

3-2 Rough Estimate of Project Cost

3-2-1 Rough Estimate of Project Cost

The breakdown of the respective costs to be born by the Zimbabwe side according to Table 3-1 is roughly estimated as follows:

(1) Cost to be born by Zimbabwe: Z\$ 1.60 million

- Grading work, felling, root extraction,
plumbing replacement: Z\$185,000
- Road rerouting, landscaping: Z\$1,200,000
- Other (filing charges, etc.): Z\$215,000

(2) Calculation Parameters

The project cost was calculated based on the following conditions:

- Date of calculation : September 7, 1997
- Construction period: The construction work will be completed within a fiscal year, and the detail design, construction, and equipment procurement will be carried out according to the construction schedule.
- Other: This project will be implemented under the grant aid system of the Japanese government.

3-2-2 Maintenance and Supervisory Plan

This project intends to construct a pediatric compound that will centralize and integrate five of seven existing pediatric facilities scattered in various locations. Thus, the maintenance and management costs will be estimated for those of the pediatric compound to be constructed through Japan's assistance.

Thus, we will calculate the maintenance and management costs for the Pediatric Compound to be constructed through the assistance of Japan.

The system, methods, expenses, etc. required for the maintenance of the facility after the implementation of the project are outlined below:

(1) System and method for facility maintenance and management

In the medical system of Zimbabwe, the hospital is operated under the direct control of the Ministry of Health and the equipment will be also controlled by this ministry. However, the facility of this project will be controlled directly by the Ministry of Local Government and National Housing. The facility is maintained and managed in the following manner: the Ministry of Local Government and National Housing dispatches staff directly to the hospital for periodic inspection. If necessity for repair or improvement is found, the Ministry of Local Government and National Housing reports the fact to relevant government agencies and orders repair or improvement work using its own budget. For damages caused by sudden accidents, etc. the hospital contacts the Ministry of Local Government and National Housing, which follows the procedure explained above to arrange repair work. Because of the system described above, repair cost is not included in the hospital's budget.

(2) System and method for equipment maintenance and management

Maintenance and control of equipment is also under the direct control of the Ministry of Health, which has an equipment repair shop inside the hospital premises. Equipment used in the hospital is generally maintained and controlled in the workshop.

Replacement or replenishment of obsolete equipment is done through the workshop. After examining the necessity for replacement, the Medical Equipment Maintenance Division of the Ministry of Health procures and supplies the equipment.

(3) Maintenance and Management Plan

- 1) The maintenance and management expenses for each institution after the completion of the pediatric compound are projected as follows

Table 3-2 Estimated Maintenance/Management Cost by Institution

Year	Estimated maintenance/management cost (Z\$)	Maintenance/Management Cost by Institution (Z\$)				
		Utility (Hospital)	Communication (Hospital)	Clerical (Hospital)	Facility Repair (Ministry of Local Government and National Housing)	Medical Equipment Maintenance (Health Ministry)
2000	598,729.0	369,377.0	110,052.0	46,800.0	57,500.0	15,000.0
2001	725,315.0	395,233.0	117,755.0	50,070.0	101,205.0	61,050.0
2002	725,319.0	422,899.0	125,998.0	53,581.0	108,289.0	61,323.0

Basis of Calculation

- ① Salaries and allowances will not be included in the maintenance cost as they come from the national budget for the Ministry of Health.
- ② The average inflation rate of 7% was used to calculate the annual increase of expenditure.
- ③ Utility cost consists of electric, water, medical gas, and gasoline fees.
- ④ Communication cost means telephone charges.
- ⑤ Office supply cost includes stationary and miscellaneous goods.
- ⑥ Facility repair cost includes inspection and repair of the emergency power generator and air conditioning system, replacement and inspection of lighting fixtures, and building repair (replacement of broken glass, paint work, repair and replacement of floor and roof tiles, and maintenance and repair of the lift).
- ⑦ Medical equipment maintenance cost consists of repair of medical equipment, replacement of spare parts, and supplies.
- ⑧ Exchange rate: 1 Z\$ = 10.53 yen

(4) Financial Plan

Of the maintenance and management costs of this project, labor and medical equipment costs will be borne by the Ministry of Health, and facility and general equipment costs will be borne by the Ministry of Local Government and National Housing. As for securing the labor costs, no problem is expected as the current staff will be sufficient to cover the personnel requirement of the project. Medical equipment costs will also be sufficiently covered if the annual budget increase shown in Table 3-4 is actualized as planned. The Ministry of Local Government and National Housing is also planning to increase its annual budget to cover the facility and general equipment costs of the project.

Chapter 4 Evaluation of the Project and Recommendations

4-1 Verification of Appropriateness and Benefit of the Project

4-2 Future Tasks and Recommendations

Chapter 4 Evaluation of the Project and Recommendations

4-1 Verification of Appropriateness and Benefit of the Project

One of the facility-related problems of the Zimbabwean pediatric medical sector is the insufficient accommodation capacities of hospitals compared to an extremely large number of patients. According to the Health Ministry's statistics for 1992, the national average of sickbed occupancy is 1.5 patients per bed per month. In Mpilo Hospital, the figure is 3.1 per bed per month (the average number of patients per month is 830 whereas there are only 264 beds available, which often results in early discharge of not fully recovered patients). The overcrowding of the hospital is much worse than the national average, and some pediatric patients are sent to other departments, and two or three patients are often put in one bed.

If the project is implemented and the number of beds are increased from the current 220 to 365, it will reduce congestion. Also, by providing new equipment items that are of equivalent types to those of the existing facilities exclusively for the pediatric department, the patients will be able to receive more appropriate care. In addition, the total floor area will be more than doubled to provide ample work space for doctors and other medical staff.

Furthermore, five (Medical, Surgical, Outpatient, ICU/NICU, and Administration) of the seven pediatric facilities scattered in various locations will function more efficiently if they are integrated in a centralized location beside the main pediatric building. This will enable the staff to promptly provide necessary care for the patient, which will contribute greatly to the achievement of the Health Ministry's prime goal (5-Year National Development Plan III(1996-2000)) to reduce the infant mortality rate by 50%.

As a result of improved work environment for the medical staff, they will be able to better demonstrate their skills and techniques. Improved efficiency will almost immediately reduce congestion and, in a middle to long range, prevent the outflow of doctors who seek employment opportunities abroad or in private sectors because of such harsh and unfavorable working conditions in the Zimbabwean public sector.

In view of the above considerations and analysis, the implementation of the project under Japan's grant aid system is deemed appropriate for both the subject hospital and the entire medical sector of Zimbabwe.

4-2 Future Tasks and Recommendations

In order to improve the pediatric health indexes and achieve "50% reduction of infant mortality rate," the overall operation and medical service qualities of Mpilo Central Hospital need to be improved and upgraded while reforming the entire Zimbabwean medical sector. If the improvement of the subject hospital

upgraded while reforming the entire Zimbabwean medical sector. If the improvement of the subject hospital and the entire medical sector is realized, it is possible to reverse the pediatric health indexes.

Efforts to be made by the Zimbabwean government, the Ministry of Health (controlling agency of the project), and Mpilo Central Hospital for the effective implementation of the project are stated below:

4-2-1 Future Tasks

(1) Tasks to be Undertaken by Zimbabwean Government and Ministry of Health

- ① Improve the facilities and equipment of primary and secondary medical institutions and allocate necessary personnel..
- ② Secure and equally distribute necessary facilities, equipment, and personnel to achieve equitable medical service capabilities among the six top-referral hospitals.
- ③ Solve the shortage of specialized doctors and nurses.
- ④ Improve the cost-recovery awareness at each medical institution.
- ⑤ Secure necessary budget for achieving the above tasks.
- ⑥ Secure and, at the same time, reduce the labor cost, which takes up more than 42% of the annual budget of the Health Ministry.
- ⑦ Secure specialized doctors for each medical field by providing better employment terms and prevent the outflow of doctors to foreign countries or private sectors.

(2) Tasks to be Undertaken by Mpilo Hospital

- ① Increase the salaries of the medical staff.
- ② Improve and upgrade the harsh and poor work environment.
- ③ Establish itself as a top-referral hospital and upgrade and strengthen its operations accordingly.
- ④ Secure pediatricians and nurses (secure personnel for the effective implementation of the project).
- ⑤ Re-educate the entire staff to deepen their cost-recovery awareness to achieve the hospital's financial self-sufficiency.

4-2-2 Recommendations

(1) Tasks to be Undertaken by Zimbabwean Government and Ministry of Health

① Upgrading facilities and equipment for primary and secondary medical institutions

Draft a national medical institution survey plan to conduct a nationwide survey on the status of the facilities, equipment, and personnel allocation each medical institution. Based on accurate information, make necessary improvement to enable each institution to provide the kind of medical services as it is originally designed for.

② Expanding facilities and upgrading equipment to ease the overcrowding at top-referral hospitals

There are six top-referral hospitals in Zimbabwe, including Mpilo Central Hospital. However, specialized doctors and medical equipment are not equally distributed among them. We would recommend that the facility and equipment levels of the six top-referral hospitals should be equalized as soon as possible.

