9	2	(By June 2013)	
	<b>Sub Total</b>	<b>302.5</b>	<b>5.67</b>		
CH-13	To move medical services from current facilities to new facilities	54.9	1	Alter Construction with FY 2013 Budget (from July 2013)	
CH-14	Proposed relocation plan to move Wards to current OPD building ( Proposal )	54.9	1		
CH-15	To create a new entrance to site in addition to ensure other entrances such new as service entrances	10.9	0.2		
	<b>Sub Total</b>	<b>120.7</b>	<b>2.2</b>		
	<b>Total</b>	<b>549.56</b>	<b>10.17</b>		

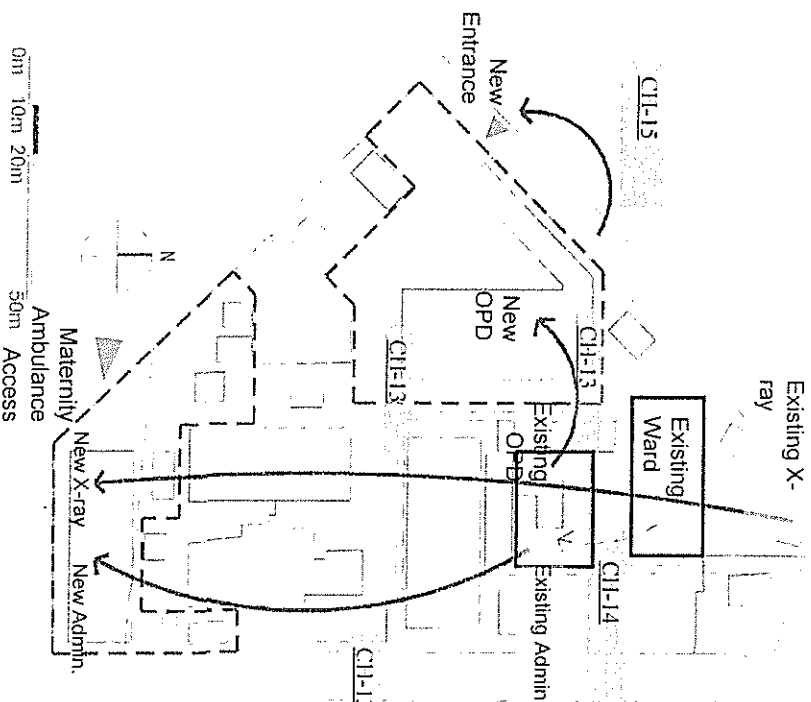


Annex 5-3: Zambian Side Scope of Works and Costs for Chilenge UHC

Item	Approx. M Kwacha	Approx. M JPY	Schedule	
CH-1 To demolish toilet structure	5.49	0.1	Before Construction with FY 2012 Budget (by March 2012)	
CH-2 To relocate current main entrance during construction time	5.49	0.1		
CH-3 To clear Project Sites of trees, shrub and garbage	10.9	0.2		
CH-4 To provide access between Project Sites.	5.49	0.1		
CH-5 Relocate main sewer piping and catch basins within site and protect the relocation piping and ensure coordination of new facilities being built.	65.8	1.2		
CH-6 To ensure access to Project Block during construction.				
CH-7 To demolish the guard house	5.49	0.1		
CH-8 Relocate septic tank and soak pit	Incl. In CH-5	Incl. In CH-5		
CH-9 Change the location of antenna support cables to ensure	16.8	0.3		
CH-10 Reroute north side sewer line in the site	Incl in CH-5	Incl in CH-5		
CH-11 Demolish the boundary wall in the site	10.9	0.2		
CH-12 Ensure temporary site during construction time				
Sub Total	126.36	2.3		
Power Incoming Work	131.6	2.4		During
Telephone Incoming Work	4.2	0.07		Construction with
Water Incoming Work	65.8	1.2	FY 2013 Budget	
Sewer Connection Work	100.9	2	(By June 2013)	
Sub Total	302.5	5.67		
CH-13 To move medical services from current facilities to new facilities	54.9	1	After Construction with FY 2013 Budget (from July 2013)	
CH-14 Proposed relocation plan to move Wards to current OPD building ( Proposal )	54.9	1		
CH-15 To create a new entrance to site in addition to ensure other entrances such new as service entrances	10.9	0.2		
Sub Total	120.7	2.2		
Total	549.56	10.17		

After Construction Work ( From July 2013)

Construction plans for the site while maintaining the functionality of the existing facilities, relocation of existing facilities.



