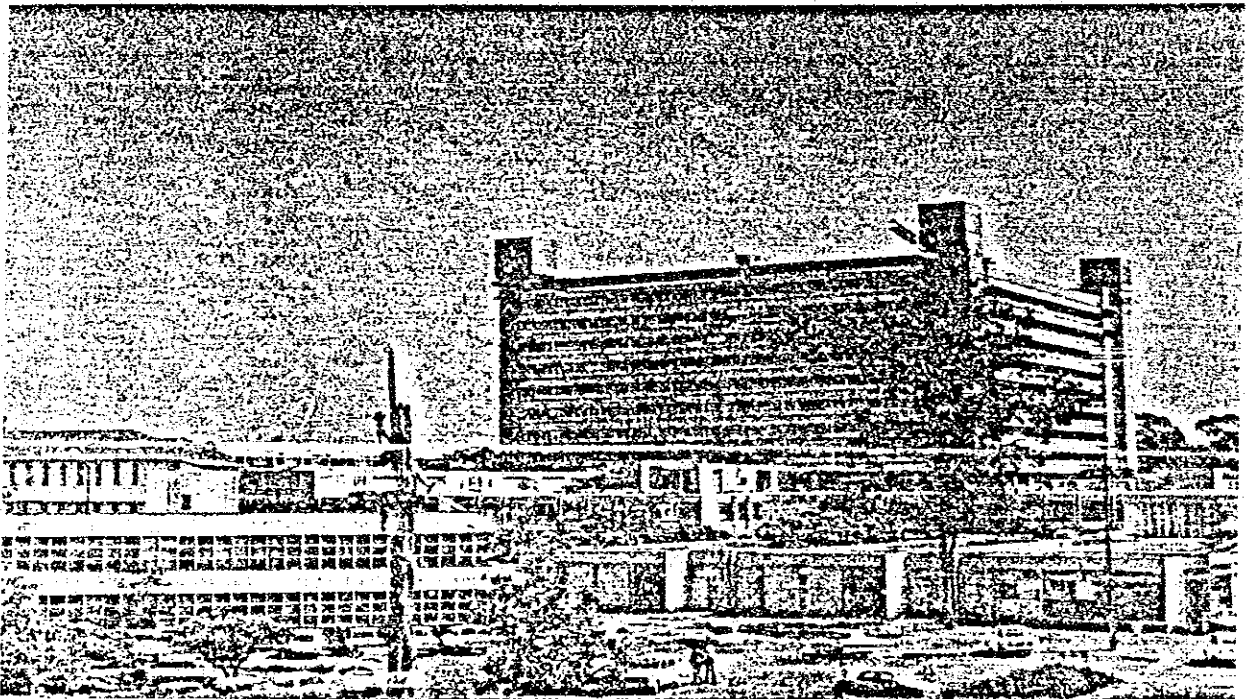


REPUBLIC OF KENYA



KENYATTA NATIONAL HOSPITAL

# STAFF MANUAL



*"Administration Block and Part of Old Hospital. New Ward Tower and a Section of the General Out Patient Clinic".*



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## PREFACE

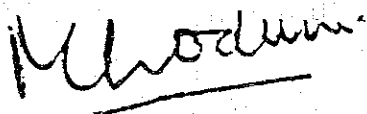
It is a pleasure to welcome you to the staff of the Kenyatta National Hospital. (KNH)

Work in a hospital demands a high degree of team work and hence ability to collaborate diligently. Every patient must be treated as a separate entity to which care must be tailored. It is our hope and expectation that you will find the atmosphere of our hospital congenial to enable you to settle in and derive satisfaction from your work.

We aim at establishing here in KNH an excellent treatment and training institution where the best men and women both young and old can work and study. Anything that contributes towards this goal is encouraged and welcome.

This manual, the first of its kind, is issued in the interests of improving communication, which has been a felt need. It is hoped that thereafter we shall fully join forces in giving our patients the best possible treatment and care, and that our students will have the best teaching and examples to follow.

Acknowledgements and thanks are extended to all those who contributed information and suggestions and ultimately made the production of this manual possible. I thank especially the Dean of the Medical School, Prof. Wasunna, A., the tutor in charge of the School of Nursing Mr. J. Khachina, Matron (Deputy Chief Nursing Officer) Kenyatta National Hospital, Mrs. W. Nyoike, Mr. Kiriga the Senior Records Officer for their valuable assistance. The Printers Kenya Literature Bureau were very understanding and patient.



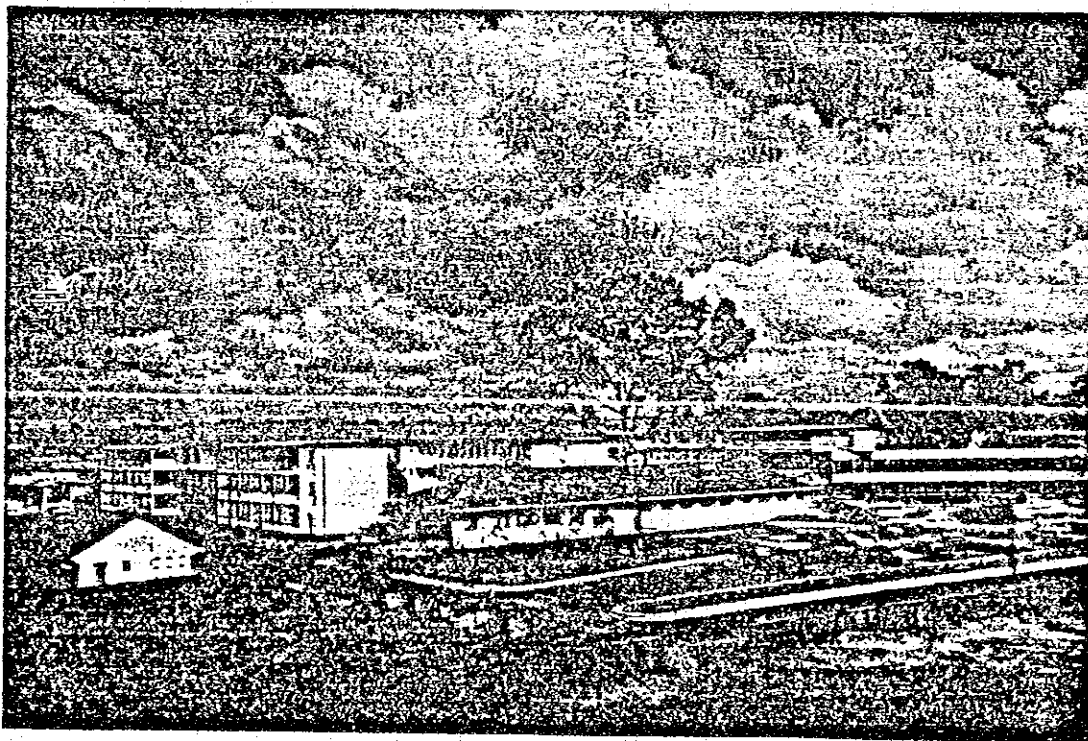
Dr. M.L. Oduori, MBChB. DCH, FRCP  
DIRECTOR  
July 1981

## INTRODUCTION

### HISTORY OF THE HOSPITAL

The oldest part of the hospital, originally called the Native Civil Hospital was built about 1901. It is recorded that in 1908 there were 45 beds and that 712 inpatients and 6425 out patients were seen. During the first world war it became a camp for the 5th Kenya African Rifles. A more modern part of the hospital, 300 bedded medical wing was completed in 1939. The second world war hindered further progress in building expansions.

Further extensions were made in 1951 and 1953, by the completion of a 300-bedded surgical wing and the Ismail Rahimtulla Wing (to accommodate patients from the Asian community). The hospital was renamed King George VI Hospital in 1951.



*Part of the Old Hospital*

1956 and 1957 saw the completion of the 267 bed Infectious Diseases Hospital and outpatient clinics respectively. Many other service departments were built after the second world war, and by the early sixties nearly all departments had been built.

The total bed complement for this hospital as at late sixties, (until new extensions were made in 1969) was approximately 1,000 beds distributed as follows:

Medical	300	Amenity	70
Surgical	300	Infectious Diseases	267

Since a great deal of work of a national nature was assigned to the hospital, its name was changed to Kenyatta National Hospital in 1964, in honour of the first President of the Republic of Kenya, HE. the late Mzee Jomo Kenyatta. The Hospital now functions as a national hospital for the whole republic, as well as acting as a provincial and district hospital for the Nairobi area. It also provides primary health care.

In July, 1965 the hospital commenced clinical training of medical students. In December of the same year the maternity unit was opened and simultaneously the training of Kenya Registered midwives started.

The Medical Training Centre was also expanded, developed and improved so that more nurses, and professions allied to medicine could be trained.

The following are details of the hospital building programme in chronological order.

1939	Medical block of 300 beds completed and opened.
1939-1945	Medical block used as Military hospital
1946	Medical block opened for use by general African public.
1949	Surgical block completed and opened.
1951	Theatre block and Ismail Rahimtulla Wing completed and opened.
	Hospital named King George VI Hospital.
1956	Infectious Diseases Hospital completed and opened.
1957	Old out patient clinics completed and opened.
1961	Orthopaedic centre (site of present maternity Unit opened.

1964	Hospital named Kenyatta National Hospital.
1965	Kenyatta National Hospital took over the British Military Hospital, at Kabete, and now use it as its orthopaedic Unit. Later a Dental unit was added.
1968	Radiotherapy Department was built with Swedish assistance and opened.
1971	New Out patient block completed and opened.
1972	Spinal Injuries Unit was opened. In 1979 this became the National Spinal Injuries Unit.
1981	New wards expected to be completed and opened. New tower block will provide approximately 1200 beds.

#### THE NATIONAL HOSPITAL TODAY:

The present modern hospital was built in three phases; the third phase is the ward tower block which is nearing completion. Funds were obtained from Kenyan tax payers and partly from the British Government.

Phase I mainly consists of the Out Patient and some Service departments. This covers a major portion of the treatment and diagnostic requirements which are currently used in conjunction with the existing wards. The departments include: a boiler house, general out patient clinics, medical records, casualty, surgical out patient clinics, medical out patient clinic, gynaecology out patient clinics, paediatrics out patient clinics, ear, nose and throat out patient clinic, out patient laboratory, anaesthetic department, burns unit, eight operating theatres and theatre sterile supplies unit (T.S.S.U.), intensive care unit, clinical sciences blocks and accommodation for medical students of the Faculty of Medicine, and maintenance department which is supervised by the Ministry of Works.

Phase II consists of service departments which include: catering facilities, pharmacy, stores, sterile preparations unit (S.P.U.), mortuary.

The total value of Phase I and II was K.£3,835,180. For 1980/81 financial year the following beds are budgeted for the various departments.

<i>National Hospital</i>	<i>Beds</i>
Paediatrics division	176 (cots) & beds
Surgical division	337
Orthopaedic and Dental	107 + 40 cots
Medical division	216
Gynaecology & Obstetrics division	236 + 110 Cots

Infectious Diseases Hospital	167 + 77 Cots
Intensive Care Unit	22
Rahemtulla Wing	44

*Present Boundaries of K.N.H.*

The main KNH compound occupies an area of 90.25 hectares (223 acres); wards, clinics, out-patients, and administrative buildings and the Medical School occupy 26.5 hectares (65.48 acres). The associated Infectious Diseases Hospital (IDH) occupies 6.25 hectares (15.44 acres).

Within the boundaries of KNH are the main general hospital, the National Public Health Laboratories, the Government Chemists Laboratory, the National Tuberculosis Research Centre, the Medical Research Centre ("Dutch" Laboratory), Ministry of Works KNH Maintenance Depot, National Cripple Rehabilitation centre, National Family Welfare Centre, Medical Training Centre, University of Nairobi Medical School, Health Education Unit for the Ministry of Health. There are also residential quarters for doctors, nurses and other hospital workers as well as hostels for University of Nairobi medical students in their clinical years and for students of the Medical Training Centre.

The hospital can easily be reached via Ngong' Road and Hospital Road as well as via the new Mbagathi Road. There are frequent buses and "matatus" operating on these roads.



## **MANAGEMENT OF KENYATTA NATIONAL HOSPITAL BOARD OF MANAGEMENT**

The KNH Management Board is responsible for the running of the hospital subject to any direction from the Ministry of Health, and in discharging its duty takes account of the interests of patients and the public. The Board endeavours to get standards of performance and ensure that full use is made of modern management aids such as cash accounts and management statistics.

Members are responsible for deciding policy, receiving and modifying it as necessary but its execution is left to officers. It follows that the hospital Board has to define its aims, and decisions in such a way that officers can proceed to execute them confidently without further reference to members except on major issues.

The following in chronological order have made efforts to improve the management of KNH

- 1967 KNH Management Committee was set up under the Chairmanship of Dr. Likimani, J. the then Director of Medical Services. The committee did not function for a long period.
- 1977-1978 Ad Hoc Management Committee was set up under the Chairmanship of Mr. Kyalo J. the then Permanent Secretary. It did not last long.
- July 1978 A Management Committee was reconstituted and chaired by Dr. J.M. Gekonyo, Senior Deputy Director of Medical Services. This met only twice.
- 1978-1979 Executive Management Committee was set up and chaired by Dr. E.N. Mngola, Permanent Secretary/ Director of Medical Services, Chief Specialist Physician.
- 1979 A KNH Visiting Committee was established and chaired by Mr. Paul Boit, then Provincial Commissioner, Nairobi. The Committee did not function for long due to a variety of reasons.
- February 1980  
The present KNH Management Board was set up by Hon. A.K. Magugu EGH/M.P., Minister for Health. The first Chairman was Mr. P.H. Okondo. He was later succeeded after 4 months in office by Mr. S. Mwakisha, P.C. Nairobi. There are thirteen members. The Director of the Hospital is the Secretary.

(ii) ADMINISTRATORS:

(a) *Medical Superintendent*

1960 - 1966

1966-1967

1967 - Jan. - June

1967 June - 1970

Dr. T.K.H. Mathews

Dr. Evelia, T.

Dr. Onyango, R.

Dr. Evelia, T.

*Chief Administrator;*

1970 -1973

1973 - 1978

1978 - 1979

Dr. Munano, P.

Dr. Thuku, J.J.

Dr. Kahugu, W.

*Director*

1980

Dr. Oduori, M.L.

(b) *Group Hospital Secretaries:*

1956 - 1957

1957 - 1966

1966 - 1967

1967 - 1968

Mr. Cruickshank

Mr. Heward

Mr. Lee

Mr. Mwamburi

*Senior Hospital Secretary:*

1969 - 1973

Mr. Norda, S.L.

*Administrative Secretary:*

1970 - for 3 months

1970 - 1973

1973 - 1978

1978

Mr. W. Muguro

Mr. D. Mbela

Mr. L. Ndungu

Mr. H.F. Odhiambo

(c) *Matrons in-charge:*

1953 - 1959

1960 - 1961

1961 - 1963

1964 - 1969

1969 - 1975

Miss Rees, S.B.

Miss Parsons, G.

Miss Race, I.

Miss Richmond, L.R.

Mrs. Nyoike, W.

*Deputy Chief Nursing Officer i/c. K.N.H.*

1976-

Mrs. Nyoike, W.

## **FUNCTIONS OF THE HOSPITAL**

Soon after Kenya became independent in 1963, the Government's health policy was to provide total health care including modern hospital services to all Kenyans.

(a) The functions of Kenyatta National Hospital are:

- (1) To receive patients for health care, students for learning and staff for working without any form of discrimination;
- (2) As the National Referral Hospital to participate in National health planning, and in particular to examine and approve proposals for new departments within its ambit.
- (3) As a teaching hospital for the University of Nairobi to provide facilities for medical education and research either directly or through other co-operating health institutions.
- (4) To provide facilities for nursing and other paramedical education and training.
- (5) To assist in the prevention and promotion of health care in Kenya.

(b)

- (i) The hospital is recognised by the Medical Practitioners and Dentists Board for internship (preregistration or training employment) of doctors and dentists.
- (ii) Post graduate medical training courses leading to University awards of Master of Medicine degrees, and diplomas in advanced nursing and laboratory technology are undertaken.
- (iii) The hospital is recognized by the Nurses, Midwives and Health Visitors Council for training of Registered nurses and midwives. It is also the training hospital for clinical officers, pharmaceutical technicians, laboratory technicians, public health technicians, physiotherapists occupational therapists, orthopaedic and dental technicians, etc.

## **DIVISIONS:**

The following divisions assist the administration in supervising clinical and diagnostic areas. They are all headed by Chairmen elected by members of the respective divisions: Medicine, Surgery Paediatrics, Obstetrics and Gynaecology, Laboratory medicine, Radiology, Dentistry.

## COMMITTEES:

### *The Medical Advisory Committee:*

This committee has representatives from every professional department. It advises on all matters affecting the hospital. It has the following sub-committees to assist in the running of the hospital. The Chairman is elected by members.

(i) *Drugs & Equipment Committee:*

The purpose of this committee is to work for the co-ordination and rationalization of purchases of drugs and equipments and recommends priorities.

(ii) Theatre Users

(iii) Ethics & Research

(iv) Medical Education

(v) Out-patient & casualty

(vi) Radiation Protection

(vii) Medical Records & Statistics

(viii) Diagnostic

(ix) Diet and Nutrition sub-committee

(x) Infection Control

### *General Purposes Committee:*

This committee comprises all heads of non-professional departments in the hospital. The Committee sets objectives and reviews regularly the progress of each department and hence the hospital services.

### *Disciplinary Committee:*

Deals with disciplinary cases in the hospital and decides on appropriate action to be taken. As far as possible disciplinary cases are dealt with whenever problems arise. The hospital disciplinary Committee reports to the Board of Management and Ministry or University.

### *Housing Committees:*

There are three housing committees in the hospital, Junior, Middle and Senior Housing Committees. They deal with allocation of houses to junior, middle and senior members of staff respectively. There are very limited institutional houses. Hence members of staff should explore other accommodation such as pool houses from the Ministry of Works, private rental, owner occupying or any others.

## ORGANISATION OF SERVICES:

### (a) *Administrative Departments:*

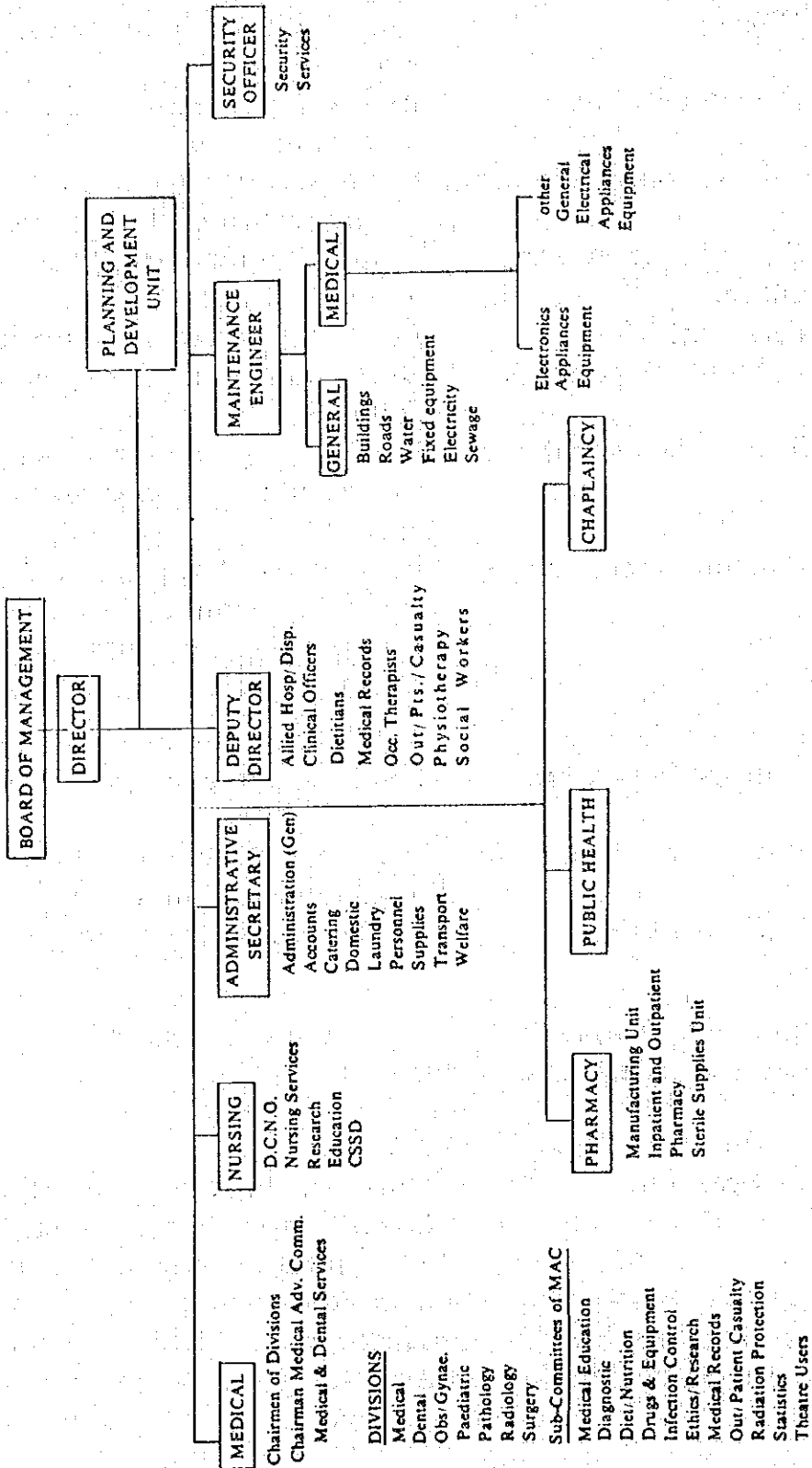
1. Director Co-ordinates and manages the Hospital.
2. Deputy Director Assists the Director and co-ordinates medical function.
3. Administrative Secretary Responsible for the business administration of the hospital.
4. Deputy Chief Nursing Officer Responsible for nursing functions of the hospital.
5. Personnel Officer Deals with all personnel matters.
6. Accounts Department Deals with revenue, expenditure and accounting.
7. Senior Supplies Officer Provisioning and procurement of equipment and supplies required by the hospital.
8. Catering Department Preparation of patients' and students' meals. Operation of Senior and Junior Staff Common Rooms, doctors and sisters messes.
9. Transport Service Internal and external transport.
10. Laundry Department Deals with cleaning and distribution of hospital's linen.
11. Maintenance Unit (M.O.W.) Operation and maintenance of equipment, plant and buildings.
12. Chaplain's Office The hospital's religious services.

(b) *Clinical Out-patient Services:* General and specialist out-patient services are provided. (See Appendix).

### (c) *Clinical In-Patient Departments:*

1. Surgical Units Operative treatment of heart, lungs, blood vessels stomach, intestines, etc. and operative treatment of metabolic ailments.
2. Radiotherapy Unit Treatment of different types of cancers.
3. Renal Unit Surgical and medical treatment of kidney diseases.

# ORGANISATION PLAN FOR KENYATTA NATIONAL HOSPITAL



- |     |   |  |
|-----|---|--|
| 4.  | Cardiothoracic Unit   | Surgical and medical treatment of heart diseases.  |
| 5.  | Medical Unit  | Examination and treatment of internal ailments e.g. diseases of the stomach, kidneys, heart, metabolic, haematological hormonal disorders, etc. Disorders. |
| 6.  | Orthopaedic and Trauma Unit                                   | Treatment of diseased, broken, injured and dislocated bones, joints vertebrae and congenital malformations.  |
| 7.  | