

第5章 結論と提言

5-1 結 論

(1) ケニヤット国立病院リハビリ計画において、日本側へ要請された機材は、現在の医療機材が老朽化しており、かつ現在の病院の医療サービスの状況は、患者が放射線治療部門、腎臓部門あるいは救急部門等あらゆる部門において患者が何日もあるいは何時間も待機している状況にあり、これを改善するため、その機材の更新の必要性から要請されたものである。

本要請に対する日本側単独の協力は、現在の病院の運営管理の改善強化が図られなければ、実施することは不可能と判断する。

しかしながら、ケニア国政府及び世銀においても病院の運営管理の改善強化に積極的な姿勢で望んでおり、本病院の運営管理強化及び維持管理強化計画への世銀の協力実施がなされれば、本要請の実施検討を進めるべく基本設計調査団を派遣することが必要と判断する。

(2) 右病院の改善を行うには、世銀の協力による病院の運営管理の改善強化を図ると同時に現在の老朽化した医療機材を更新することが、医療サービスの向上をも図る上で必要不可欠なところから本計画を実施することは有意義であると判断する。

(3) 右協力においては、ケニアの中央の医療レベルを向上させ、かつその医療従事者が地方レベルでの医療サービスに貢献することで、ケニア全体の医療レベルが向上するものと判断する。

ただし、中央の医療レベルのみを向上させる事なく地方医療レベルをも向上させることがケニア全体の早急なレベル向上の大きな原動力となることをケニア国政府がよく認識しこれを実施することが重要であるとし、今後の動静を見守る必要があると判断する。

以上調査の結果、ケニア政府の本計画に対する要請内容は、世銀の協力計画の実施を条件として計画することが妥当であり、かつ世銀の施設改善計画の実施期間に同調させて実施される必要があるものと認められ、また、本件はわが国の無償資金協力案件として適切であると判断され、世銀とのスケジュール調整を含め早急な基本設計調査の実施が望まれる。

5-2 基本設計調査への提言

5-2-1 基本設計調査の際に特に留意すべき事項

管理運営：

(1) 病院の管理運営の不首尾から、現在の医療サービスレベルの低下が生じているのは明らかであり、この為、世銀のプロジェクトは必要不可欠であると同時に当計画との共存は、

車の両輪のごとき作用にて効果を発揮するものと判断される。この点を十分理解の上、当計画の実施時期と世銀の計画とが整合性を持つよう、世銀及び病院側との討議を密に行うこと。

- (2) 特に病院側の維持管理計画を事前に入手し、現地調査時においては、病院側の意見のみならず、世銀の改善計画での協力（即ち世銀による維持管理体制の確立の指導）を確認すること。

設備：

- (1) 今回の事前調査時点で、KNH側の日本政府に対する要請機材リストからX線診断部門の機材が削除されたため、X線防護や機材据え付け等に係る建築設備上の問題が軽減され、他方、他の機材のほとんどは、備品類やポータブルな医療機器なので、建築設備上の問題は少ないと考えられる。ただし、X線治療部門や心臓部門に係る医療機材の設置については今後とも検討を要する。

特に、コバルト60治療室、シュミレーター室、シネアンギオについては、放射線防護、床荷重、給排水設備、空調設備上の問題点についてさらに詳細な検討を要する。これらの室は設計当初から当該機材の設置が計画されていたり、現在すでに同様な機材が設置されている室なので問題点は少ないと考えられるが、設備配管や防護扉の老朽化、関連法規の改正点等についての検討が必要である。

- (2) また、KNHと世銀が検討している施設改修計画とのスケジュール調整も必要である。行程表によると、改修工事は1992年5月から1994年4月の間に行われる計画となっており、日本側の援助が1992年度予算で執行される場合、医療機材の搬入及び据え付けは1993年の9月前後になるものと考えられるので、関係部門の改修工事はこの時点までに終了している行程となるよう、KNH側に指示する必要がある。現在の行程表では特に、手術部門と中央材料滅菌部門の改修時期に問題が残されている。

- (3) 心臓部門に要請されているシネアンギオの機材は現在当病院は現存機材として設備しているが、設置場所が若干小さいように見受けられ、機材自体の据え付けには問題はないが、新機種を導入による動線の変化に留意し、計画を行う必要があるものと判断する。

機材：

- (1) 機材の改善計画にあたっては、広大な敷地と施設を有する当病院の規模を十分に理解し、各科の機材計画を策定すること。
- (2) 計画対象の各科の現有機材の使用頻度、機能状況を十分把握し、かつ現存機材および関連機材との、維持管理計画を含めた整合性を持たせた計画を策定すること。
- (3) 放射線治療部門の機材計画、特にコバルト60照射装置の導入に際して今後の医療レベルの向上及び線料の確保、維持管理の点等で何等問題がないかを確認すること。

また、現存の治療位置決め装置の整備が要請に含まれており、今回の調査にてはその必

要程度を確認できなかったのでこれを行うこと。

(4) ME部門の要請機材は、小物道具をのぞく現在の内容ではほとんど機能しないと懸念されるので、現地調査前に十分な解析と検討を行うこと。また、計画の規模に応じて下記のような案を検討すること。

- a. 現在の維持管理要員の能力に適した機材を計画
- b. 現在の維持管理要員の能力向上を予想した機材を計画
- c. 外部（技術協力専門家あるいはメーカーの技術者を含む）の技術者のメンテ/修理を予想した機材の計画（日本、あるいは他国の製品が修理を必要とした場合に、メーカーの技術者が現地訪問を行い難い条件の一部に測定機器あるいは大型工具等の持参が困難な場合が多く、最低限の範囲にて専門技術者が必要とし、かつ一般技術者も通常の業務で使用出来る機材計画が望ましいと思料する。）

(5) 腎臓部門の水処理装置が現在不調の様相であるが、透析装置の計画はこの水処理装置との整合性が重要であり、水処理装置の修理が可能か否かを確認した上で計画を策定すること。

また、世銀のインベントリーには透析装置12台が計上されているが、調査団の行った現地調査にては、稼動中と見なされるもの約20台、不良で放置されているもの8台を確認しており、この点の再確認が必要。

(6) 検査部門においては、自動化学分析装置（5台）、血液ガス分析装置（6台）、電解質分析装置（1台）等、常時メンテナンスを必要とする機材が要請に含まれており、現地での維持管理能力及び数量の必要性を確認すること。

(7) 心臓部門の要請機材にシネアングイオが含まれているが、すでに当病院ではこのシステムは使用しており、改善を必要とする部分と現存機材との整合性に留意した計画を行うこと。

(8) 機材の選定にあたっては、現地の修理・整備能力を十分把握した上で行うこと。

特に、機材の保守管理を行い得るローカルエージェントの確認は重要である。

また、消耗品、試薬等の入手が容易であるように計画を策定する必要がある。

(9) 腎臓部門あるいは放射線治療部門等においては、機材の必要性を単に統計学的要求度の判定のみによらず、人道的見地からの妥当性も考慮すること。

(10) 機材調達後の各部門の活動状況の評価を行うことを前提として、評価基準の策定に必要な資料の収集と、評価基準の策定を行うこと。

(11) 保守管理システム確立への提言は、ケニア側より提出される予定の維持管理計画を検討した上で積極的に行うこと。これについては世銀のコンサルタントが計画立案に深く関わる状況であり、日本側も病院と世銀との協議に積極的に加わり提言を行うこと。

5-2-2 懸案事項

本計画の中でもっとも重要な点は維持管理体制であり、先方との協議にてもこの点を再三

強調して説明するとともに、病院側の維持管理計画を十分に検討し、かつ世銀の改善計画にもこれを明示し、維持管理体制を充実させるよう進言した。また、基本設計調査団派遣計画遂行のための条件の一部として、維持管理計画書を調査団派遣前に日本側へ提出することを協議議事録に盛り込んである。

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| 遠藤 哲也 | 業務調整 |

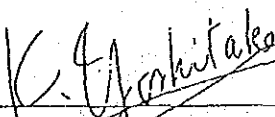
MINUTES OF DISCUSSIONS
ON
THE PRELIMINARY STUDY OF THE PROJECT
FOR
THE IMPROVEMENT OF THE EQUIPMENT
FOR
THE KENYATTA NATIONAL HOSPITAL
OF
THE REPUBLIC OF KENYA

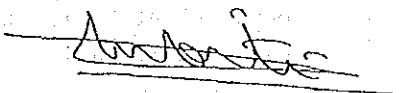
In response to the request from the Government of Kenya, the Government of Japan decided to conduct a Preliminary Study of the Project for the Improvement of the Equipment for the Kenyatta National Hospital (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (JICA). JICA sent to Kenya a study team, headed by MD. Katsuhira Yoshitake of the Department of International Cooperation, Ministry of Health and Welfare, which was scheduled to stay in Kenya between September 28th and October 9th, 1991.

The team held a series of discussions with the relevant Kenyan Government authorities and conducted site surveys.

As a result of the discussions and site surveys, both parties confirmed the main items as described on the attached sheets.

Nairobi, October 9th, 1991


MD. Katsuhira Yoshitake
Leader,
Preliminary Study Team,
JICA


Mr. Daniel M. Mbiti
Permanent Secretary,
Ministry of Health,
The Republic of Kenya

ATTACHMENT

1. Objective

The objective of the Project is to improve the current conditions of the Kenyatta National Hospital and provide necessary equipment for the following activities:

- 1) Resource functions of the Kenyatta National Hospital as a national referral hospital.
- 2) Approach to the goal of "Health for All" by the year 2000.

2. Project Site

The site of the Project is in the Kenyatta National Hospital.

3. Executing Agency

Kenyatta National Hospital shall be responsible for the implementation of the Project.

4. Necessary Items for the Realization of the Project requested by the Government of Kenya

After a series of discussions between the Preliminary Study Team and the Kenyatta National Hospital, the following items are identified necessary for the realization of the Project, and the prioritization is made by the Government of Kenya as Annex I :

- (1) Procurement of Equipment for Radiotherapy Department.
- (2) Procurement of Equipment for Diagnostic Laboratories.
- (3) Procurement of Equipment for Operating Theater.
- (4) Procurement of Equipment for T.S.S.U.
- (5) Procurement of Equipment for Intensive Care Unit.
- (6) Procurement of Equipment for Cardiology Department.
- (7) Procurement of Equipment for C.S.S.D.
- (8) Procurement of Equipment for Renal Unit.
- (9) Procurement of Equipment for Bio-medical Engineering/Maintenance Department.
- (10) Procurement of Equipment for Casualty.
- (11) Procurement of Spare Parts and Consumables.

However, the final components of the Project may differ from the above items, if this is found necessary through further studies in Japan.

K. G. J. *Jmm*

5. Grant Aid Program extended by Japan

- (1) The Government of Kenya has understood the system of Japan's Grant Aid as explained by the Team.
- (2) The Government of Kenya will take the necessary measures described in Annex II for the smooth implementation of the Project if the Grant Aid Assistance by the Government of Japan is extended for the Project.

6. Schedule of the Study

If the Project is found feasible as a result of the Preliminary Study, JICA will consider the dispatch of the Basic Design Study Team. However, the dispatch of the Basic Design Study Team will be made only after World Bank's decision on the Health Rehabilitation Project at the Kenyatta National Hospital is confirmed.

7. Equipment Maintenance Programme

The Government of Kenya shall prepare the programme for the maintenance system of the equipment for the Kenyatta National Hospital and submit it to JICA through its Kenya Office before the Basic Design Study Team will be sent.

K. G. Amm

ANNEX I

PRIORITY OF THE EQUIPMENT REQUESTED TO THE GOVERNMENT OF JAPAN UNDER THE PROJECT

Priority No.1

Diagnostic Laboratories Equipment
Biomedical Engineering/Maintenance Equipment
Operating Theater Equipment
T.S.S.U. Equipment
C.S.S.D. Equipment

Priority No.2

Intensive Care Unit Equipment
Cardiology/ECG Equipment
Renal Unit Equipment
Radiotherapy Equipment
Casualty Dept. Equipment

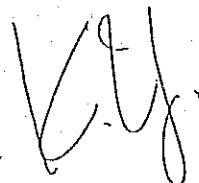
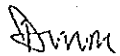
Note: 20 % of the total cost of the each equipment shall be allocated to get spare parts and consumables so that the equipment may be kept operational.

K. G. Jmm

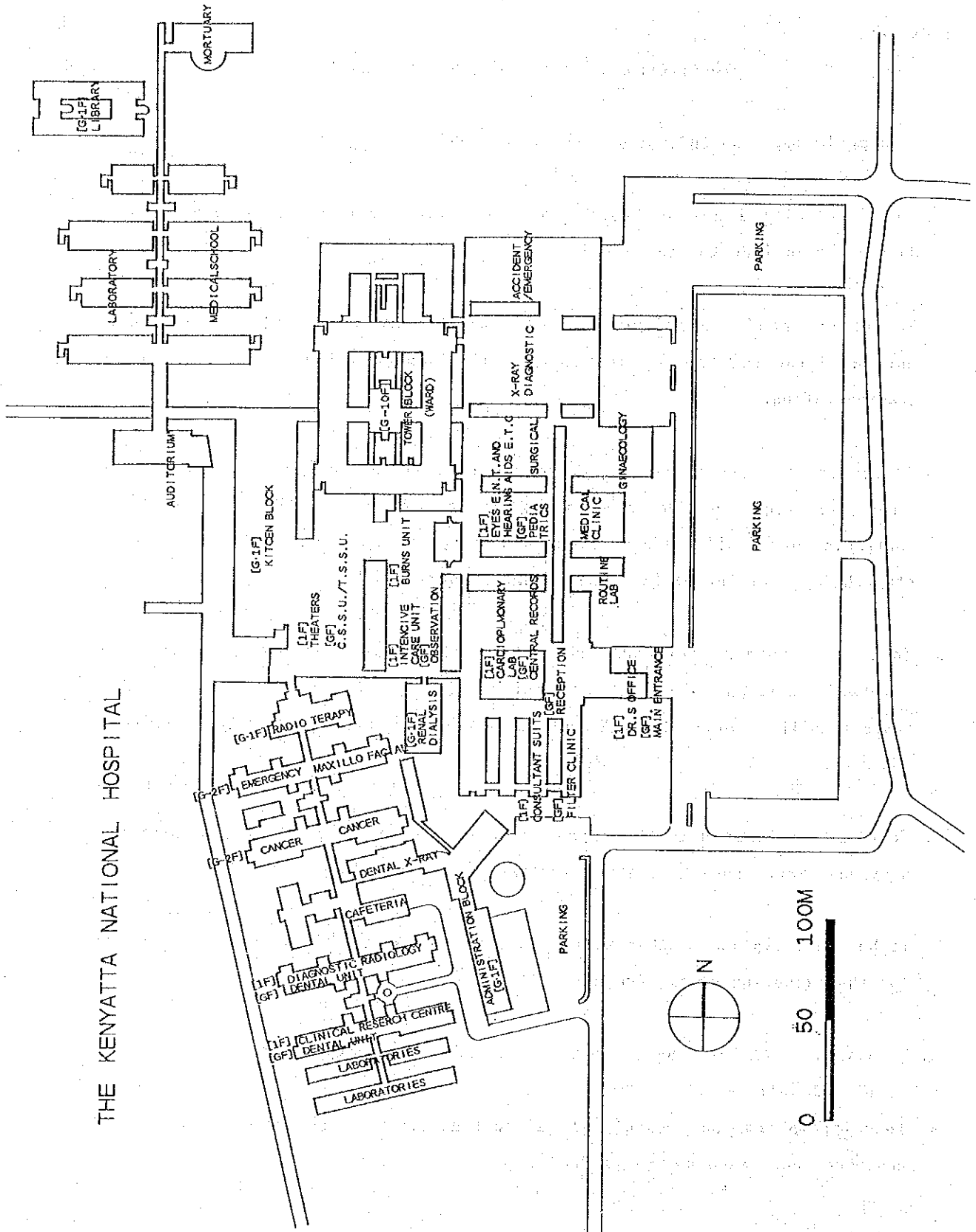
Annex II

UNDERTAKINGS BY THE GOVERNMENT OF KENYA

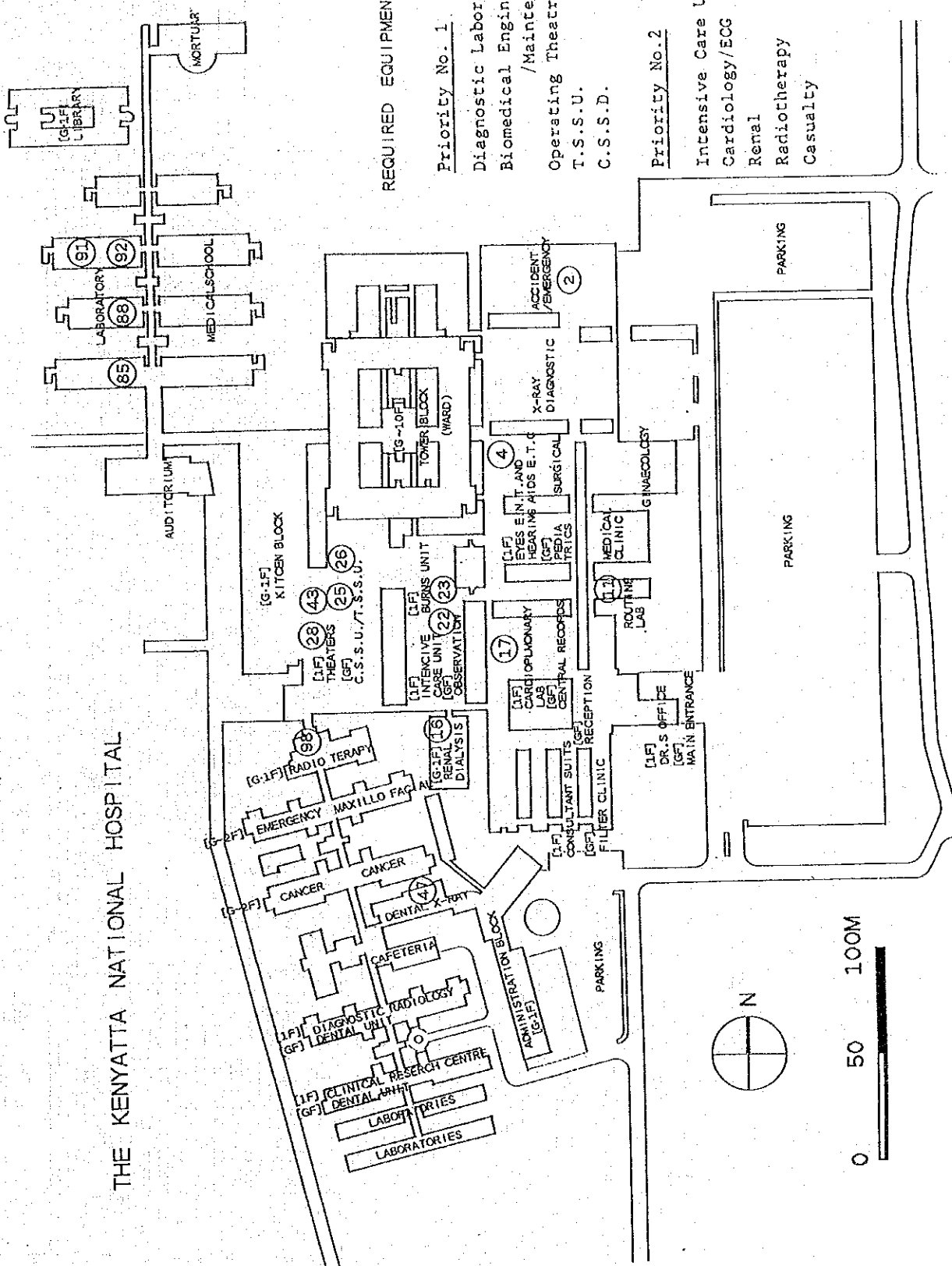
1. To provide data and information necessary for the Project.
2. To provide the land for temporary site office, warehouse and stock yard during the implementation period.
3. To ensure speedy unloading, tax exemption, custom clearance of products purchased for the Project at the port of disembarkation and prompt inland transportation.
4. To accord Japanese nationals whose services may be required in connection with the supply of the equipment and the services under the verified contracts such facilities as may be necessary for their entry into Kenya and stay therein for the performance of their work.
5. To exempt Japanese national involved in the Project from customs duties, internal taxes and other fiscal levies which may be imposed in Kenya with respect to the supply of equipment /machines and services under the verified contracts.
6. To bear commissions to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement.
7. To bear all expenses, other than those to be borne by the Grant Aid necessary for the execution of the Project.
8. To assign exclusive counter-part engineers/technicians, for the Project.
9. To maintain and use properly and effectively the facilities constructed and equipment purchased under the Project.

THE KENYATTA NATIONAL HOSPITAL

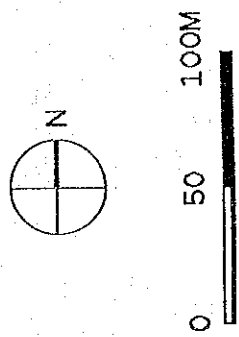


THE KENYATTA NATIONAL HOSPITAL



REQUIRED EQUIPMENTS

- Priority No. 1 (DEPARTMENT)
- Diagnostic Laboratories (1, 85, 88, 91, 92)
 - Biomedical Engineering (47)
 - Operating Theatre (4, 28, 43)
 - T.S.S.U. (25)
 - C.S.S.D. (26)
- Priority No. 2
- Intensive Care Unit (22, 23)
 - Cardiology/ECG (17)
 - Renal (16)
 - Radiotherapy (98)
 - Casualty (2)



WORK PROGRAM AND TIME SCHEDULE FOR WORKS / SERVICES MONTHS

DEPT.	1992					1993					1994														
	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	
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○ : REQUIRED EQUIPMENTS

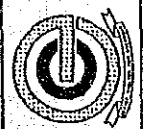
Notes: DEPARTMENTS ZONE ONE

1. Family Planning
2. Casualty/Accident Emergency
3. X-Ray/Radiology
4. Surgery - 6 Weeks
5. Paediatrics - 12 Weeks
6. Paediatrics Demonstration - 8 Weeks
7. Eyes - 6 Weeks
8. ENT & Hearing Aids - 16 Weeks
9. Gynaecology 10 Weeks
10. Medical Clinic - 6 Weeks
11. Routine Laboratory 4 Weeks
12. Main Entrance/Reception
13. Old Consultants' Suites
14. Filter Clinics (Blood Donor Centre)
15. New Consultants' Suites
16. Renal Dialysis Unit
17. Cardio-Pulmonary Lab (ECG-1)
18. Dispensary
19. Central Records
20. Observation
21. Admission
22. Anaesthetics

Owners Approval. _____

Job. _____

Property of.	Scale.	Date
L.R. No.	Designed by.	
Location	Drawn by.	
Road.	Checked by.	
Town.	Dwg. No.	



EDON CONSULTANTS
 ARCHITECTS & TOWN
 PLANNERS.
 P.O. Box 19884, Nairobi.
 Tele. 29446.

WORK PROGRAM AND TIME SCHEDULE FOR WORKS / SERVICES MONTHS

DEPT.	1992												1993												1994											
	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL												
23																									Intensive Care Unit (ICU)											
24																									Burns Unit											
25																									T.S.S.U.											
26																									C.S.S.D.											
27																									Changing Rooms											
28																									Theatres 40											
29																									Pharmacy											
30																									Kitchen & Dining											
31																									Plant Room											
32																									Delivery Suite											
33																									Obstetric Ward 1											
34																									Admission Unit											
35																									Obstetric Ward 2											
36																									Occupational Therapy											
37																									Physiotherapy											
38																									Obstetric Ward 3											
39																									Gynaecology Ward 4											
40																									Gynaecology Ward 5											
41																									Abortion unit Ward 6											
42																									New-natal Special Care Unit											
43																									Operating Theatres											
44																									Mothers Hostel											

NOTES: DEPARTMENTS


- 23 Intensive Care Unit (ICU)
 - 24 Burns Unit
 - 25 T.S.S.U.
 - 26 C.S.S.D.
 - 27 Changing Rooms
 - 28 Theatres 40
 - 29 Pharmacy
 - 30 Kitchen & Dining
 - 31 Plant Room
- ZONE TWO**
- 32 Delivery Suite
 - 33 Obstetric Ward 1
 - 34 Admission Unit
 - 35 Obstetric Ward 2
 - 36 Occupational Therapy
 - 37 Physiotherapy
 - 38 Obstetric Ward 3
 - 39 Gynaecology Ward 4
 - 40 Gynaecology Ward 5
 - 41 Abortion unit Ward 6
 - 42 New-natal Special Care Unit
 - 43 Operating Theatres
 - 44 Mothers Hostel

Owners Approval _____

Job _____

Property of _____	Scale _____	Date _____
L.R. No. _____	Designed by _____	
Location _____	Drawn by _____	
Road _____	Checked by _____	
Town _____	Dwg. No. _____	

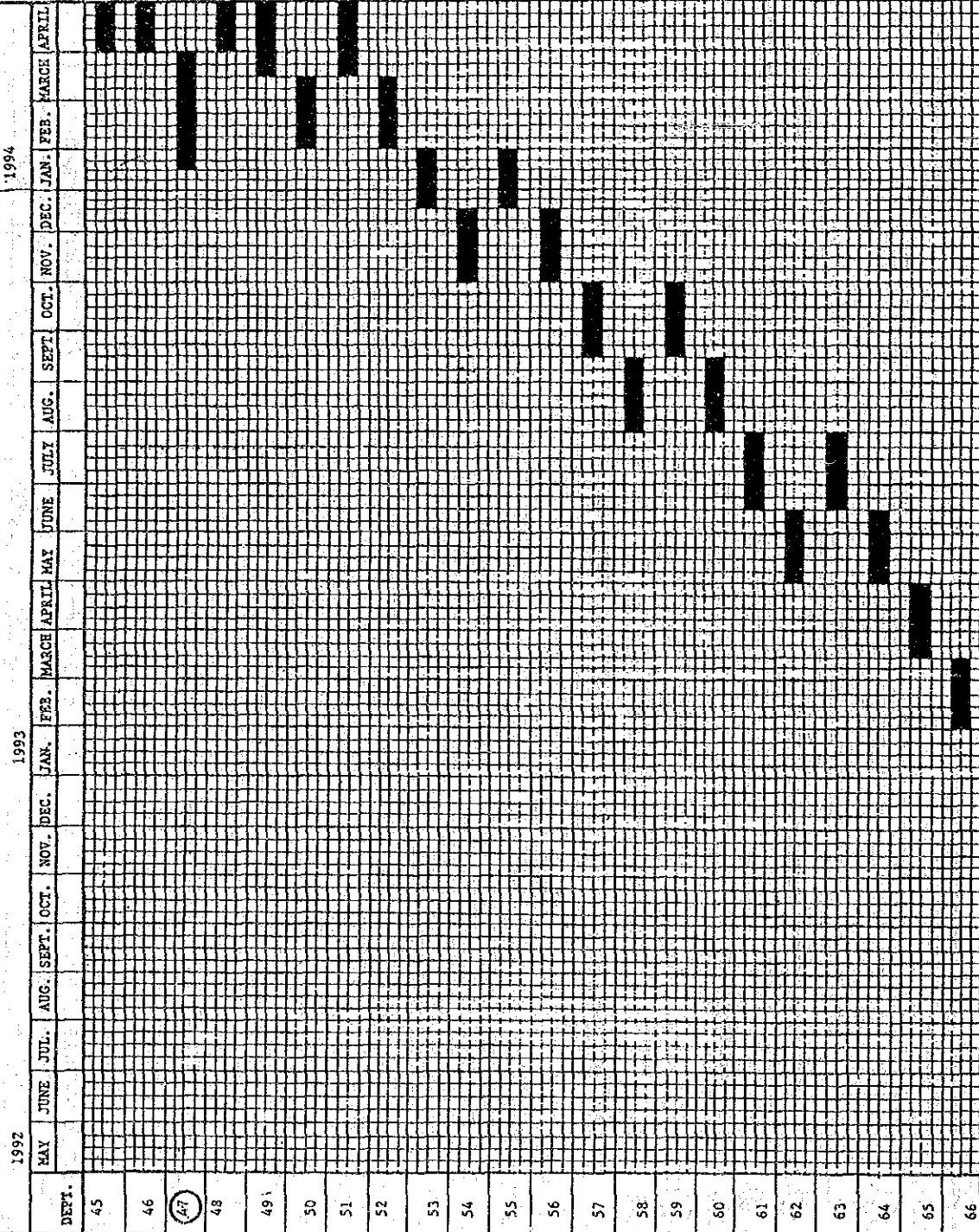
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Tel. 25446.

○ : REQUIRED EQUIPMENTS

WORK PROGRAM AND TIME SCHEDULE FOR WORKS / SERVICES MONTHS



○ : REQUIRED EQUIPMENTS

Notes: DEPARTMENT

- 45. Chapel
- 46. Plant Room
- 47. Electro-Mechanical & Biomedical Workshop
- 48. Electrical Plant Room & Open Recreation Area.
- 49. paediatrics Ward 7
- 50. Paediatrics Ward 8
- 51. Paediatrics Ward 9
- 52. paediatrics Ward 10
- 53. paediatrics Surgical Ward 11
- 54. General Surgical Ward 12
- 55. General Surgical Ward 13
- 56. General Surgical Ward 14
- 57. Thoracic Neuro-surgical Ward 15
- 58. Head Neck & Eyes Ward 16
- 59. Head Neck & Eyes Ward 17
- 60. Head Neck & Eyes Ward 18
- 61. Trauma Ward 19
- 62. Orthopaedic & Plastic Surgery Ward 20
- 63. Trauma Ward 21
- 64. Trauma Ward 22
- 65. Medical Ward 23
- 66. Medical Ward 24

Owners Approval.

Job.	Scale.	Date
Property of.	Designed by.	
L.R. No.	Drawn by.	
Location	Checked by.	
Road.	Dr. No.	
Town.		



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WORK PROGRAM AND TIME SCHEDULE FOR WORKS / SERVICES MONTHS

DEPT.	1992					1993					1994															
	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL		
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Notes:

- DEPARTMENT
- 67. Trauma Ward 25
 - 68. Trauma Ward 26
 - 69. Trauma Ward 27
 - 70. Medical Ward 28
 - 71. Medical Ward 29
 - 72. Medical Ward 30
 - 73. E.N.T. Ward 31
 - 74. E.N.T. Ward 32
 - 75. E.N.T. Ward 33
 - 76. E.N.T. Ward 34
 - 77. Amenity Ward 35
 - 78. Amenity Ward 38
 - 79. Amenity Ward 36
 - 80. Amenity Ward 37
 - 81. Medical School Administration
 - 82. Lecture Theatres/Auditoria
 - 83. Teaching Labs.
 - 84. Medical Photography & Museum
 - 85. Pathology & Murbid Anatomy/Histology
 - 86. Surgery
 - 87. Obstetrics & Gynaecology
 - 88. Microbiology & Parasitology
- OWNERS APPROVAL.

Job.

Property of.	Scale.	Date
L.R. No.	Designed by.	
Location	Drawn by.	
Road.	Checked by.	
Town.	Dir. No.	

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○ : REQUIRED EQUIPMENTS

WORK PROGRAM AND TIME SCHEDULE FOR WORKS / SERVICES MONTHS

DEPT.	1992					1993					1994															
	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL		
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Notes: DEPARTMENT

- 89. Medicine
- 90. Paediatrics
- 91. Chemical Pathology
- 92. Haematology
- 93. Preventive & Community Medicine
- 94. Forensic Pathology Workshop
- 95. Animal House
- 96. Library
- 97. Mortuary

ZONE FOUR

- 98. Radiotherapy
- 99. Emergency Ward 41
- 100. Maxillofacial
- 101. Cancer Ward 39
- 102. Cancer Ward 40
- 103. Hospital Administration
- 104. Dental X-Ray
- 105. Dental Unit I
- 106. Dental Unit II
- 107. Salaries
- 108. National Radiation Protection
- 109. G.P. Clinic
- 110. Power Unit

Owners Approval.

Job.	Property of.	Scale.	Date
L.R. No.	Designed by.		
Location	Drawn by.		
Road.	Checked by.		
Town.	Dwg. No.		

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○: REQUIRED EQUIPMENTS

WORK PROGRAM AND TIME SCHEDULE FOR WORKS / SERVICES
MONTHS

Notes: DEPARTMENT

- 111. Dental Unit
- 112. Clinical Research Centres
- 113. Pharmacy Labs. I
- 114. Pharmacy Labs II
- 115. Rahentulla Wing
- 116.
- 117.
- 118.
- 119.
- 120.
- 121.
- 122.

DEPT.	1992					1993					1994															
	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL		
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Owners Approval.

Job.

Property of.

Scale.

Date.


L.R. No. Designed by.

Location Drawn by.

Road. Checked by.

Town. Dwg. No.

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O: REQUIRED EQUIPMENTS

現存機材調査表

A : 最良の状態にて稼働 C : 大体は良好に稼働するがときどき問題有り
 B : 良好の状態にて稼働 D : 使用はしているが問題が多い
 E : 全く使用出来ない

NAME OF DEPT. PARASITOLOGY LAB.	INTRODUCTION YEAR & DONNER NAME	CONDITIONS BY QUANTITY					TOTAL	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E	Q'TY	
HONOCLAR MICROSCOPE	>20 YEARS			*			2	REPLACE
BINOCLAR MICROSCOPE	>20 YEARS			*			6	REPLACE
CENTRIFUGE	>30 YEARS				*		1	REPLACE
REFRIGERATOR	>20 YEARS			*			1	REPLACE
CENTRIFUGE	>30 YEARS				*		1	REPAIR OR REPLACE
CENTRIFUGE	12 YEARS		*				1	KEEP AND USE AS IS
REFREGERATOR	4 YEARS		*				1	KEEP AND USE AS IS
BINOCLAR MICROSCOPE	>10 YEARS				*		1	REPAIR OR OR REPLACE
BINOCLAR MICROSCOPE	>10 YEARS					*	1	REPLACE
INCUBATOR	4 YEARS		*				1	KEEP AND USE AS IS
DISECTION MICROSCOPE	>20 YEARS				*		1	REPLACE
REFREGERATOR	>20 YEARS					*	2	REPLACE
INCUBATOR	>20 YEARS				*		1	REPLACE
INCUBATOR	10 YEARS			*			1	KEEP AND USE
INCUBATOR	6 YEARS		*				1	KEEP AND USE
LOW TEMP. INCUBATOR	6 YEARS		*				1	KEEP AND USE
INCUBATOR	>10 YEARS			*			1	KEEP AND USE
AUTOCLAVE	1 YEAR	*					1	KEEP AND USE
DEEP FREEZER	4 YEARS		*				1	KEEP AND USE
WATER BATH	6 YEARS		*				1	KEEP AND USE
AUTOCLAVE	6 YEARS		*				1	KEEP AND USE
INCUBATOR	>20 YEARS				*		2	REPLACE
MIXER	5 YEARS		*				1	KEEP AND USE

NAME OF DEPT. MICROBIOLOGY LAB. NAME OF EQUIPMENT	INTRODUCTION YEAR & DONOR NAME	CONDITIONS BY QUANTITY					TOTAL Q'TY	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E		
REFRIGERATOR	>10 YEARS			*			1	KEEP AND USE
REFRIGERATOR	>15 YEARS					*	1	REPLACE
MICROSCOPE	10 YEARS			*			1	KEEP AND USE
MICROSCOPE	10 YEARS					*	1	REPLACE
CENTRIFUGE	>20 YEARS				*		1	REPAIR OR REPLACE
INCUBATOR	>20 YEARS				*		1	KEEP AND USE
MICROSCOPE	>20 YEARS				*		1	REPLACE
CENTRIFUGE	>20 YEARS				*		1	SERVICE
MICROSCOPE	>10 YEARS				*		2	REPLACE
WATER BATH	>10 YEARS				*		1	REPLACE
INCUBATOR	>15 YEARS				*		1	SERVICE
WATER BATH	>15 YEARS				*		1	SERVICE
SWING OUT CENTRIFUGE	>20 YEARS				*		1	SERVICE
MICROSCOPE	>20 YEARS				*		1	SERVICE
MICROSCOPE	15 YEARS				*		1	SERVICE
MICROSCOPE	15 YEARS					*	1	REPLACE
INCUBATOR	>15 YEARS			*			1	SERVICE
DEEP FREEZER	>30 YEARS				*		1	REPLACE
CENTRIFUGE	>30 YEARS				*		1	REPLACE
INCUBATOR	20 YEARS				*		1	REPLACE
BLOOD CELL COUNTER	20 YEARS				*		1	REPLACE
WATER BATH	>20 YEARS			*			1	SERVICE & USE AS IS
REFRIGERATOR	>20 YEARS			*			1	SERVICE
STERILIZER	>20 YEARS			*			1	USE AS IS
WEIGHING BALANCE	>30 YEARS				*		1	REPLACE
WATER BATH	20 YEARS				*		1	REPAIR OR REPLACE
PORTABLE AUTOCLAVE	5 YEARS					*	2	REPLACE
PORTABLE AUTOCLAVE	>20 YEARS					*	1	REPLACE
BINOCULAR MICROSCOPE	>20 YEARS					*	9	REPLACE
FLUORESCENT MICROSCOPE	>20 YEARS				*		1	SERVICE
WATER STILL	>20				*		1	REPLACE

NAME OF DEPT. MICROBIOLOGY LAB. NAME OF EQUIPMENT	INTRODUCTION YEAR & DONNER NAME	CONDITIONS BY QUANTITY					TOTAL Q'TY	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E		
INCUBATOR	>10 YEARS			*			1	SERVICE
CENTRIFUGE	>10 YEARS			*			1	SERVICE
REFRIGERATOR	>10 YEARS			*			2	SERVICE
AUTOCLAVE	>20 YEARS				*		2	REPLACE
AIR VENTILATOR	>20 YEARS				*		1	REPLACE
HOT AIR OVEN	>10 YEARS				*		1	REPLACE
SPECTROMETER	>10 YEARS				*		1	REPLACE
INCUBATOR	>10 YEARS			*			1	NECESSARY REPAIR
INCUBATOR	>10 YEARS				*		1	REPLACE
CENTRIFUGE	>20 YEARS				*		1	REPLACE
HOT AIR OVEN	>10 YEARS				*		1	REPLACE
CENTRIFUGE	>20 YEARS				*		2	REPLACE
CENTRIFUGE	>20 YEARS				*		1	REPLACE
SHAKER	>20 YEARS				*		1	REPLACE
ELECTRICAL WASHER	>20 YEARS				*		1	REPLACE
INCUBATOR	>20 YEARS				*		1	REPLACE
BINOCLAR MICROSCOPE	>10 YEARS			*			1	BORROWED FROM

NAME OF DEPT. BIOCHEMISTRY LAB. NAME OF EQUIPMENT	INTRODUCTION YEAR & DONNER NAME	CONDITIONS BY QUANTITY					TOTAL Q'TY	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E		
BLOOD GAS ANALYZER	>20 YEARS					*	1	REPLACE
MECHANICAL SHAKER	>20 YEARS					*	1	REPLACE
BLOOD CELL SUSPENSION	>20 YEARS					*	2	REPLACE
BALANCE	>20 YEARS				*		2	REPLACE
BALANCE	>10 YEARS			*			1	KEEP AND USE
CENTRIFUGE	10 YEARS			*			2	KEEP AND USE
CAROTINETER	10 YEARS			*			1	KEEP AND USE
AUTOMATIC ABSORPTION SPECTROPHOTOMETER	2 YEARS	*					1	KEEP AND USE
FLAME PHOTOMETER	2 YEARS	*					2	KEEP AND USE
HOMOGENIZER	15 YEARS			*			1	KEEP AND USE
PHOTOMETER	10 YEARS			*			1	KEEP AND USE

NAME OF DEPT. BIOCHEMISTRY LAB.	INTRODUCTION YEAR & OWNER NAME	CONDITIONS BY QUANTITY					TOTAL Q'TY	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E		
REFRIGERATOR	15 YEARS			*			1	KEEP AND USE
CENTRIFUGE	15 YEARS			*			1	KEEP AND USE
PH METER	15 YEARS			*			1	KEEP AND USE
GLUCOMETER	15 YEARS			*			1	KEEP AND USE
CENTRIFUGE	10 YEARS				*		1	REPLACE
DRYING OVEN	20 YEARS			*			1	KEEP AND USE
AUTO ANALYZER	20 YEARS				*		1	REPLACE
FLAMEPHOTOMETER	20 YEARS					*	1	REPLACE
PRINTER FOR DENSITOMETER	20 YEARS					*	1	REPLACE
MICROSPHEROMETER	20 YEARS					*	1	REPLACE

NAME OF DEPT. IMMUNOLOGY LAB.	INTRODUCTION YEAR & OWNER NAME	CONDITIONS BY QUANTITY					TOTAL Q'TY	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E		
REFRIGERATOR	>10 YEARS				*		1	KEEP & USE
DEEP FREEZER	>10 YEARS			*			1	USE AS IT IS
FRIDGE KELVINOMETER	>10 YEARS			*			1	USE AS IT IS
FRIDGE KELVINOMETER	>10 YEARS					*	1	REPLACE
HEAT AIR OVEN	>10 YEARS			*			1	USE AS IT IS
WATER BATH	>10 YEARS			*			1	USE AS IT IS
PH METER	>10 YEARS			*			1	USE AS IT IS
WATER BATH	>10 YEARS			*			1	USE AS IT IS
SPECTROPHOTOMETER	>10 YEARS					*	1	REPLACE
CAROLIMETER	>10 YEARS					*	1	REPLACE
BALANCE	>10 YEARS					*	1	REPLACE
BALANCE	>10 YEARS			*			2	USE AS IT IS
VACUUM PUMP	>10 YEARS			*			1	USE AS IT IS
ELECTROPHORESIS APPARATUS	>10 YEARS			*			2	USE AS IT IS
MICRO SHAKER	>10 YEARS			*			1	USE AS IT IS
BLOOD CELL SUSPENSION MIXER	>10 YEARS					*	1	REPLACE
WEDIFUGE	>10 YEARS					*	2	REPLACE
CHEMICAL BALANCE	>10 YEARS				*		1	REPAIR OR REPLACE

NAME OF DEPT. IMMUNOLOGY LAB.	INTRODUCTION YEAR & DONNER NAME	CONDITIONS BY QUANTITY					TOTAL Q'TY	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E		
COLONY COUNTER	>10 YEARS				*		1	REPAIR OR REPLACE
MICROSCOPE	>10 YEARS			*			4	USE AS IS
GAMMA COUNTER	>10 YEARS			*			1	KEEP & USE
REFRIGERATOR	>10 YEARS		*				1	KEEP & USE
STERILIZING HOOD	>10 YEARS			*			1	KEEP & USE
OXYGEN INCUBATOR	>10 YEARS			*			1	KEEP & USE
DIGITAL PH METER	>10 YEARS			*			1	KEEP & USE
ANALYTICAL BALANCE	>10 YEARS					*	1	REPLACE
LABOUGE	>10 YEARS			*			1	KEEP & USE
BENCH CENTRIFUGE	>10 YEARS			*			1	KEEP & USE
CHEMICAL BALANCE	>10 YEARS			*			1	KEEP & USE
FRACTION COLLECTOR	>10 YEARS			*			1	KEEP & USE
HOT AIR OVEN	>10 YEARS			*			1	KEEP & USE
POWER PACK	>10 YEARS			*			1	KEEP & USE
BROUWER PUMP	>10 YEARS			*			1	KEEP & USE
PEDESTAL TIC PUMP	>10 YEARS			*			1	KEEP & USE
REFRIGERATOR	>10 YEARS			*			2	KEEP & USE
INCUBATOR	>10 YEARS			*			1	KEEP & USE
REFRIGERATED CENTRIFUGE	>10 YEARS			*			1	KEEP & USE
DISINFECTOR	>10 YEARS			*			1	KEEP & USE
REFRIGERATOR	>10 YEARS			*			1	KEEP & USE
COLONY COUNTER	>10 YEARS			*			1	KEEP & USE
DEEP FREEZER	>10 YEARS			*			1	KEEP & USE
ULTRA COLD FREEZER	>10 YEARS			*			1	KEEP & USE
SHAKER	>10 YEARS			*			1	KEEP & USE
MICRO SHAKER	>5 YEARS		*				1	KEEP & USE

NAME OF DEPT. ECG	INTRODUCTION YEAR & DONNER NAME	CONDITIONS BY QUANTITY					TOTAL Q'TY	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E		
ELECTROCARDIOGRAPH	25 YEARS					*	1	REPLACE
PORTABLE ECG	>20 YEARS					*	1	REPLACE
DEFIBRILLATOR	>10 YEARS					*	1	REPLACE

NAME OF DEPT. ECG NAME OF EQUIPMENT	INTRODUCTION YEAR & DONNER NAME	CONDITIONS BY QUANTITY					TOTAL Q'TY	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E		
CARDIAC MONITOR	16 YEARS			*			2	KEEP AND USE AS IS
PORTABLE SUCTION UNIT	7 YEARS		*				1	KEEP AND USE AS IS
FILM PROCESSOR	16 YEARS				*		1	REPLACE
X-RAY FILM VIEWER	>15 YEARS				*		1	REPLACE
X-RAY FILM VIEWER	16 YEARS					*	2	REPLACE
STERILIZER	10 YEARS			*			1	KEEP AND USE SA IS
REFRIGERATOR	16 YEARS			*			1	KEEP AND USE AS IS
X-RAY FILM VIEWER	10 YEARS					*	1	REPLACE
GAS STERILIZER	10 YEARS			*			1	KEEP AND USE AS IS
PACE MAKER	6 YEARS				*		1	REPAIR
REFRIGERATOR	5 YEARS		*				1	KEEP AND USE AS IS
OSCILLOSCOPE	16 YEARS					*	1	REPLACE
TREADMILL	3 YEARS			*			1	REPAIR & KEEP & USE
CARDIAC MONITOR	3 YEARS			*			2	REPAIR & KEEP & USE
X-RAY FILM VIEWER	10 YEARS			*			1	KEEP & USE
ECHOCARDIOGRAPHY	10 YEARS			*			1	KEEP & USE
PORTABLE ECG MACHINE	3 YEARS	*					1	KEEP & USE
SUCTION MACHINE	>10 YEARS					*	1	REPLACE
ECG MACHINE	20 YEARS					*	1	REPLACE
IMAGE INTENSIFIER	16 YEARS					*	1	REPLACE
RESPIROMETER	16 YEARS				*		1	REPAIR OR REPLACE
DEFIBRILLATOR	16 YEARS			*			1	KEEP & USE
CARDIAC MONITOR	3 YEARS		*				1	KEEP & USE

NAME OF DEPT. MAIN THEATER	INTRODUCTION YEAR & DONNER NAME	CONDITIONS BY QUANTITY					TOTAL Q'TY	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E		
DEEP FREEZER	>15 YEARS					*	1	REPLACE
REFRIGERATOR	>15 YEARS					*	1	REPLACE
X-RAY FILM VIEWER	>10 YEARS			*			1	KEEP & USE

NAME OF DEPT. ROUTINE LAB.	INTRODUCTION YEAR & DONNER NAME	CONDITIONS BY QUANTITY					TOTAL Q'TY	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E		
INCUBATOR	8 YEARS				*		1	CLEAN & REPAIR HANDLE
HOT AIR OVEN	>20 YEARS					*	1	REPLACE
INCUBATOR	>15 YEARS					*	2	REPLACE

NAME OF DEPT. CASUALTY	INTRODUCTION YEAR & DONNER NAME	CONDITIONS BY QUANTITY					TOTAL Q'TY	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E		
OPERATING TABLE	>10 YEARS				*		1	REPAIR
ANESTHESIA MACHINE	>10 YEARS			*			1	KEEP & USE
SUCTION UNIT	>10 YEARS			*			1	KEEP & USE
OPERATING LIGHT	>10 YEARS				*		1	KEEP & USE IT

NAME OF DEPT. T.S.S.D.	INTRODUCTION YEAR & DONNER NAME	CONDITIONS BY QUANTITY					TOTAL Q'TY	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E		
REFRIGERATOR	15 YEARS				*		1	SURPLUS
HOT AIR OVEN	20 YEARS					*	1	REPLACE
AUTOCLAVE	20 YEARS					*	2	REPLACE

NAME OF DEPT. BURNS UNIT	INTRODUCTION YEAR & DONNER NAME	CONDITIONS BY QUANTITY					TOTAL Q'TY	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E		
STERILIZER	7 YEARS		*				1	KEEP & USE
OPERATING TABLE	10 YEARS				*		1	SURPLUS
STERILIZER	>15 YEARS					*	2	REPLACE
WEIGHING BALANCE	>10 YEARS				*		1	CALIBRATE

NAME OF DEPT. RENAL UNIT	INTRODUCTION YEAR & DONNER NAME	CONDITIONS BY QUANTITY					TOTAL Q'TY	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E		
DILUTER MACHINE	2-3 YEARS					*	1	REPAIR
DIGITAL INFUSION	5 YEARS		*				4	KEEP & USE
STERILIZER	<10 YEARS			*			1	KEEP & USE
KIDNEY DIAG.	UN-KNOWN				*		7	SURPLUS
KIDNEY DIAG.	15 YEARS			*			2	NEED TO CONVERT 220 v

NAME OF DEPT. RENAL UNIT NAME OF EQUIPMENT	INTRODUCTION YEAR & DONNER NAME	CONDITIONS BY QUANTITY					TOTAL Q'TY	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E		
CARDIAC MONITOR	10 YEARS			*			1	KEEP & USE
PATIENT FUNCTIONAL MACHINE	9 YEARS				*		1	SURPLUS & REPLACE
INFUSION PUMP	3 YEARS	*					1	KEEP & USE
CARDIAC MONITORING UNIT	9 YEARS		*				5	KEEP & USE
KIDNEY TRANSPORTATION UNIT	5 YEARS			*			1	KEEP & USE
KIDNEY DIAG.	9 YEARS					*	3	SURPLUS & REPLACE
STEAM STERILIZER	9 YEARS				*		1	REPAIR
MICROSCOPE	7 YEARS		*				2	KEEP & USE
COULTER COUNTER	7 YEARS		*				1	KEEP & USE
HEDIFUGE	7 YEARS			*			1	KEEP & USE
REFRIGERATOR	7 YEARS				*		1	REPAIR KEEP & USE
CENTRIFUGE	NEW	*					1	KEEP & USE
WATER PPDSSING PLONT NOTOLD					*		1	REPLR

NAME OF DEPT. I.C.U.	INTRODUCTION YEAR & DONNER NAME	CONDITIONS BY QUANTITY					TOTAL Q'TY	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E		
FLAME PHOTOMETER	15 YEARS			*			1	KEEP & USE
BLOOD GAS ENLIGHTER	12 YEARS					*	1	REPLACE
PHOTOMETER	<10 YEARS					*	1	REPAIR OR REPLACE
CENTRIFUGE	19 YEARS					*	1	REPAIR OR REPLACE
BLOOD GAS ANALYZER	3 YEARS					*	1	REPAIR
BLOOD GAS ANALYZER	12 YEARS				*		1	REPAIR OR REPLACE
COULTER COUNTER	4 YEARS					*	1	REPAIR
MICROSCOPE	<10 YEARS					*	1	REPLACE
X-RAY FILM VIEWER	<10 YEARS			*			1	KEEP & USE
CARDIAC MONITOR	<10 YEARS				*		1	REPLACE OR SURPLUS
CARDIAC MONITOR	2 YEARS	*					3	KEEP & USE
INFANT INCUBATOR	8 YEARS				*		1	REPAIR OR REPLACE
ISOLATION INFANT INCUBATOR	7 YEARS				*		6	REPAIR OR REPLACE
CARDIAC MONITOR	4 YEARS	*					8	NECESSARY TRANSFORMER
CARDIAC MONITOR	>5 YEARS		*				3	KEEP & USE

NAME OF DEPT. L.C.U.	INTRODUCTION YEAR & DONOR NAME	CONDITIONS BY QUANTITY					TOTAL Q'TY	DETAILS OF TROUBLES OR COMMENTS
		A	B	C	D	E		
BENNET RESPIRATOR	10 YEARS			*			3	REPAIR
VOLUME RESPIRATOR	10 YEARS				*		1	RPAIR
VOLUME RESPIRATOR	10 YEARS			*			1	KEEP & USE
INFANT RESPIRATOR				*			2	KEEP & USE
POSI-NEGA RESPIRATOR	>20 YEARS					*	4	REPLACE
CARDIAC MONITOR	15 YEARS			*			2	KEEP & USE
CARDIAC MONITOR	>20 YEARS					*	1	REPLACE
INFUSION PUMP	6 YEARS		*				5	KEEP & USE
INFUSION PUMP	20 YEARS				*		2	REPLACE
DEFIBRILLATOR	10 YEARS			*			1	KEEP & USE
REFRIGERATOR	20 YEARS			*			2	KEEP & USE
CARDIAC MONITOR	4 YEARS				*		1	REPAIR
RESPIRATOR	15 YEARS				*		1	REPAIR NECESSARY TRANS
CARDIAC MONITOR	>10 YEARS				*		1	SURPLUS
CENTRIFUGE	>20 YEARS					*	2	REPLACE
CARDIAC MONITOR	10 YEARS			*			1	KEEP & USE
DEFIBRILLATOR	20 YEARS			*			1	KEEP & USE
PORTABLE X-RAY UNIT	16 YEARS					*	1	REPLACE
PORTABLE SECTION UNIT	6 YEARS				*		5	REPAIR OR REPLACE
STEAM AUTOCLAVE	15 YEARS					*	1	REPLACE
ULTRASONIC INSTRUMENT WASHER	22 YEARS					*	1	REPLACE
GLUCOMETER	2 YEARS	*					1	KEEP & USE

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