Plan in Technical Memorandum

PM

## Annex 6-1: List of Medical Equipments

### Matero UHC

No.	Name of Equipment	Q' ty
<b>Pharmacy</b>		
W-003	Analytical Balance	1
W-036	Drug Cabinet, Lockable	1
W-070	Mixer	1
W-078	Pharmacy Refrigerator	1
W-113	Water Distiller	1
<b>Medical Consultation</b>		
<b>Screening/ Consulting Room</b>		
W-020	Consulting desk and Chair Set	4
W-030	Diagnostic Set	4
W-041	Examination Couch, Gynecological	2
W-040	Examination Couch	2
W-042	Examination Light	4
W-109	Vaginal Speculum (L,M, S)	4
W-117	X-ray Film Viewer	4
W-125	ECG	1
W-115	Weighing Scale for Infant	1
<b>Treatment Room</b>		
W-040	Examination Couch	2
W-042	Examination Light	2
W-032	Dressing Instrument Set	6
W-035	Drip Stand	2
<b>Dental Clinic</b>		
W-004	Autoclave, Small	1
W-058	Instrument Cabinet	1
W-024	Dental Film Processor	1
W-025	Dental Instrument Set	3
W-026	Dental Light Curing Unit	1
W-027	Dental Suite	1
W-029	Dental X-ray Unit	1

PM TY

No.	Name of Equipment	Q'ty
W-105	Ultrasonic Dental Scalar	1
<b>Eye &amp; ENT</b>		
W-020	Consulting Desk and Chair Set	1
W-030	Diagnostic Set	1
W-040	Examination Couch	1
W-042	Examination Light	1
<b>Vitals</b>		
W-030	Diagnostic Set	2
W-114	Weighing Scale	1
W-020	Consulting Desk and Chair Set	2
<b>ART Office</b>		
W-020	Consulting Desk and Chair Set	1
<b>Casualty</b>		
	<b>Casualty</b>	
W-002	Resuscitation Bag for Adults and Children	1
W-004	Autoclave, Small	1
W-058	Instrument Cabinet	1
W-030	Diagnostic Set	2
W-031	Drainage Set	3
W-032	Dressing Instrument Set	3
W-035	Drip Stand	3
W-075	Patient Trolley	2
W-042	Examination Light	2
W-090	Stretcher on wheels	2
W-091	Suction Pump	1
W-116	Wheel Chair	1
W-117	X-ray Film Viewer	1
<b>ICU (Observation)</b>		
W-075	Patient Trolley	3
<b>BID</b>		
W-090	Stretcher on Wheels	1
<b>Conference Room</b>		
W-123	Educational Table and Chair Set	1

PM TY

No.	Name of Equipment	Q'ty
<b>Laboratory</b>		
	<b>Main Laboratory</b>	
W-003	Analytical Balance	1
W-012	Blood Bank Refrigerator	1
W-016	Centrifuge	1
W-017	Chair for Laboratory Worker	6
W-019	Chemistry Analyzer	1
W-050	Hematology Analyzer	1
W-054	Hot Air Oven	1
W-055	Hot Plate	1
W-061	Laboratory Incubator	1
W-068	Hematocrit Centrifuge	1
W-069	Microscope	2
W-076	PH meter	1
W-078	Pharmacy Refrigerator	1
W-083	Roller Mixer	1
W-112	Water Bath	1
W-126	Micro Pipette	2
W-084	Rotator	1
	<b>Sterilization</b>	
W-005	Autoclave, Medium	1
W-113	Water Distiller	1
	<b>Bacteriology</b>	
W-121	Safety Cabinet	1
<b>Medical Imaging</b>		
	<b>X-ray Room</b>	
W-062	Lead Apron	1
W-117	X-ray Film Viewer	1
W-120	X-ray Unit	1
	<b>Ultrasound Room</b>	
W-106	Ultrasound Scanner with Printer	1
W-040	Examination Couch	1
W-020	Consulting Desk and Chair Set	1

PM TY

No.	Name of Equipment	Q' ty
	<b>Dark Room</b>	
W-044	Automatic Film Processor	1
	<b>Delivery</b>	
	<b>Ante-Natal/ Labor Room</b>	
W-007	Bed for Adult with Side Cabinet and Over Bed Table	8
W-114	Weighing Scale	1
W-046	Fetal Doppler	1
	<b>Delivery Room</b>	
W-005	Autoclave, Medium	1
W-058	Instrument Cabinet	1
W-014	Cardio-Toco Graph Machine	1
W-022	Delivery Bed	4
W-042	Examination Light	4
W-057	Infant Cot with Mattress	4
W-035	Drip Stand	2
W-039	Episiotomy Set/ Delivery Set	8
W-048	Glucometer	1
W-059	Instrument Trolley	4
W-108	Vacuum Extractor	1
W-109	Vaginal Speculum (L,M, S)	2
W-115	Weighing Scale for Infant	1
W-116	Wheel Chair	1
W-082	Resuscitator with Timer	3
W-040	Examination couch	1
W-042	Examination Light	1
	<b>Post-Natal Room</b>	
W-007	Bed for Adult with Side Cabinet and Over Bed Table	4
W-057	Infant Cot with Mattress	4
	<b>Maternity Surgery</b>	
W-058	Instrument Cabinet	1
W-030	Diagnostic Set	1
W-034	Dressing Trolley	1
W-035	Drip Stand	3

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No.	Name of Equipment	Q' ty
W-048	Glucometer	1
W-007	Bed for Adult with Side Cabinet and Over Bed Table	12
W-057	Infant Cot with Mattress	12
W-091	Suction Pump	1
W-114	Weighing Scale	1
W-127	Infusion Pump	1
W-040	Examination Couch	1
W-042	Examination Light	1
<b>Premature</b>		
W-073	Neonatal Incubator	3
W-079	Phototherapy Unit	1
W-082	Resuscitator with Timer	1
<b>Maintenance</b>		
W-122	Maintenance Set	1
<b>Surgical Ward</b>		
W-005	Autoclave, Medium	1
W-007	Bed for Adult with Side Cabinet and Over Bed Table	24
W-030	Diagnostic Set	3
W-032	Dressing Instrument Set	5
W-034	Dressing Trolley	5
W-035	Drip Stand	6
W-091	Suction Pump	1
W-114	Weighing Scale	1
W-058	Instrument Cabinet	1
W-116	Wheel Chair	2
W-127	Infusion Pump	1
<b>Pediatric Ward</b>		
W-005	Autoclave, Medium	1
W-128	Bed for Child with Side Cabinet	18
W-030	Diagnostic Set	3
W-032	Dressing Instrument Set	5
W-034	Dressing Trolley	5
W-035	Drip Stand	6

PM TY



No.	Name of Equipment	Q' ty
W-091	Suction Unit	1
W-114	Weighing Scale	1
W-058	Instrument Cabinet	1
W-116	Wheel Chair	1
W-127	Infusion Pump	1

PM TY

## Annex 6-2: List of Medical Equipments

### Chilenje UHC

No.	Name of Equipment	Q' ty
<b>Pharmacy</b>		
W-003	Analytical Balance	1
W-036	Drug Cabinet, Lockable	1
W-070	Mixer	1
W-078	Pharmacy Refrigerator	1
W-113	Water Distiller	1
<b>Medical Consultation</b>		
<b>Screening/ Consulting Room</b>		
W-020	Consulting Desk and Chair Set	4
W-030	Diagnostic Set	4
W-041	Examination Couch, Gynecological	2
W-040	Examination Couch	2
W-042	Examination Light	4
W-109	Vaginal Speculum (L, M, S)	4
W-117	X-ray Film Viewer	4
W-125	ECG	1
W-115	Weighing Scale for Infant	1
<b>Treatment Room</b>		
W-040	Examination Couch	2
W-042	Examination Light	2
W-032	Dressing Instrument Set	6
W-035	Drip Stand	2
<b>Dental Clinic</b>		
W-004	Autoclave, Small	1
W-058	Instrument Cabinet	1
W-024	Dental Film Processor	1
W-025	Dental Instrument Set	3
W-026	Dental Light Curing Unit	1
W-027	Dental Suite	1
W-029	Dental X-ray Unit	1

No.	Name of Equipment	Q' ty
W-105	Ultrasonic Dental Scaler	1
<b>Eye &amp; ENT</b>		
W-020	Consulting Desk and Chair Set	1
W-030	Diagnostic Set	1
W-040	Examination Couch	1
W-042	Examination Light	1
<b>Vitals</b>		
W-030	Diagnostic Set	2
W-114	Weighing Scale	1
W-020	Consulting Desk and Chair Set	2
<b>ART Office</b>		
W-020	Consulting Desk and Chair Set	1
<b>Casualty</b>		
	<b>Casualty</b>	
W-002	Resuscitation Bag for Adults and Children	1
W-004	Autoclave, Small	1
W-058	Instrument Cabinet	1
W-030	Diagnostic Set	2
W-031	Drainage Set	3
W-032	Dressing Instrument Set	3
W-035	Drip Stand	2
W-075	Patient Trolley	2
W-042	Examination Light	2
W-090	Stretcher on Wheels	2
W-091	Suction Pump	1
W-116	Wheel Chair	1
W-117	X-ray Film Viewer	1
<b>ICU (Observation)</b>		
W-075	Patient Trolley	3
<b>BID</b>		
W-090	Stretcher on Wheels	1
<b>Conference Room</b>		
W-123	Educational Table and Chair Set	1

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TY

No.	Name of Equipment	Q'ty
<b>Laboratory</b>		
<b>Mail Laboratory</b>		
W-003	Analytical Balance	1
W-012	Blood Bank Refrigerator	1
W-016	Centrifuge	1
W-019	Chemistry Analyzer	1
W-050	Hematology Analyzer	1
W-054	Hot Air Oven	1
W-055	Hot Plate	1
W-061	Laboratory Incubator	1
W-068	Hematocrit Centrifuge	1
W-069	Microscope	2
W-076	PH Meter	1
W-078	Pharmacy Refrigerator	1
W-083	Roller Mixer	1
W-112	Water Bath	1
W-126	Micro Pipette	2
W-084	Rotator	1
<b>Sterilization</b>		
W-005	Autoclave, Medium	1
W-113	Water Distiller	1
<b>Bacteriology</b>		
W-121	Safety Cabinet	1
<b>Medical Imaging</b>		
<b>X-ray Room</b>		
W-062	Lead Apron	1
W-117	X-ray Film Viewer	1
W-120	X-ray Unit	1
<b>Ultrasound Room</b>		
W-106	Ultrasound Scanner with Printer	1
W-040	Examination Couch	1
W-020	Consulting Desk and Chair Set	1
<b>Dark Room</b>		

PM TY

No.	Name of Equipment	Q'ty
W-044	Automatic Film Processor	1
<b>Delivery</b>		
<b>Ante-Natal/ Labor Room</b>		
W-007	Bed for Adult with Side Cabinet and Over Bed Table	7
W-114	Weighing Scale	1
W-046	Fetal Doppler	1
<b>Delivery Room</b>		
W-005	Autoclave, Medium	1
W-058	Instrument Cabinet	1
W-014	Cardio-Toco Graph Machine	1
W-022	Delivery Bed	3
W-042	Examination Light	3
W-057	Infant Cot with Mattress	3
W-035	Drip Stand	2
W-039	Episiotomy Set/ Delivery Set	6
W-048	Glucometer	1
W-059	Instrument Trolley	3
W-108	Vacuum Extractor	1
W-109	Vaginal Speculum (L, M, S)	2
W-115	Weighing Scale for Infant	1
W-116	Wheel Chair	1
W-082	Resuscitator with timer	2
W-040	Examination Couch	1
W-042	Examination Light	1
<b>Post-Natal Room</b>		
W-007	Bed for Adult with Side Cabinet and Over Bed Table	3
W-057	Infant Cot with Mattress	3
<b>Maternity Surgery</b>		
W-058	Instrument Cabinet	1
W-030	Diagnostic Set	1
W-034	Dressing Trolley	1
W-035	Drip Stand	4
W-048	Glucometer	1

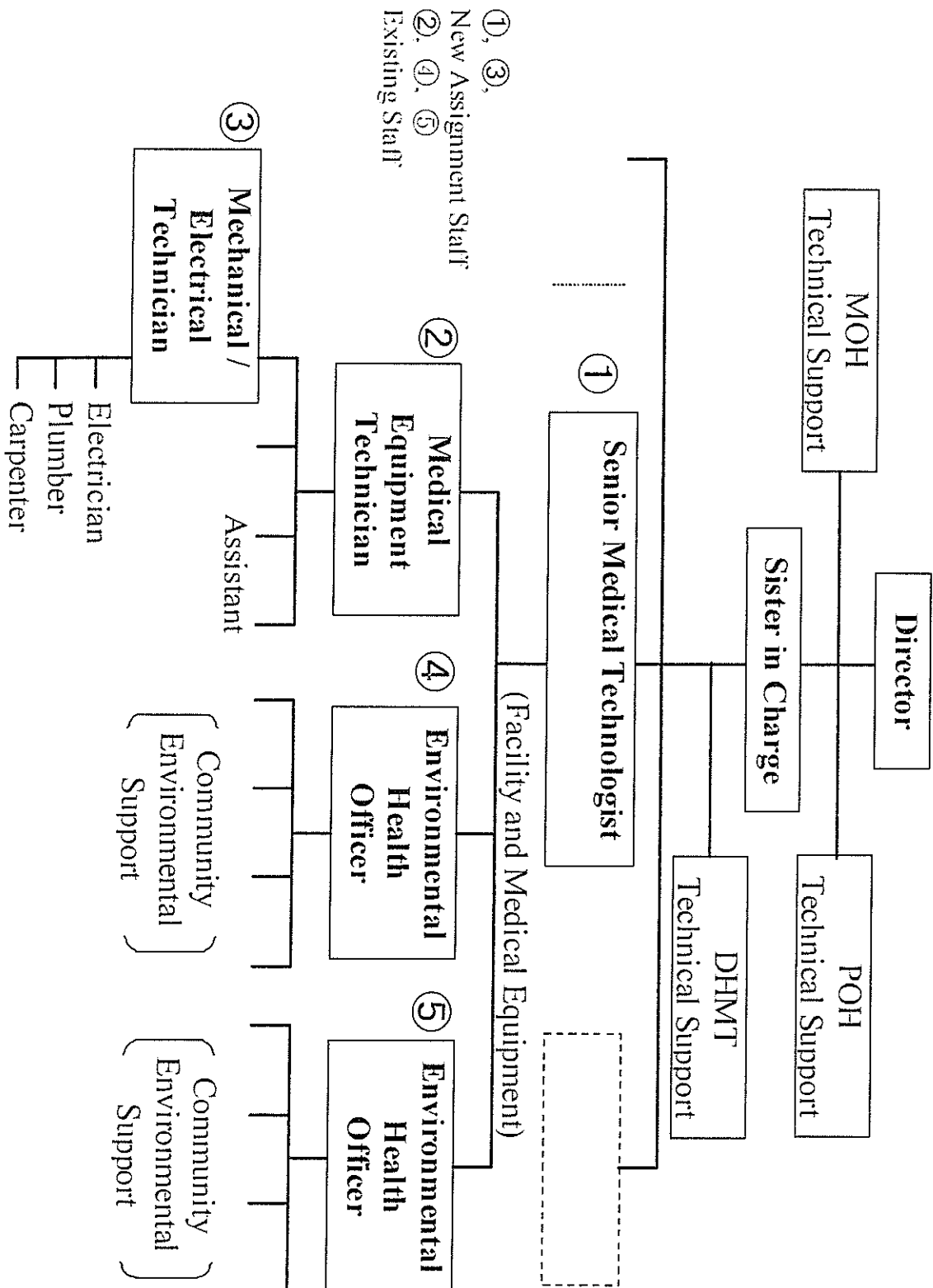
PM TY

No.	Name of Equipment	Q' ty
W-007	Bed for Adult with Side Cabinet and Over Bed Table	10
W-057	Infant Cot with Mattress	10
W-091	Suction Unit	1
W-114	Weighing Scale	1
W-127	Infusion Pump	1
W-040	Examination Couch	1
W-042	Examination Light	1
<b>Premature</b>		
W-073	Neonatal Incubator	3
W-079	Phototherapy Unit	1
W-082	Resuscitator with timer	1
<b>Maintenance</b>		
W-122	Maintenance Set	1

PM TY

### First Level Hospital Maintenance Organization

(Matero District Hospital, Chilenje District Hospital)



PM TY

5. Soft Component (Technical Assistance) Plan

THE PROJECT FOR UPGRADING  
OF  
LUSAKA HEALTH CENTRES  
IN  
THE REPUBLIC OF ZAMBIA

Plan of Technical Assistance (Soft-Component)

INDEX

- (1) Background to Soft Component Planning
- (2) Soft Component Targets
- (3) Soft Component Outcome (Direct Effect)
- (4) Verification of Outcome Achievement
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- (6) Resource Procurement Method to Implement Soft Components
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- (9) Approximate Project Cost for Soft-Component
- (10) Responsibility of Zambia's Implementing Organisation

January 2011

The Consortium of  
Nihon Sekkei, Inc. and Fujita Planning Co., Ltd.



## **(1) Background to Soft Component Planning**

By upgrading the Matero UHC and the Chilenje UHC located in the Lusaka district to first level hospitals, the project aims to make the referral system work and at the same time, mitigate the crowded condition and burden in the University Teaching Hospital, a tertiary-level medical facility located in the same Lusaka district. The components of the facility works and equipment procurement include the construction of an OPD examination building, emergency examination building, inspection building, sick ward, and administration building for the Matero UHC, and an OPD examination building, emergency examination building, and administration building for the Chilenje UHC as well as provision of the necessary medical equipment for both health centres. The investigation team has presented the following concerns regarding the current facilities and equipment maintenance methods based on the field investigations conducted from 15 August to 23 September, 2010:

1. The maintenance staff members in the district health office are in charge of maintenance works in several health centres, but it is difficult for them to give close attention to each individual health centre.
2. The medical service level is impaired due to breakdown of facility equipment and medical apparatus.
3. Medical water discharge and medical waste are not disposed of correctly, which poses a risk of deteriorating the surrounding environment and causing in-hospital infections.

Regarding the above problems, the Zambia side has requested that technical training be given by the Japan side for the maintenance system, the medical waste and water discharge system of the newly built facility, and equipment.

After the implementation of grant aid, the Ministry of Health is planning to newly establish a maintenance department for the in-hospital facility and medical equipment to take care of the maintenance work of the hospital facility and medical equipment with human resources reinforced and coordinated with various agents in Zambia to ensure that operation maintenance is performed properly for the facility and equipment in the Matero UHC and Chilenje UHC in accordance with the project.

In Zambia, there are people in charge of facilities and equipment in the Ministry of Health, provincial health office, and district health office individually, but there is no one in charge at the health centre level. Once both UHCs are upgraded to first level hospitals through the project, it is essential to allocate facility and equipment maintenance staff in the hospitals for administrative reasons. It is not only necessary to recruit new staff members, but it will also be necessary for the hospitals to recognise the importance of the facility / equipment maintenance department as a part of the hospital functions to work on maintenance activities from a preventive maintenance viewpoint. Regarding waste disposal, sorted collection has been conducted to some degree, but we need to raise the awareness of each engineer and enhance their knowledge and technical level while helping establish an appropriate maintenance system. Therefore, with the upgrade of the health centres to first level hospitals, the project will incorporate support for establishing a maintenance system for the facilities and the equipment including coordination between the maintenance department to be newly established and the warehouse for equipment consumables and replacement parts as well as the establishment of an in-hospital medical waste collection / disposal system based on the waste sorting method used in hospitals recommended by WHO (colour coating) as a soft component. For the equipment, preventive maintenance including daily checkups will be incorporated so that the equipment can be used for a long time in good condition.

The main items whose improvement is expected through implementation of technical training in the soft component are as follows:

1. From the viewpoint of the surrounding environment, in-hospital infections, and continuity of medical services, have the medical staff recognise the importance of maintaining the facility

apparatus and medical equipment, and enhance the knowledge and technical level of the staff while raising and maintaining awareness.

2. With the effect of preventive maintenance by establishing a management system that can keep track of inventory books, failure history, and places to which facility apparatus and medical equipment have been allocated, an inventory system to control consumables and replacement parts, and a system for daily and periodic checkups, which will make the budget available, shorten the failure period, reduce the risk of in-hospital infections, and maintain the medical service level, will be created.
3. By optimising the operation of the medical waste and water discharge systems, the environment both inside and outside the hospitals will be improved.

In implementing the soft component, we will employ a participatory method of planning to enhance the development of self-reliance, in which we will put together a plan and its contents by holding workshops. For the formats of the medical equipment maintenance system and the ledger, we will make sure to take over the outcome of ongoing technical cooperation projects so that there will be no conflict in the contents and it will smoothly coordinate with the other technical cooperation projects.

## (2) Soft Component Targets

1. To have the Ministry of Health, provincial health office, district health office, the Matero UHC, and the Chilenje UHC recognise the importance of establishing a medical facility / equipment maintenance system
2. To establish a maintenance system for the facility and the medical equipment in the Matero UHC and the Chilenje UHC
3. To establish a medical waste and water discharge disposal system in the Matero UHC and the Chilenje UHC

## (3) Soft Component Outcome (Direct Effect)

**Table 1 Soft Component Direct Effect**

Technical Training	Direct Effect
To teach the importance of a maintenance system	<ul style="list-style-type: none"> <li>• The importance of strengthening the maintenance system will be understood.</li> <li>• An independent maintenance system will be established to secure appropriate personnel.</li> <li>• The concept of preventive maintenance will be fully recognised.</li> </ul>
To help establish a maintenance system and enhance management ability	<ul style="list-style-type: none"> <li>• The maintenance ability level of the staff will be enhanced.</li> <li>• It is ensured that the facility will be properly utilised and operated, handling ability against breakdown will be improved, and periodic checkups will be implemented.</li> </ul>
To help create and implement an annual maintenance plan	<ul style="list-style-type: none"> <li>• Appropriate personnel will be secured (in terms of number of personnel and ability).</li> <li>• An annual maintenance plan, which will make the budget available, will be created.</li> <li>• It will help keep track of the names of consumables and spare parts, the quantity, and the expenditure necessary for the next year, which ensures smooth implementation.</li> </ul>
To help establish a medical waste and water discharge disposal system	<ul style="list-style-type: none"> <li>• It will raise awareness toward waste disposal at each department, which will ensure that infectious waste will be separately collected.</li> <li>• The incinerators will be properly operated.</li> </ul>

#### (4) Verification of Outcome Achievement

**Table 2 Verification of Outcome Achievement**

Item	Verification Method
To teach the importance of a maintenance system	<ul style="list-style-type: none"> <li>• Maintenance personnel are ensured.</li> <li>• The maintenance budget is secured.</li> <li>• A preventive maintenance system is recognised.</li> </ul>
To help establish a maintenance system and enhance the management ability	<ul style="list-style-type: none"> <li>• A maintenance system flow is prepared.</li> <li>• An equipment ledger is created.</li> <li>• Regular checkups and adjustments are planned.</li> <li>• Preventive maintenance is conducted.</li> <li>• The maintenance department will give explanations and/or guidance to doctors and nurses if necessary.</li> </ul>
To help create and implement an annual maintenance plan	<ul style="list-style-type: none"> <li>• Documentation including facility / equipment apparatus ledgers, maintenance records, and annual maintenance plans are put together.</li> <li>• A maintenance budget plan for the next year is prepared.</li> </ul>
To help establish a medical waste and water discharge disposal system	<ul style="list-style-type: none"> <li>• A medical waste disposal manual is prepared.</li> <li>• An incinerator operation system is established.</li> </ul>

#### (5) Soft Component Activities (Input Planning)

**Table 3 Soft Component Activities**

Item	Activities	Affected Department	Outcome	
			Japan	Zambia
To teach the importance of a maintenance system	<ul style="list-style-type: none"> <li>• By holding a workshop separately for the administration department and the maintenance department, the importance of maintenance from the viewpoint of the surrounding environment, in-hospital infections, and continuity of medical services is stressed.</li> <li>• A maintenance system will be introduced in Japan, and the gist of the maintenance system idea and a rough work flow will be prepared as common practice. In addition, there will be on-the-job investigation and maintenance work for the existing facilities. For the medical equipment, however, we will take over the contents and outcomes from other technical cooperation projects.</li> </ul> <p>[Technical Level]</p> <ul style="list-style-type: none"> <li>• A technical level higher than that of the technologists or technicians is needed, and all the staff in the maintenance department have reached this level.</li> </ul>	Ministry of Health, provincial health office, district health office, superintendent, maintenance department	<ul style="list-style-type: none"> <li>• Maintenance system created in Japan and through technical cooperation projects</li> </ul>	<ul style="list-style-type: none"> <li>• Rough idea of the maintenance system</li> <li>• Organisation chart</li> <li>• Staff assignment plan</li> </ul>
To help establish a maintenance system and enhance management ability	<ul style="list-style-type: none"> <li>• Existing maintenance practice will be checked, and a maintenance system flow, a work flow chart, and various formats utilising cases in Japan will be created.</li> <li>• A workshop targeting doctors and nurses will be held in the hospitals and a maintenance request format will be created.</li> <li>• An equipment ledger will be created for the facility apparatus and medical equipment.</li> </ul> <p>[Technical Level]</p> <ul style="list-style-type: none"> <li>• A technical level higher than that of the technologists or technicians will be needed, and all the staff in the maintenance department have reached this level.</li> </ul>	District health office, each department in the hospital, maintenance department	<ul style="list-style-type: none"> <li>• Maintenance system flow created in Japan and by the technical cooperation project</li> <li>• Equipment ledger created in Japan and various formats created by technical cooperation projects</li> </ul>	<ul style="list-style-type: none"> <li>• Maintenance work planning</li> <li>• Various formats</li> <li>• Ledger of facility and equipment apparatus</li> </ul>

Item	Activities	Affected Department	Outcome	
			Japan	Zambia
To help create and implement an annual maintenance plan	<ul style="list-style-type: none"> <li>How to create an annual maintenance plan will be taught.</li> <li>How to prepare an annual budget will be taught.</li> <li>How to place an order for replacement parts and the inventory method will be taught.</li> <li>On-the-job maintenance training will be provided. [Technical Level]</li> <li>A technical level higher than that of the technologists will be needed, and the chief and assistant leaders in the maintenance department have reached this level.</li> </ul>	Provincial Health Office, district health office, superintendent, accounting department, Maintenance Department	<ul style="list-style-type: none"> <li>Annual maintenance plan created in Japan</li> <li>Maintenance budget plan created in Japan</li> <li>Each plan created by a technical cooperation project</li> </ul>	<ul style="list-style-type: none"> <li>Annual maintenance plan</li> <li>Maintenance budget plan</li> </ul>
To help establish a medical waste and water discharge disposal system	<ul style="list-style-type: none"> <li>It will help in establishing waste collection routes and a waste sorting (colour coating) system and in providing instructions.</li> <li>It will help in establishing the operation system of the neutralisation tank and in providing instructions.</li> <li>It will help in establishing measures against in-hospital infections and in providing instructions. [Technical Level]</li> <li>A technical level higher than that of the technologists will be needed, and the chief and assistant leaders in the maintenance department have reached this level.</li> </ul>	District health office, superintendent, each department in the hospital, waste disposal personnel	<ul style="list-style-type: none"> <li>Medical waste disposal manual created in Japan</li> <li>Manual created through technical cooperation projects</li> </ul>	<ul style="list-style-type: none"> <li>Medical waste operation plan</li> <li>Neutralisation tank operation plan</li> <li>In-hospital infection measures manual</li> </ul>

## (6) Resource Procurement Method to Implement Soft Components

Soft components will be the direct support type. There are no local consultants or facility / equipment maintenance companies in Zambia that are specialised in maintenance works for facilities and equipment.

## (7) Soft Component Implementation Process

A consultant responsible for training will determine the details of training and cooperation as well as the whole schedule based on prior agreement with those involved in the Ministry of Health, provincial health office, district health office, the Matero UHC, and the Chilenje UHC, and proceed with the technical training while evaluating the input and outcome from time to time. The total flow is assumed to be as described below. For the facility apparatus, we will prepare the formats and system in Japan so that they will be suitable for the project and we will adjust them on site accordingly, but for the medical equipment, we will basically take over the formats and system created by other technical cooperation projects.

### 1) Advance Preparation in Japan

In Japan, we will prepare materials, various formats, workflow charts, and others regarding the maintenance system and medical waste disposal system for the assumed facilities, so that we can present them as sample cases at the first workshop together with the formats created by technical cooperation projects.

### 2) First Field Training

We will educate leaders and staff members in the facility / equipment maintenance department to strengthen the maintenance system through workshops, and at the same time, we will shed light on problems lurking in the current maintenance works to create an input planning idea. We will also verify whether an acceptance system and a maintenance organisation of the hospitals have been established or not. In concrete terms, at the workshop, we will teach how to create an equipment ledger for the facilities and for the medical equipment in the existing buildings, and we will instruct them to proceed with maintenance operation using the formats created until the next training. To provide the abovementioned education and training, we will send one engineer in charge of facility maintenance and one staff member in charge of medical equipment / waste maintenance.

**3) Second Field Training**

We will check the operation status of various formats and the maintenance / medical device waste system created in the first field training, and with adjustment needed for the system and various formats, provide additional training as necessary.

The facility equipment (air conditioners / medical gas / water discharge disposal / receiving power system / generators / light electrical appliances, etc.) and medical equipment to be used in the project will have been selected by the start time, and some of the equipment will have started to be carried onto the site, so we will teach how to create an equipment ledger more concretely using the newly built facility and the equipment apparatus. For the remainder of the ledger that could not be created during training, the engineers in the hospitals will continue to prepare them after the trainers return to their own countries. We will send one engineer in charge of facility maintenance and one staff member in charge of medical equipment maintenance to provide education and training.

**4) Tasks to be Performed in Japan**

We will put together the results of the first and second technical trainings, gather items requiring final training, and adjust the flow chart and formats. At this point, we will readjust the maintenance system against the facilities and equipment to be installed.

**5) Third Field Training**

We will conduct final confirmation and adjustment for each ledger and format created during the second field training, and we will teach how to create a final maintenance plan proposal for the newly built facilities and medical equipment according to the final training items prepared in Japan. While checking the facility apparatus / equipment already installed on site, we will give final technical training. In particular, we will teach how to prepare an annual maintenance plan / annual maintenance budget plan / spare parts management plan, and how to report the final version of a maintenance plan. We will send one engineer from facility maintenance I (air conditioners / hygiene / water discharge disposal / medical gas), one staff member from facility maintenance II (responsible for receiving power system equipment / generators / light electrical appliance equipment), and one equipment / medical waste management engineer from Japan.

**6) Tasks to be Performed in Japan**

We will put together the results of the first, second, and third technical trainings and we will create a final report.

The following three engineers are to be sent as Japanese consultants in order to transfer technical skills to the hospitals:

- a . Facility maintenance engineer I: To deal with air conditioner equipment, hygiene equipment, and special facilities
- b . Facility maintenance engineer II: To deal with receiving power system equipment and light electrical appliances
- c .Management engineer in charge of equipment / medical waste: To deal with the equipment / medical waste collection system

**Table 4 Soft Component Implementation Process Chart (Proposal)**

Item	Month														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Construction Schedule	Groundbreaking												Completion		
Soft Components (Local)								Firs			Secon			Third	

## **(8) Soft Component Outcome**

**Table 5 Soft Component Outcome**

Item	Outcome
To teach the importance of a maintenance system	<ul style="list-style-type: none"><li>• Rough maintenance system</li><li>• Maintenance organisation chart</li><li>• Staff assignment plan</li></ul>
To help establish a maintenance system and enhance management ability	<ul style="list-style-type: none"><li>• Maintenance work plan, preventive maintenance plan</li><li>• Various formats</li><li>• Ledger of facility and equipment apparatus</li></ul>
To help create and implement an annual maintenance plan	<ul style="list-style-type: none"><li>• Annual maintenance plan</li><li>• Maintenance budget plan</li></ul>
To help establish a medical waste and water discharge disposal system	<ul style="list-style-type: none"><li>• Medical waste collection disposal plan</li><li>• Incinerator operation plan</li></ul>

## **(9) Approximate Project Cost for Soft-Component**

See the attached document.

## **(10) Responsibility of Zambia's Implementing Organisation**

Since the soft component will be implemented to ensure the self-reliant development of Zambia, all training should employ a method that will help promote spontaneous activities on the Zambia side wherever possible. For this reason, it is essential that the implementing organisation on the Zambia side fully understand and cooperate in the soft component.

Concretely speaking, each personnel member responsible in the Ministry of Health, provincial health office, district health office, the Matero UHC, and the Chilenje UHC will first need to understand and take care of the targets and operating procedures of the cooperation project. The most important thing is to allocate necessary personnel accordingly in order to implement the soft component, and before implementing the soft component, it will be necessary to hire facility maintenance engineers and medical equipment maintenance engineers with a certain level of technical ability. The Japan side will provide technical training and cooperation to these engineers through implementation of the soft component. In addition, from the implementation period to after completion of the soft component, each person responsible in the implementing organisations, that is, the Ministry of Health, provincial health office, district health office, the Matero UHC, and the Chilenje UHC including the superintendent, is required to continue to give training and perform management for the maintenance of the facility and medical equipment as responsible management of the Matero UHC and the Chilenje UHC.