(2) Recommendations for Middle-Term Tasks

① Reducing labor cost that takes up more the 41% of Health Ministry's budget

According to the Health Ministry's 1997 statistics, a total of 23,015 people are employed by Zimbabwean medical institutions as of August 1997, of which nurses (9,774) account for 42.5%. If nurses and other staff are combined, they account for 95% of the total, indicating an overwhelming shortage of doctors.

We recommend that, in order to reduce the labor costs, an overall assessment and evaluation of personnel operation be conducted at each institution to identify and reduce excessive staff allocation.

② Securing specialized doctors and preventing an outflow of doctors and medical students

A shortage of doctors is caused mostly by: a) insufficient facilities and equipment for training doctors, b) harsh working conditions for doctors, c) educational hospital's inability to provide sufficient education due to the chronic need for handling a crowd of patients, and d) medical students dependency on foreign institutions.

To solve these problems, we recommend that a special working group should be initiated and periodic surveys should be conducted to assess and understand the actual situations so that accurate explanations can be made to the government and Health Ministry officials when trying to secure required budget.

③ Improving the patient referral system

This would be achieved naturally in the course of solving the above short-term and middle-term problems.

④ **Reducing the burden on National Treasury by shifting to self-supporting accounting system**

This is an extremely difficult task, and even advanced countries are struggling to achieve the goal. Financial self-sufficiency of each hospital would be difficult to attain unless the current national subsidy continues and the cost-recovery efforts by each medical institution fully take effects.

(3) Recommendations for Mpilo Central Hospital

① **Improve and Upgrade harsh and inadequate Work Environment**

Improve and upgrade facilities the equipment to reduce the risk of nosocomial infection. It is also important to offer various incentives by showing the hospital's commitment to securing enough budget and creating better work environment for bringing back native doctors from foreign countries.

② **Establish itself as Top-Referral Hospital**

By reducing the number of outpatients and inpatients, Mpilo Hospital will be able to function as a top-referral hospital and offer more advanced medical services. To support this, its subordinate institutions such as Provincial hospitals, county hospitals, and rural health centers, need to function fully. Thus, we recommend that these lower-level institutions be reformed and upgraded and provided with proper facilities, equipment, and personnel.

APPENDICES

- 1. Survey Team Member List (name & organizations)**
- 2. Survey Schedule**
- 3. List of Concerned Parties of Zimbabwe**
- 4. Minutes of Discussion**
- 5. Cost Estimation borne by the Recipient Country**

1. Survey Team Member List (names & organizations)

Basic Design Study

	Name	Titles	Organizations	Dispatch period
1	Toshiyasu SHIMIZU	Leader	International Medical Center of Japan	Aug. 11, 1997 - Aug. 26, 1997
2	Yoshitaka TUJI	Technical Adviser	National Institute of Health Services Management	
3	Yodo KAKUZEN	Coordinator	First Project Study Division, Grant Aid Project Study Department, JICA	
4	Eiji KAKIZAWA	Project Manager / planning of operation and management	SOZOSHA Co., LTD.	Aug. 11, 1997 - Sept. 9, 1997
5	Motonobu MIYAZAKI	Assistant Project Manager	(SOZOSHA Co., LTD.)	Aug. 11, 1997 - Aug. 25, 1997
6	Yasuo HORIGOME	Architectural Planner	SOZOSHA Co., LTD.	Aug. 23, 1997 - Sept. 9, 1997
7	Nobutaka TAKADA	Facility Planner	SOZOSHA Co., LTD.	
8	Koichi MURAO	Equipment Planner	SOZOSHA Co., LTD.	Aug. 11, 1997 - Aug. 31, 1997
9	Isao KANEKO	Cost and Procurement Planner	SOZOSHA Co., LTD.	Aug. 12, 1997 - Sept. 4, 1997

Consultation on Draft Report

	Name	Titles	Organizations	Organizations
1	Toshiyasu SHIMIZU	Leader	International Medical Center of Japan	International Medical Center of Japan
2	Yodo KAKUZEN	Coordinator	First Project Study Division, Grant Aid Project Study Department, JICA	First Project Study Division, Grant Aid Project Study Department, JICA
3	Eiji KAKIZAWA	Project Manager / planning of operation and management	SOZOSHA Co., LTD.	SOZOSHA CO., LTD.
4	Yasuo HORIGOME	Architectural Planner	SOZOSHA Co., LTD.	SOZOSHA CO., LTD.
5	Koichi MURAO	Equipment Planner	SOZOSHA Co., LTD.	SOZOSHA CO., LTD.

2. Survey Schedule

Basic Design Study

(1/2)

No.	Date		Schedule	Lodging
1	Aug. 11	Mon.	18:15 Depart from Tokyo (JL735) (government officials + consultants: Kakizawa, Miyazaki, Murao) 21:45 Arrive at Hong Kong 23:00 Depart from Hong Kong (SA299)	In the air-plane
2	12	Tue.	05:45 Arrive at Johannesburg 09:00 Depart from Johannesburg (SA032) 10:30 Arrive at Harare	Harare
3	13	Wed.	Courtesy visit to Japanese Embassy Courtesy visit to JICA office Visit to WHO office (for hearing local medical/health situations) Courtesy visit of Health Ministry and discussion Courtesy visit to Construction and Finance Ministries	Harare
4	14	Thu.	Visit UNICEF office (for hearing local medical/health situations) Joint discussion (all day) at Health Ministry (with the presence of concerned officials of the ministry)	Harare
5	15	Fri.	A.M. Inspect Harare Central Hospital P.M. Inspect Paleniyatowa Hospital	Harare
6	16	Sat.	08:00 Depart from Harare (UM329) 08:50 Arrive at Bulawayo Inspect Bulawayo City and Prefectural hospitals and rural centers in neighboring areas	Bulawayo
7	17	Sun.	Organize information and documents	Bulawayo
8	18	Mon.	Inspect Mpilo Central Hospital	Bulawayo
9	19	Tue.	Inspect Mpilo and United Bulawayo Central Hospital 18:00 Depart from Bulawayo (UM148) 19:00 Arrive at Harare	Harare
10	20	Wed.	Discussion at Ministry of Health	Harare
11	21	Thu.	Discussion of minutes at Ministry of Health	Harare
12	22	Fri.	Discussion and execution of minutes at Ministry of Health Report to Embassy Report to JICA office	Harare
13	23	Sat.	(Government officials) 21:15 Depart from Harare (BA2052) (sleep in the plane)	(Consultants: Horibe, Takada, Kaneko) 18:15 Depart from Tokyo (JL735) 21:45 Arrive at Hong Kong 23:00 Depart from Hong Kong (SA299)

No.	Date		Schedule			Lodging
14	24	Sun.	06:15 London (spend night in London)	(Consultant Miyazaki) 10:30 Depart from Harare (UM771) 12:05 Arrive at Johan- nesburg 14:35 Depart from Johannesburg (SA298)	05:45 Arrive at Johan- nesburg 11:30 Depart from Johannesburg (SA038) 13:00 Arrive at Harare (Continue survey until September 7)	
15	25	Mon.	13:25 Depart from London (BA005) (sleep in the plane)	09:25 Arrive at Hong Kong 11:00 Depart from Hong Kong (JL730) 16:00 Arrive at Tokyo		
16	26	Tue.	09:10 Arrive at Tokyo			
<p>Continued survey by consultants Murao will survey until August 27, depart on the same day from Harare (UM148), survey third-country sources in South Africa until August 30, and depart on the same day from Johannesburg. Kakizawa, Horibe, Takada, and Kaneko will survey until September 7, depart on the same day from Harare (SA039), and arrive at Tokyo on September 9.</p>						

Consultation on Draft Report

No.	Date		Schedule	Lodging
1	Nov. 2	Sun.	16:55 Depart from Tokyo (JL735) 20:55 Arrive at Hong Kong 23:00 Depart from Hong Kong (SA299)	In the air- plane
2	3	Mon.	05:45 Arrive at Johannesburg 09:30 Depart from Johannesburg (SA032) 11:00 Arrive at Harare	Harare
3	4	Tue.	10:30 Courtesy visit to Ministry of Health, Japanese Embassy, JICA office 17:00 Depart from Harare (UM341) 17:50 Arrive at Bulawayo	Harare
4	5	Wed.	PCM workshop at Mpilo Central Hospital	Harare
5	6	Thu.	Explanation and discussion of report	Bulawayo
6	7	Fri.	Explanation and discussion of report	Bulawayo
7	8	Sat.	Organize information and documents	Bulawayo
8	9	Sun.	19:20 Depart from Bulawayo (UM340) 20:10 Arrive at Harare	Harare
9	10	Mon.	Discussion at Ministry of Health (minutes)	Harare
10	11	Tue.	Discussion at Ministry of Health	Harare
11	12	Wed.	Report to Embassy and JICA office	Harare
12	13	Thu.	09:45 Depart from Harare (UM361) 11:30 Arrive at Johannesburg 13:45 Depart from Johannesburg (CX748)	In the air- plane
13	14	Fri.	08:40 Arrive at Hong Kong 10:25 Depart from Hong Kong (JL736) 15:05 Arrive at Tokyo	

3. List of Party Concerned in the Republic of Zimbabwe

Organizations	Names	Titles
Zimbabwe		
Ministry of Health and Welfare	Dr. Paulinus L.N. Sikosana Mr. Osten Rutsuete Ms. E. Sibanda Ms. E. kunoishoya Mr. T. Zinyemba Ms. K. Moyo	Secretary for Health and Welfare Family Health Project Coordinator Senior Administrative Officer Senior Administrative Officer Administrative Officer Hospital Equipment Service
Ministry of Local Government and National Housing	Mr. Tnom Gatsi Msusa Ms. F. Teckie Mr. Demulder. K Mr. Nyadome. R	Deputy Director Arch, Service Chief Architect Principal Architect Principal Architect Bulawayo Office
Ministry of Finance	Mr. L. Matsvayi	Deputy Director
Harare Central Hospital	Dr. M. Y. Ali	Superintendent
Parienyatwa Central Hospital	Dr. C.P. Madzuwa Mrs. Rudo Charily	Superintendent Personnel Staffing
Mpilo Central Hospital	Dr. N.T. Chaibva Mr. G. Nyoni Dr. M.N. Nyathi Ms. Michael Ikeogu Dr. Z. Sibanda Mrs. N. Khosa Mr. Z. Moyo	Medical Superintendent Health Services Administrator Consultant Pediatrician Consultant Pediatrician Senior Registrar Pediatric Department Health Service Administrator Equipment Maintenance
United Bulawayo Hospital	Dr. Gorder Gwisai Miss. Mudjara Jame Dr. Zed Sibamba	Medical Superintendent Health Services Administrative Pediatrician
International Organization		
WHO	Dr. Leron Areshatlan Dr. Elizabeth Mason Mrs. Joyce C. Kadandara	Representative for Zimbabwe Medical Officer - Southern Africa Programme Coordinator
UNICEF	Mr. Boniface Manyame Ms. Flavia M.N. Rukandema Ms. Felicify Hatendi	Health Project Officer Administrative / Finance Officer Project Officer - AIDS
Japan		
Embassy of Japan	Asao TSUKAHARA Hiroaki YASUMURA Syuji SENDA	Minister Councilor Second Secretary
Zimbabwe Office JICA	Mitsuo NAKAMURA Tomohiro SEKI	Resident Representative Assistant Resident Representative

4. Minutes of Discussion

**MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY
ON
THE PROJECT FOR IMPROVEMENT OF MPIOLO CENTRAL
HOSPITAL PAEDIATRIC UNIT
IN
ZIMBABWE**

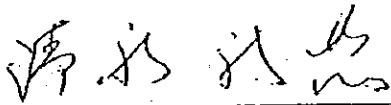
In response to the request from the Government of Zimbabwe, the Government of Japan decided to conduct a Basic Design Study on the Project for Improvement of Mpilo Central Hospital Paediatric Unit (hereinafter referred to as "the Project"), and entrusted the study to the Japan International Cooperation Agency(JICA).

JICA sent to Zimbabwe a study team (hereinafter referred to as "the Team"), which is headed by Dr.Toshiyasu SHIMIZU, International Medical Center of Japan, and is scheduled to stay in the country from August 12 to September 8, 1997.

The Team held discussions with officials concerned of the Government of Zimbabwe and conducted field surveys of the hospitals concerned.

In the course of the discussions and field surveys, both parties have confirmed the main items described on the attached sheets. The Team will proceed to further work and prepare the Basic Design Study Report.

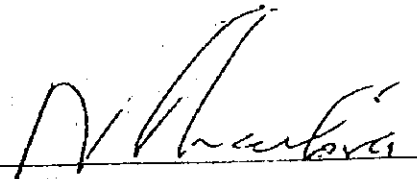
Harare, August 22, 1997



Dr.Toshiyasu SHIMIZU
Leader,
Basic Design Study Team, JICA



Dr.Paulinus L.N.Sikosana
Secretary for Health and Child Welfare
Ministry of Health and Child Welfare
Government of ZIMBABWE



Dr.N.T.Chaibva
Medical Superintendent
Mpilo Central Hospital

ATTACHMENT

1. Objective

The objective of the Project is the improvement of paediatric service in the Mpilo Central Hospital through procurement of medical equipment, construction of its physical facilities .

2. Project Site

Mpilo Central Hospital in Bulawayo city (See Annex 1)

3. Responsible and Executing Organization.

(1) Responsible Agency :The Ministry of Health and Child Welfare

(2) Executing Agency :The Ministry of Health and Child Welfare

(The Ministry of Local Government and National Housing is involved for the facilities portion.)

4. Items requested by the Government of Zimbabwe.

(1) After discussions with the Team, the following items were finally requested by the Government of Zimbabwe .

1) Procurement of Medical Equipment:

Details of items are listed in Annex 2

2) Construction of the Buildings and Facilities:

Details of items are listed in Annex 3

However, the final items of the Project will be decided after further studies.

(2) Both parties have agreed upon the basic criteria for selection of equipment which is attached to Annex 4.

5. Japan's Grant Aid System

1) The Government of Zimbabwe has understood the system of Japan's Grant Aid System as described in Annex 5.

2) The Government of Zimbabwe will take necessary measures, as described in Annex 6 for smooth implementation of the Project, on condition that the Grant Aid by the Government of Japan is extended to the Project.

6. Schedule of the Study

1) The consultants will proceed to further studies in Zimbabwe until September 8, 1997.

2) JICA will prepare a draft basic design report in English and dispatch a mission in order to explain its contents around November, 1997.

3) In case the contents of the draft report is accepted in principle by the Government of Zimbabwe, JICA will complete the final report and send it to the Government of Zimbabwe around February, 1998.

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7. Reply to the questionnaire

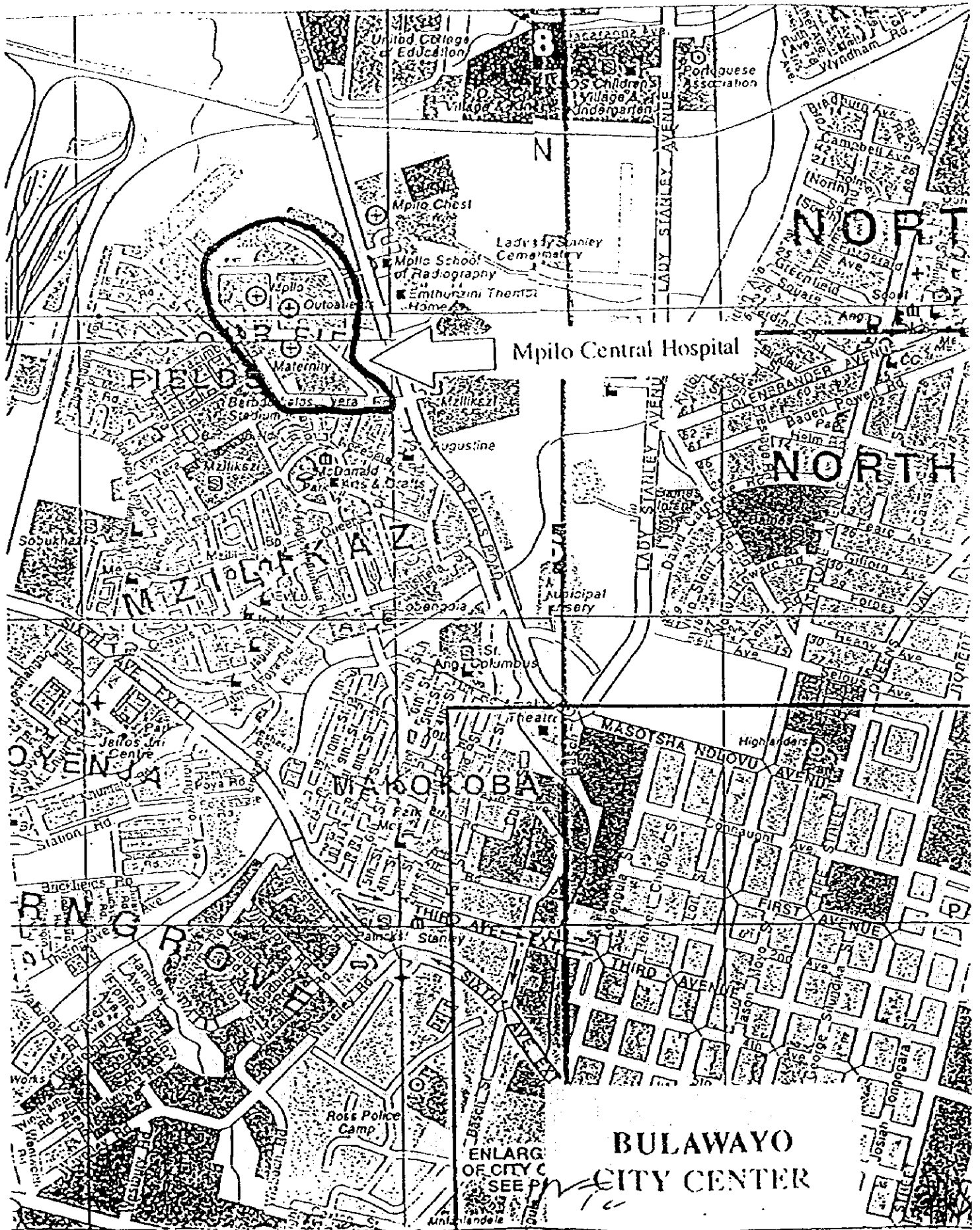
Zimbabwean side will submit the reply to the questionnaire by 1st September 1997 to the Team.

8. Other Relevant Issues

- (1) The Japanese side proposed the total number of 140 beds in the wards.
- (2) The Zimbabwean side strongly requested the total number of 220 beds in the wards.
- (3) The Zimbabwean side sends the leader of the Team the proposal letter which will be conveyed to the Japanese authority.

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PROCUREMENT OF MEDICAL EQUIPMENT

NO	EQUIPMENT	Q'TY	PRIORITY
1	PEDIATRIC WARDS		
1-1	COT WITH LET DOWN SIDE RAILING	60	B
1-2	PATIENT BED	60	B
1-3	LOCKERS	1	C
1-4	INCUBATOR	10	A
1-5	ICU BED FOR BABY	10	A
2	RESUSCITATION EQUIPMENT FOR EACH WARD		
2-1	RESUSCITATOR (INFANT)	2	A
2-2	OVERHEAD RADIANT HEATER	2	A
2-3	CARDIAC MONITOR	2	B
2-4	LARYNGOSCOPE	1	A
2-5	AMBUBAG 3 TYPE	6	A
2-6	OXYGEN MONITOR	3	A
2-7	INFUSION PUMP	10	A
2-8	SYRINGE INFUSION PUMP	10	B
2-9	SUCTION MACHINE	2	A
3	MONITORING EQUIPMENT		
3-1	DINAMAP(PATIENT MONITOR)	4	B
3-2	PULSE OXIMETER	4	A
3-3	CARDIAC AND RESPIRATOR MONITOR	4	B
4	BACK UP SERVICE		
4-1	BLOOD PRESSURE MACHINE (FIXED)	2	C
4-2	BLOOD PRESSURE MACHINE (MOBILE)	2	C
4-3	ECG MACHINE	2	A
4-4	PERSPEX HEAD BOX	4	B
5	WEIGHING MACHINE		
5-1	STANDING SCALE	1	C
5-2	WEIGHING MACHINE (ELECTRIC)	1	A
5-3	BABY SCALE	2	C
6	THERMOMETER		
6-1	THERMOMETER	1	C
7	HUMIDIFIER		
7-1	NEBULIZER	10	B
7-2	PHOTOTHERAPY UNIT	4	A
7-3	WHEELCHAIR	4	A
7-4	STRETCHER BED	4	A
7-5	X-RAY VIEWING BOX	2	A
7-6	BEDSIDE COMMODE	4	C
7-7	OTOSCOPE	4	C
7-8	PEAK FLOW METER	6	B
8	BREAST PUMP		
8-1	BREAST PUMP (ELECTRIC)	4	B
8-2	BREAST PUMP (MANUAL)	8	A
9	RESUSCITATION EQUIPMENT		
9-1	CARDIAC MONITOR	1	B
9-2	RESPIRATORY MONITOR	1	B
9-3	BLOOD PRESSURE MONITOR	1	B
9-4	OVERHEAD RADIANT HEATER	6	A
9-5	AMBUBAG	6	A
9-6	LARYNGOSCOPE	6	A
9-7	BLOOD PRESSURE MACHINE	4	A
9-8	OTOSCOPE	4	C
9-9	TORCH	4	C
9-10	NEBULIZER	6	A
9-11	PEAK FLOW METER	20	B
9-12	GLUCOMETER	2	B
9-13	WEIGHING MACHINE (ELECTRIC)	2	A
9-14	WHEELCHAIR	10	A

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9-15	STRETCHER	10	A
9-16	TRANSPORT INCUBATOR	2	A
10	IN ADDITION FOR DIARRHOEAL WARD		
10-1	WEIGHING MACHINE (FOR BED)	1	B
10-2	TABLE AND CHAIR FOR DEHYDRATION THERAPY	10	C
10-3	WEIGHING MACHINE (ELECTRIC)	1	A
10-4	WEIGHING MACHINE	2	A
11	FOR ICU		
11-1	ECG (PORTABLE)	1	A
11-2	INTRACRANIAL PRESSURE MONITOR	1	C
11-3	WEIGHING MACHINE (ELECTRIC)	1	A
12	VENTILATOR		
12-1	VENTILATOR FOR NEONATAL	1	A
12-2	VENTILATOR FOR BOTH	1	B
13	RESPIRATORY LABORATORY		
13-1	TREADMILL ERGOMETER	1	B
13-2	PULSE OXIMETER	1	A
13-3	CARDIAC MONITOR	2	B
13-4	VITELLOGRAPHS	3	B
14	OUTPATIENT		
14-1	OTOSCOPE	6	C
14-2	BLOOD PRESSURE MACHINE	6	C
14-3	PEAK FLOW METER	1	A
14-4	GLUCOMETER	5	B
14-5	TORCH	6	C
14-6	WHEELCHAIR	6	A
14-7	STRETCHER	6	A
15	NUTRITION WARD		
15-1	HARPENDEN SKIN THICKNESS CALLIFER	1	B
16	SEMINAR ROOM		
16-1	VIDEO, COLOR TV AND CAMERA EQUIPMENT	1	B
16-2	SLIDE PROJECTOR	2	B
16-3	OVERHEAD PROJECTOR	2	B
16-4	COMPUTER FOR RECORDS	1	B
16-5	ELECTRIC TYPEWRITER	2	B
16-6	PHOTOCOPYING MACHINE	1	B
16-7	DUPLICATING MACHINE	1	B
17	PERM NURSERY		
17-1	RESUSCITATOR (INFANT)	20	B
17-2	SUCTION MACHINE	10	B
17-3	LARYNGOSCOPE, WALL MOUNTED	14	B
17-4	LARYNGOSCOPE, PORTABLE	1	A
17-5	OXYGEN MONITOR	4	A
17-6	APNEA MONITOR (CARDIOSCOPE)	40	B
17-7	INFUSION PUMP+SYRINGE PUMP	6	B
17-8	BLOOD PRESSURE MONITOR	1	A
17-9	PULSE OXIMETER	15	A
17-10	WEIGHING MACHINE	6	B
17-11	THERMOMETER	1	C
17-12	SERVED TEMPERATURE PROBE SET	20	B
17-13	INCUBATOR (INFANT)	60	C
17-14	PHOTOTHERAPY UNIT	12	B
17-15	OVERHEAD RADIANT HEATER	4	A
	NEONATAL OPERATING TABLE		
17-16	X-RAY VIEWING BOX	3	A
17-17	X-RAY MACHINE (PORTABLE)	1	B
17-18	HEAT SHIELDS	100	B
17-19	BLOOD GAS MONITOR (O2 AND CO2)	1	C
17-20	HEAD BOX	100	B
17-21	BILIRUBINOMETER	1	A
17-22	CAPILLARY TUBE SET	1	C
17-23	CRIBS	60	C

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CONSTRUCTION OF THE BUILDINGS AND FACILITIES

Priority A:

Medical Care Unit
Surgical Care Unit
Special Baby Care Unit
Intensive Care Unit
Theatre(1)
Administrative Office with conference facilities
Outpatient Department
Emergency Department
Electric Power
LP Gas
Medical Gas

Priority B:

Laboratory Unit
X-Ray Unit

Priority C:

CSSD
CRU/Physiotherapy
Pharmacy
Kitchen
Mortuary
School

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Basic Criteria for Selection of Equipment

- 1) Equipment which will be included in the Project
 - (a) Equipment which is effectively applied to many patients
 - (b) Equipment which is utilized for basic medical care
 - (c) Equipment which is utilized with ordinary and already established technique
 - (d) Equipment whose operation and maintenance cost is affordable by the Zimbabwean side
 - (e) Existing equipment which is outdated
 - (f) Equipment which is required to maintain and improve the medical services of the hospital
 - (g) Equipment which is utilized within the present manpower resources

- 2) Equipment which will be excluded from the Project
 - (a) Equipment whose operation requires materials such as freon gas and causes environmental problems accordingly
 - (b) Equipment which may be contradictory to the Zimbabwean and Japanese regulations on the waste water/medical wastes treatment and radiation
 - (c) Equipment which is applied to limited patients
 - (d) Equipment whose object is for advanced research activities
 - (e) Equipment whose maintenance is troublesome technically and financially
 - (f) Equipment without local agent which causes difficulties on its operation and maintenance
 - (g) Equipment which is possible to purchase locally by the hospital budget
 - (h) Equipment already acquired or to be procured through the hospital budget after the request
 - (i) Equipment also requested in duplicate to other external assistance agencies
 - (j) Consumable and reagents

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JAPAN'S GRANT AID PROGRAM

1. Japan's Grant Aid Procedures

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

Application (Request made by a recipient country)

Study (Preliminary Study / Basic Design Study conducted by JICA)

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

Determination of Implementation (Exchange of Notes between the both Governments)

Implementation (Implementation of the Project)

(2) Firstly, an application or a request for a project made by the recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to see whether or not it is suitable for Japan's Grant Aid. If the request is deemed suitable, the Government of Japan entrusts a study on the request to JICA (Japan International Cooperation Agency).

Secondly, JICA conducts the Study (Basic Design Study), using a Japanese consulting firm. If the background and objective of the requested project are not clear, a Preliminary Study is conducted prior to a Basic Design Study.

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

Fourthly, the Project approved by the Cabinet becomes official when pledged by the Exchange of Notes signed by the both Governments.

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

2. Contents of the Study

(1) Contents of the Study

The purpose of the Study (Preliminary Study/Basic Design Study) conducted on a project requested by JICA is to provide a basic document necessary for appraisal of the project by the Japanese Government. The

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contents of the Study are as follows:

- a) to confirm background, objectives, benefits of the project and also institutional capacity of agencies concerned of the recipient country necessary for project implementation,
- b) to evaluate appropriateness of the Project for the Grant Aid Scheme from a technical, social and economical point of view,
- c) to confirm items agreed on by the both parties concerning a basic concept of the project,
- d) to prepare a basic design of the project,
- e) to estimate cost involved in the project.

Final project components are subject to approval by the Government of Japan and therefore may differ from an original request.

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

(2) Selecting (a) Consulting Firm(s)

For smooth implementation of the study, JICA uses (a) consulting firm(s) registered. JICA selects (a) firm(s) through proposals submitted by firms which are interested. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference made by JICA. The consulting firm(s) used for the study is (are) recommended by JICA to a recipient country after Exchange of Notes, in order to maintain technical consistency and also to avoid possible undue delay in implementation caused if a new selection process is repeated.

(3) Status of a Preliminary Study in the Grant Aid Program

A Preliminary Study is conducted during the second step of a project formulation & preparation as mentioned above.

A result of the study will be utilized in Japan to decide if the Project is to be suitable for a Basic Design Study

Based on the result of the Basic Design Study, the Government would proceed to the stage of decision making process (appraisal and approval).

It is important to notice that at the stage of Preliminary Study, no commitment is made by the Japanese side concerning the realization of the Project in the scheme of Grant Aid Program.

3. Japan's Grant Aid Scheme

(1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non reimbursable funds needed to procure facilities, equipment and services for

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economic and social development of the country under the following principles in accordance with relevant laws and regulations of Japan. The Grant Aid is not in a form of donation or such.

(2) Exchange of Notes (E/N)

The Japan's Grant Aid is extended in accordance with the Exchange of Notes by both Governments, in which the objectives of the Project, period of execution, conditions and amount of the Grant etc. are confirmed.

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

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

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

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

(5) Necessity of the "Verification"

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

(6) Undertakings required to the Government of the recipient country

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

- a) to secure land necessary for the sites of the project and to clear and level the land prior to commencement of the construction work,
- b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,
- c) to secure buildings prior to the installation work in case the Project is providing equipment.

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- d) to ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid,
- e) to exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts,
- f) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(7) Proper Use

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

(8) Re-export

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

(9) Banking Arrangement (B/A)

- a) The Government of the recipient country or its designated authority shall open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by Government of the recipient country or its designated authority under the contracts verified.
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay issued by the Government of the recipient country or its designated authority.



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ANNEX - 6

Classification of the necessary measures to be taken

by

Republic of Zimbabwe and Japan

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No	Item	Japan	Zimbabwe
1	<p><u>General Matters:</u></p> <p>a. To exempt taxes and to take necessary measures for clearance of the materials and equipment brought for the project at port of disembarkation.</p> <p>b. To accord Japanese nationals, whose services may be required in connection with the supply of the products and services under the verified contract, such facilities as may be necessary for their entry in Zimbabwe and stay therein for the performance of their work.</p> <p>c. To maintain and use properly and effectively those facilities constructed and equipment purchased under the Grant Aid.</p> <p>d. To bear all the expenses other than those to be borne by the Grant Aid.</p> <p>e. To bear commissions of the Japanese foreign exchange bank for the banking services based on banking arrangement.</p>		<p>O</p> <p>O</p> <p>O</p> <p>O</p> <p>O</p>
2	<p><u>Assurance of land:</u></p> <p>a. Purchase and offer of land.</p> <p>b. Lifting of restrictions (if any) on the land and taking of proceeding in order not to interfere with the construction of the facilities under Grant Aid Programme.</p> <p>c. Necessary surveys (including plan survey, grade survey, and measurement of existing facilities and vegetation) on the offered land, and necessary tests (including boring test, analysis of well water, etc).</p> <p>d. Investigation into the offered land, excluding that on items b. and c. above.</p>	<p></p> <p></p> <p>O</p> <p>O</p>	<p>O</p> <p>O</p> <p></p> <p></p>
3	<p><u>Site Preparation:</u></p> <p>a. First-step preparation of the site, if having any undulations, in accordance with the design of the facilities.</p> <p>b. Construction of sheeting and retaining walls if required.</p> <p>c. Scalping of top soil if the site has no undulations.</p>		<p>O</p> <p>O</p> <p>O</p>

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No	Item	Japan	Zimbabwe
11	<p><u>Bearing of necessary expenses other than those which are involved under Grant Aid Programme:</u></p> <p>a. Cost for a first stone ceremony, if carried out.</p> <p>b. Expenses for an inauguration ceremony if carried out.</p> <p>c. Cost for any other ceremonies that Zimbabwean side may perform.</p> <p>d. Those which are denoted as "By Others" on the design drawings.</p> <p>e. Extra work to be carried out in compliance with the request of Zimbabwean side during construction period.</p>		<p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p>



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Handwritten signature or initials.

No	Item	Japan	Zimbabwe
	d. Removal of existing trees, if they are considered as obstacle to the construction of the facilities.		O
	e. Removal of existing underground services and structures if they are considered as obstacles to the construction of the facilities.		O
	f. Removal of existing obstacles (such as shed, work shop, pond and other facilities), if they are considered as interfering with the construction of the facilities.		O
	g. Disposal of other things, if they are considered as interfering with the construction of the facilities.		O
	h. Provide the land for temporary site office and warehouse.		O
4	<u>Gates and Fencing:</u>		
	a. Gates and fencing which must be provided within and at the perimeter of the site.		O
	b. Fencing which must be provided around the facilities such as the areas where cubicles, gas bottles and special gases are stored which will entail direct danger.	O	
	c. Repair and painting of existing gates and fencing.		O
5	<u>Construction of Parking Area:</u>		
	a. Uncovered parking area to be provided within the site.	O	
	b. A shed of covered parking area to be provided off the site.		O
	c. Any parking area to be provided off the site.		O
	d. Installation of water supply and drainage services where required.	O	
6	<u>Installation of Road:</u>		
	A. On-site roads:		
	a. Construction of main road.	O	
	b. On-site roundabout ways other than the main roads.		O
	B. Off-site roads:		
	a. Construction of access roads from nearby existing roads to the site.		O
	b. Repair of the access roads whenever damaged during construction.	O	

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No	Item	Japan	Zimbabwe
	c. Installation of power supply, water supply, drainage and telephone services other than item b. above.		O
7	<p><u>Construction of Buildings:</u></p> <p>a. Construction of the facilities under the Grant Aid Programme.</p> <p>b. Construction of the facilities with the following uses will not be covered by the Grant Aid Programme.</p> <p>Example:</p> <p>* Guardhouse, *Religious facilities for staff, * Personal house, * Amusement facilities such as swimming pool, tennis court, volleyball court, etc, * Landscaping, * Planting, * Any other facilities denoted as "By Others" on the design drawings.</p> <p>c. Proceeding and cost involved in application.</p> <p>* Application for confirmation. * Various applications for change in design taking place during construction period.</p> <p>* Application for request for completion inspection.</p> <p>* Various applications for exemption of taxes for materials and equipment to be brought into Zimbabwe from Japan and other countries.</p> <p>d. Maintenance of the facilities constructed under Grant Aid Programme.</p> <p>e. Spare for the building materials (as specified on the practical design drawing).</p> <p><u>Equipment:</u></p> <p>a. Provision and installation of the equipment covered by the Grant Aid Programme.</p> <p>b. Equipment other than the equipment in item a. above.</p> <p>c. Spare parts (as specified on the design drawings) for the equipment in item a. above.</p> <p>d. Maintenance of the equipment in item a. above.</p> <p>e. Instruction manuals, catalogues, and test run of the equipment in item a. above.</p>	O	O

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No	Item	Japan	Zimbabwe
8	<u>Installation of power supply, water supply and sewerage disposal services and facilities:</u>		
	A. <u>Power Supply:</u>		
	a. Installation of power supply service lines from the nearby trunk line to an on-site substation.		○
	b. Transformers and main circuit breakers.	○	
	c. Installation of on-site wiring beyond the transformer.	○	
	d. Burden for service line and application for leading-in.		○
	e. Basic charge (the charge for the contract demand) for electricity.		○
	f. Temporary power supply for construction use.		○
	B. <u>Water Supply:</u>		
	a. Installation of water supply line from the nearby city water main into the site.		○
	b. Installation of water supply lines from the site boundary to the facilities.	○	
	c. Installation of a water receiving tank and water supply lines to the facilities	○	
	d. Burden and application for leading-in of water supply.		○
	e. Basic charge (the charge for leading-in pipes size) and water charge.		○
	f. Temporary water supply line (to be branched off from the main) for construction use.	○	
	g. In case of extension work, temporary water supply line for construction use if any existing facility is provided with water supply line.		○
	C. <u>Drainage:</u>		
	a. Installation of on-site drainage facility including drainage pipes and ditches.	○	
	b. Off-site drainage facility, and burden.		○

No	Item	Japan	Zimbabwe
	D. Gas Supply:		
	a. Installation of gas supply line from the nearby gas main to the site.		○
	b. Installation of on-site gas pipes.	○	
	c. A complete set of installation work in case of propane gas.	○	
	d. Installation of special gas supply for use by experiment, research, etc.	○	
	E. Telephone System:		
	a. Installation of wiring from the nearby main to the site.		○
	b. Installation of on-site wiring, telephone switchboard and telephone sets.	○	
	c. Application for installation, and installation charges.		○
	d. Proceedings for applications and application fees required		○
	F. Furniture, Fixtures and Furnishings:		
	a. Ordinary furniture (curtains, blinds, office furniture).		○
	b. Fixtures and furnishings (office supplies and equipment).		○
	c. Those which are denoted on the design drawings as "Permanent work".	○	
	d. Movable furniture.		○
9	<u>Proceedings and Bank Commissions required in connection with Japanese Foreign Exchange Bank:</u>		
	a. Proceedings for a B/A after signing of an E/N.		○
	b. Proceedings for issue of an A/P.		○
	c. Commissions payable in connection with items a. and b. above.		○
10	<u>Unloading, Customs clearance and inland transportation of materials and equipment:</u>		
	a. Transportation from Japan to Zimbabwe.	○	
	b. Actions for customs clearance and tax exemption at an unloading port in Zimbabwe.		○
	c. Transportation from an unloading port to site.	○	

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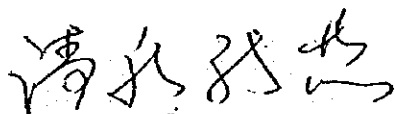
**MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY
ON
THE PROJECT FOR IMPROVEMENT OF MPILO CENTRAL
HOSPITAL PAEDIATRIC UNIT
IN
ZIMBABWE
(CONSULTATION ON DRAFT REPORT)**

In August 1997, the Japan International Cooperation Agency (JICA) dispatched a Basic Design Study team on the Project for Improvement of Mpilo Central Hospital Paediatric Unit in Zimbabwe (hereinafter referred to as "the Project"), and through discussions, field survey, and technical examination of the results in Japan, has prepared the draft report of the study.

In order to explain and to consult the Zimbabwean side on the components of the draft report, JICA sent to Zimbabwe a study team, which is headed by Dr. Toshiyasu SHIMIZU, International Medical Center of Japan and is scheduled to stay in the country from November 3 to November 13, 1997.

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

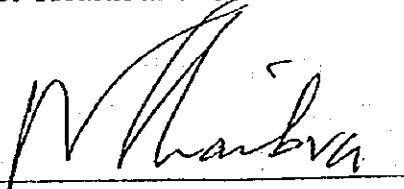
Harare, November 10, 1997



Dr. Toshiyasu SHIMIZU
Leader,
Draft Report Explanation Team, JICA



Dr. Paulinus L.N. Sikosana
Secretary for Health and Child Welfare
Ministry of Health and Child Welfare



Dr. N.T. Chaibva
Medical Superintendent
Mpilo Central Hospital

ATTACHMENT

1. Components of the draft report

The Government of Zimbabwe has in principal agreed and accepted the components of the draft report proposed by the Team.

2. Items requested by the Government of Zimbabwe.

After discussions with the Team, the following items were finally requested by the Government of Zimbabwe .

1) Procurement of Medical Equipment:

Equipment list is in Annex 1

2) Construction of the Building:

Components of items are listed in Annex 2

However, the final items of the Project will be decided after further studies.

3. Items procured by the Government of Zimbabwe

For the adequate operation of the Paediatric Unit, the Government of Zimbabwe will procure the medical equipment which is listed in Annex 3 with its own budget other than the equipment procured under Japanese Grant Aid.

4. Japan's Grant Aid System

1) The Government of Zimbabwe has understood the system of Japan's Grant Aid System as described in Annex 4.

2) The Government of Zimbabwe will take necessary measures, as described in Annex 5 for smooth implementation of the Project, on condition that the Grant Aid by the Government of Japan is extended to the Project.

5. Presentation of the final report

JICA will make the final report in accordance with the confirmed items and send it to the Government of Zimbabwe around January, 1998.

6. Other Relevant Issues

1) Procurement of Medical Equipment (the Ventilator for neonatal)

The requested quantity of the Ventilator for neonatal is confirmed as 2 units in the Equipment list (Annex 1). Concerning this item, Zimbabwean side requested to increase the quantity up to 4 units by modifying the specification to simple type on the detailed design study.

2) Project Design Matrix

Concerning the Project for Improvement of Paediatric Service in Mpilo Central Hospital, the Project Design Matrix (PDM) prepared through the discussion by both sides is in Annex 6.



3) Monitoring

Mpilo Central Hospital has responsibility to conduct periodical monitoring and evaluation on the medical activities and on the effect of the Project to the medical care in the Pediatric Unit.

And the result of the monitoring should be reported annually to JICA Office in Harare.

4) Technical Cooperation

Zimbabwean side requested the Technical Cooperation for the 2 fields as follows.

- a) Improvement the activities of nurse staff for ICU and NICU.
- b) Manage and maintenance of medical equipment.

5) Necessary measures which should be done by the Zimbabwean side for the construction work

- a) As the main approach road from the existing entrance to the main building will be closed while the construction work under the Project, the alternative entrance and approach road on the west side of the Hospital compound should be prepared prior to the construction work.
- b) As the drain pipes are laid at the Project site, these drain pipes should be detoured on the outside of the Project site prior to the construction work.
- c) As the emergency entrance of the Maternity Ward will be closed while the construction work under the Project, the general entrance on the opposite side of the building should be used also as the emergency entrance while the construction work under the Project.

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LIST OF EQUIPMENT

NO	EQUIPMENT	Q'TY
1-4-a	INCUBATOR	26
1-4-b	OPEN INCUBATOR	3
1-5	ICU BED	8
2-4	LARYNGOSCOPE	9
2-5	AMBUBAG 3 TYPE	9
2-6	OXYGEN MONITOR	10
2-7	INFUSION PUMP	13
2-8	SYRINGE INFUSION PUMP	10
2-9	SUCTION MACHINE	3
3-1	BLOOD PRESSURE MONITOR (DYNAMAP)	4
3-2-a	PULSE OXIMETER WITH PRINTER	2
3-2-b	PULSE OXIMETER	10
3-3	CARDIAC AND RESPIRATOR MONITOR	9
4-3	ECG MACHINE	1
5-2	WEIGHING MACHINE (ELECTRIC) 10kg	3
7-3	WHEELCHAIR	5
7-4	STRETCHER BED	5
9-10	NEBULIZER	6
9-12	GLUCOMETER	6
12-1	VENTILATOR FOR NEONATAL	2
12-2	VENTILATOR FOR BOTH	4
16-1	VIDEO CAMERA EQUIPMENT	1
16-2	SLIDE PROJECTOR	1
16-3	OVERHEAD PROJECTOR	1
16-4	COMPUTER FOR RECORDS	1
16-5	ELECTRIC TYPEWRITER	1
16-6	PHOTOCOPYING MACHINE	1
17-14	PHOTOTHERAPY UNIT	8
17-17	X-RAY MACHINE (PORTABLE)	1
17-21	BILIRUBINOMETER	1
18-1	PAEDIATRIC TABLE	1
18-8	SUCTION MACHINE	2
18-9	DIATHERMY MACHINE	1
18-10	OVERHEAD OPERATING LIGHT	1
18-11	PORTABLE LIGHT	1
18-13	INCUBATOR FOR TRANSPORTATION OF BABIES	1
18-15	ANAESTHETIC MACHINE	1
24-1	BEDDED RECOVERY ROOM	3
24-6	DEFIBRILLATOR	1
25-1	GENERAL SURGERY	1
25-2	ORTHOPAEDIC SURGERY	1
30-8	RIGID PAEDIATRIC BRONCHOSCOPE	1



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Component of items for the Building Construction

Neonatal Intensive Care Unit (NICU) (for 29 Beds)

Intensive Care Unit (ICU) (for 8 Beds)

Medical and Surgical Care Wards (for 145 Beds)

Operation Theatre (1 Unit)

Outpatient Department

Emergency Department

Administrative Office with conference facilities

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Equipment List procured by the Government of Zimbabwe

Item	Quantity
Ventilator	3
Infusion pump	2
Syringe infusion pumps	5
Weighing machine	6
Glucometer	4
Anaesthetic machine	1
Phototherapy unit	4
Flexible paediatric Bronchoscope	1
Cold light source(Laser)	1
Blood gas machine	1
Paediatric haemodialysis machine	1
CPAP driver	4



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(2) Firstly, an application or a request for a project made by the recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to see whether or not it is suitable for Japan's Grant Aid. If the request is deemed suitable, the Government of Japan entrusts a study on the request to JICA (Japan International Cooperation Agency).

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Fourthly, the Project approved by the Cabinet becomes official when pledged by the Exchange of Notes signed by the both Governments.

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

2. Contents of the Study

(1) Contents of the Study

The purpose of the Study (Preliminary Study/Basic Design Study) conducted on a project requested by JICA is to provide a basic document

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necessary for appraisal of the project by the Japanese Government. The contents of the Study are as follows:

- a) to confirm background, objectives, benefits of the project and also institutional capacity of agencies concerned of the recipient country necessary for project implementation,
- b) to evaluate appropriateness of the Project for the Grant Aid Scheme from a technical, social and economical point of view,
- c) to confirm items agreed on by the both parties concerning a basic concept of the project,
- d) to prepare a basic design of the project,
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Final project components are subject to approval by the Government of Japan and therefore may differ from an original request.

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

(2) Selecting (a) Consulting Firm(s)

For smooth implementation of the study, JICA uses (a) consulting firm(s) registered. JICA selects (a) firm(s) through proposals submitted by firms which are interested. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference made by JICA. The consulting firm(s) used for the study is (are) recommended by JICA to a recipient country after Exchange of Notes, in order to maintain technical consistency and also to avoid possible undue delay in implementation caused if a new selection process is repeated.

(3) Status of a Preliminary Study in the Grant Aid Program

A Preliminary Study is conducted during the second step of a project formulation & preparation as mentioned above.

A result of the study will be utilized in Japan to decide if the Project is to be suitable for a Basic Design Study

Based on the result of the Basic Design Study, the Government would proceed to the stage of decision making process (appraisal and approval) .

It is important to notice that at the stage of Preliminary Study, no commitment is made by the Japanese side concerning the realization of the Project in the scheme of Grant Aid Program.

3. Japan's Grant Aid Scheme

(1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non



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reimbursable funds needed to procure facilities, equipment and services for economic and social development of the country under the following principles in accordance with relevant laws and regulations of Japan. The Grant Aid is not in a form of donation or such.

(2) Exchange of Notes (E/N)

The Japan's Grant Aid is extended in accordance with the Exchange of Notes by both Governments, in which the objectives of the Project, period of execution, conditions and amount of the Grant etc. are confirmed.

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

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

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

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

(5) Necessity of the "Verification"

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

(6) Undertakings required to the Government of the recipient country

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

a) to secure land necessary for the sites of the project and to clear and level the land prior to commencement of the construction work,

b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,

c) to secure buildings prior to the installation work in case the Project is providing equipment,



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- d) to ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid,
- e) to exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts,
- f) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(7) Proper Use

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

(8) Re-export

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

(9) Banking Arrangement (B/A)

- a) The Government of the recipient country or its designated authority shall open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by Government of the recipient country or its designated authority under the contracts verified.
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay issued by the Government of the recipient country or its designated authority.

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No	Item	Japan	Zimbabwe
1	<u>General Matters:</u> a. To exempt taxes and to take necessary measures for clearance of the materials and equipment brought for the project at port of disembarkation. b. To accord Japanese nationals, whose services may be required in connection with the supply of the products and services under the verified contract, such facilities as may be necessary for their entry in Zimbabwe and stay therein for the performance of their work. c. To maintain and use properly and effectively those facilities constructed and equipment purchased under the Grant Aid. d. To bear all the expenses other than those to be borne by the Grant Aid. e. To bear commissions of the Japanese foreign exchange bank for the banking services based on banking arrangement.		O O O O O
2	<u>Assurance of land:</u> a. Purchase and offer of land. b. Lifting of restrictions (if any) on the land and taking of proceeding in order not to interfere with the construction of the facilities under Grant Aid Programme. c. Necessary surveys (including plan survey, grade survey, and measurement of existing facilities and vegetation) on the offered land, and necessary tests (including boring test, analysis of well water, etc). d. Investigation into the offered land, excluding that on items b. and c. above.	O O O O	O O O O
3	<u>Site Preparation:</u> a. First-step preparation of the site, if having any undulations, in accordance with the design of the facilities. b. Construction of sheeting and retaining walls if required. c. Scalping of top soil if the site has no undulations.		O O O

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No	Item	Japan	Zimbabwe
	d. Removal of existing trees, if they are considered as obstacle to the construction of the facilities.		○
	e. Removal of existing underground services and structures if they are considered as obstacles to the construction of the facilities.		○
	f. Removal of existing obstacles (such as shed, work shop, pond and other facilities), if they are considered as interfering with the construction of the facilities.		○
	g. Disposal of other things, if they are considered as interfering with the construction of the facilities.		○
	h. Provide the land for temporary site office and warehouse.		○
4	<u>Gates and Fencing:</u>		
	a. Gates and fencing which must be provided within and at the perimeter of the site.		○
	b. Fencing which must be provided around the facilities such as the areas where cubicles, gas bottles and special gases are stored which will entail direct danger.	○	
	c. Repair and painting of existing gates and fencing.		○
5	<u>Construction of Parking Area:</u>		
	a. Uncovered parking area to be provided within the site.	○	
	b. A shed of covered parking area to be provided off the site.		○
	c. Any parking area to be provided off the site.		○
	d. Installation of water supply and drainage services where required.	○	
6	<u>Installation of Road:</u>		
	A. On-site roads:		
	a. Construction of main road.	○	
	b. On-site roundabout ways other than the main roads.		○
	B. Off-site roads:		
	a. Construction of access roads from nearby existing roads to the site.		○
	b. Repair of the access roads whenever damaged during construction.	○	

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No	Item	Japan	Zimbabwe
	c. Installation of power supply, water supply, drainage and telephone services other than item b. above.		O
7	<u>Construction of Buildings:</u>		
	a. Construction of the facilities under the Grant Aid Programme.	O	
	b. Construction of the facilities with the following uses will not be covered by the Grant Aid Programme. Example: * Guardhouse, * Religious facilities for staff, * Personal house, volleyball court, etc, * Landscaping, * Planting, * Any other facilities denoted as "By Others" on the design drawings.		O
	c. Proceeding and cost involved in application. * Application for confirmation. * Various applications for change in design taking place during construction period. * Application for request for completion inspection. * Various applications for exemption of taxes for materials and equipment to be brought into Zimbabwe from Japan and other countries.		O
	d. Maintenance of the facilities constructed under Grant Aid Programme.		O
	e. Spare for the building materials (as specified on the practical design drawing).	O	
	<u>Equipment:</u>		
	a. Provision and installation of the equipment covered by the Grant Aid Programme.	O	
	b. Equipment other than the equipment in item a. above.		O
	c. Initial spare parts (as specified on the design drawings) for the equipment in item a. above.	O	
	d. Maintenance and procurement of necessary spare parts for the proper use of the equipment in item a. above.		O
	e. Instruction manuals, catalogues, and test run of the equipment in item a. above.	O	

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No	Item	Japan	Zimbabwe
8	<p><u>Installation of power supply, water supply and sewerage disposal services and facilities:</u></p> <p>A. <u>Power Supply:</u></p> <p>a. Installation of power supply service lines from the nearby trunk line to an on-site substation.</p> <p>b. Transformers and main circuit breakers.</p> <p>c. Installation of on-site wiring beyond the transformer.</p> <p>d. Burden for service line and application for leading-in.</p> <p>e. Basic charge (the charge for the contract demand) for electricity.</p> <p>f. Temporary power supply for construction use.</p> <p>B. <u>Water Supply:</u></p> <p>a. Installation of water supply line from the nearby city water main into the site.</p> <p>b. Installation of water supply lines from the site boundary to the facilities.</p> <p>c. Installation of a water receiving tank and water supply lines to the facilities</p> <p>d. Burden and application for leading-in of water supply.</p> <p>e. Basic charge (the charge for leading-in pipes size) and water charge.</p> <p>f. Temporary water supply line (to be branched off from the main) for construction use.</p> <p>g. In case of extension work, temporary water supply line for construction use if any existing facility is provided with water supply line.</p> <p>C. <u>Drainage:</u></p> <p>a. Installation of on-site drainage facility including drainage pipes and ditches.</p> <p>b. Off-site drainage facility, and burden.</p>	<p></p> <p></p> <p>O</p> <p>O</p> <p>O</p> <p></p> <p></p> <p></p> <p>O</p> <p>O</p> <p>O</p> <p></p> <p></p> <p>O</p> <p></p> <p></p> <p>O</p> <p></p>	<p></p> <p>O</p> <p></p> <p>O</p> <p>O</p> <p>O</p> <p></p> <p>O</p> <p></p> <p>O</p> <p>O</p> <p></p> <p>O</p> <p></p> <p>O</p> <p></p>



MTC P/M

No	Item	Japan	Zimbabwe
D.	<u>Gas Supply:</u>		
	a. Installation of gas supply line from the nearby gas main to the site.		○
	b. Installation of on-site gas pipes.	○	
	c. A complete set of installation work in case of propane gas.	○	
	d. Installation of special gas supply for use by experiment, research, etc.	○	
E.	<u>Telephone System:</u>		
	a. Installation of wiring from the nearby main to the site.		○
	b. Installation of on-site wiring, telephone switchboard and telephone sets.	○	
	c. Application for installation, and installation charges.		○
	d. Proceedings for applications and application fees required		○
F.	<u>Furniture, Fixtures and Furnishings:</u>		
	a. Ordinary furniture (curtains, blinds, office furniture).		○
	b. Fixtures and furnishings (office supplies and equipment).		○
	c. Those which are denoted on the design drawings as "Permanent work".	○	
	d. Movable furniture.		○
	<u>Proceedings and Bank Commissions required in connection with Japanese Foreign Exchange Bank:</u>		
	a. Proceedings for a B/A after signing of an E/N.		○
	b. Proceedings for issue of an A/P.		○
	c. Commissions payable in connection with items a. and b. above.		○
0	<u>Unloading, Customs clearance and inland transportation of materials and equipment:</u>		
	a. Transportation from Japan to Zimbabwe.	○	
	b. Actions for customs clearance and tax exemption at an unloading port in Zimbabwe.		○
	c. Transportation from an unloading port to site.	○	

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No.	Item	Japan	Zimbabwe
11.	<p><u>Changing the route of Access road</u></p> <p>a. Changing the route of main access road to the Main Road.</p> <p>b. Construction of west gate.</p> <p>c. Changing the route for emergency road to Maternity Block.(Antinatal)</p> <p>d. Changing the route of existing sewage pipe.</p>		<p>○</p> <p>○</p> <p>○</p> <p>○</p>

NTC PAK

**Project Design Matrix(PDM)
The Project for Improvement of Mpilo Central Hospital
Paediatric Unit in Zimbabwe**

Annex 6

Narrative Summary	Verifiable Indicators	Means of Verification
Overall Goal Reduction of Child Mortality and Morbidity in Bulawayo and 4 Provinces concerned	IMR and USMR in these areas	National statistics
Project Purpose Improvement of Paediatric Service in the Mpilo Central Hospital	Outputs' indicators bellow	
Outputs		
1. Improvement in Recovery Rates of sick Children.	Recovery Rates	Quarterly Statistics of Mpilo Hospital
2. Reduction in perinatal mortality.	Perinatal mortality Rates	
3. Improvement in the health delivery to sick children.	The Patients' waiting time	Annual Patient satisfaction survey
4. Improvement in patient satisfaction with the medical service of Paediatric Unit Mpilo Hospital.	Patients satisfaction Rate	
5. Reduced rate of staff absenteeism and attrition.	The rate of staff absenteeism and attrition.	Quarterly Statistics of Mpilo Hospital
6. Improvement in the ability to attract and retain senior and middle range paediatric medical.	Senior and middle range doctors' number	Annual Report of Mpilo Hospital
7. Improvement in the hospital ability to teach both medical and paramedical and nursing cadres, both formally and informally.	Pass rate of both junior doctors and nurses	
8. Improvement in the fulfillment of Mpilo Hospital's role as a referral center.	Provincial Hospitals' appreciation	Annual survey to Provincial Hospital
9. Providing facilities which are conducive to applied and basic research.	Numbers of research papers per year	Annual Report of Mpilo Hospital
10. Development and maintenance of all these outputs.		
Activities Activities by Mpilo Hospital 1. Continue to develop and review staff training activities. 2. devise system of continuous assessment of cost benefit analysis of the paediatric care provided. 3. Continue to devise the most effective use of hospital budget allocation. 4. Continue the yearly patient satisfaction survey and use results to modify patient medical and social management. 5. Maintain and improve the Baby Friendly aspect of Mpilo Hospital. 6. There is a need for the formation of a Steering Committee from all Hospital cadres to govern and direct the efficient running of the new Paediatric Unit. 7. Continue supervisory and support visits to the District and Provincial Hospitals. Activities by Ministry of Health 1. Strong effort should be put in the provision of necessary senior and middle range group of medical and nursing staff. 2. A suitable workable budget for the effective running of the new Paediatric Unit. 3. Create sufficient facilities in province and Districts so that Mpilo hospital acts as a referral center and there is a reduction in inappropriate referrals.	<p align="center">Inputs</p> <p>Zimbabwean side</p> <ul style="list-style-type: none"> • Necessary measures for the execution of Grant Aid Project. • Allocation of necessary budget to manage the medical activities. • Provision of medical and paramedical staff. <p>Japanese side</p> <ul style="list-style-type: none"> • Grant Aid for the <ul style="list-style-type: none"> - Construction of Building - Supply of medical equipment 	

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5. Cost Estimation borne by the Recipient Country

Facility Maintenance Costs

The costs necessary for maintaining these facilities at a rough estimate are as follows: (Indicated amounts are those applicable in 1997.)

① Electricity:

• Estimated capacity

Lighting and illumination $30w / m^2 \times 5,000 m^2 = 150 kW$

Electric power and plug sockets $30w / m^2 \times 5,000 m^2 = 150 kW$

• Estimated consumption

	Capacity	Power factor	Demand factor	Number of hours per day in which electricity is used	Number of day per year in which electricity is used
Lighting and illumination	150 kW	0.9	0.65	12 H	365
Electric power and plug sockets	250 kW	0.8	0.4	8 H	365

• Estimated consumption per day

Lighting and illumination $150 kW \times 0.9 \times 0.65 \times 12 H = 1,053 kWh$

Electric power and plug sockets $150 kW \times 0.9 \times 0.65 \times 12 H = 1,053 kWh$

• Estimated consumption per year

Lighting and illumination $1,053 kWh/D \times 365 D = 384.345 kWh$

Electric power and plug sockets $640 kWh/D \times 365 D = 233.6 kWh$

Total = 617.945 kWh

• Power rates

Basic fee: Contracted electricity shall not be increased as the whole hospital.

Consumption fee: $617.945 kWh \times Z\$0.7559 \text{ per kWh} = \underline{Z\$467.104 \text{ per year}}$

② Generator (capacity: 350 kVA):

Power failure is supposed to occur once a month.

Costs of oil, consumables (filters and component parts) and labor for periodic inspection Z\$4,500/ year

③ Air conditioning and medical gas appliances:

Costs of consumables (filters and component parts) and labor for periodic inspection

$$15 \text{ sets} \times \text{Z\$}500 \text{ per year per set} = \underline{\text{Z\$}7,500/\text{year}}$$

④ Lighting lamps:

Approximately 30% of the total number of lighting lamps 580 sets is replaced once a year.

$$580 \text{ sets} \times 0.3 \times \text{Z\$} 5.0 = \underline{\text{Z\$}8,700/\text{year}} \text{ (including labor cost)}$$

⑤ Tap water:

- Estimated consumption/ day

$$180 \text{ beds} \times 400 \text{ liters/ day} = \underline{72,000 \text{ liters/ day}} \text{ (72 cubic meters/ day)}$$

- Estimated consumption/ year

$$72 \text{ cubic meters/ day} \times 365 \text{ days} = 26,280 \text{ cubic meters/ year}$$

- Water rates

$$26,280 \text{ cubic meters/ year} \times \text{Z\$}5.0 = \underline{\text{Z\$}131,400/\text{year}}$$

⑥ Gas is supposed to be replenished.

Cost of gas cylinders is not included.

- Estimated consumption per year

$$\text{Oxygen} \quad 22 / \text{week} \times 4 \text{ weeks} \times 12 \text{ months} = 1,056$$

$$\text{Nitrous Oxide} \quad 3 / \text{week} \times 4 \text{ weeks} \times 12 \text{ months} = 144$$

- Gas rate per year

$$\text{Oxygen} \quad 1056 \times \text{Z\$} 70/ \text{cylinder} = \text{Z\$} 73,920$$

$$\text{Nitrous Oxide} \quad 144 \times \text{Z\$} 980/ \text{cylinder} = \text{Z\$} 141,120$$

Total Z\$ 215,040/year

⑦ Telephone rates:

- Local call $\text{Z\$} 0.37/ 3\text{min.} \times 900/ \text{months} \times 12 = \text{Z\$} 3,996$

- Area call $\text{Z\$} 29.46/ 3\text{min.} \times 300/ \text{months} \times 12 = \text{Z\$} 106,056$

Total Z\$ 110,052/year

⑧ Repairs of buildings (glass replacement, painting, tile replacement and roof repairs):

- Craftsman charges (including material cost)

$$\text{Z\$}300 \text{ per head per day} \times 90 \text{ heads} = \underline{\text{Z\$}17,000/\text{year}}$$

⑨ Cost of gasoline and oil (for vehicles):

- Gasoline $(10 \text{ liters/ vehicle} \times 30) \times \text{Z\$ } 5.2/1 \times 12 = \text{Z\$ } 18,720$
- Oil $\text{Z\$ } 18,720 \times 20\% = \text{Z\$ } 3,750$

Total = Z\$ 22,470/year

⑩ Repairs of medical implements and materials (repairs and replacement of component parts):

- Craftsman charges Z\$300 per head per day $\times 150$ heads

= Z\$ 45,000/year

⑪ Office supplies, miscellaneous goods and writing materials:

= Z\$ 46,800/year

⑫ Maintenance charges for medical implements and materials:

Compared to the cost of implements and materials, the rates of maintenance charges are 14%, 6% and 14% for maintenance service, spare parts and consumables, respectively.

On the supposition that the cost of the implements and materials used for this project amounts to 150 million yen, the maintenance charges in each fiscal year will be as follows:

- First fiscal year (consumables, only) $\text{Z\$ } 150,000/\text{year}$
- Second fiscal year $\text{Z\$ } 1,300,000/\text{year}$
- Third fiscal year $\text{Z\$ } 2,600,000/\text{year}$

⑬ Maintenance charges for lifts:

- Maintenance $\text{Z\$ } 3,000/\text{month} \times 12 \text{ months} = \text{Z\$ } 36,000/\text{year}$ (first fiscal year)
- From the second fiscal year, repair charges ($\text{Z\$ } 26,000/\text{year}$) will be necessary in addition to the maintenance charges, amounting to $\text{Z\$ } 62,000$ in total.

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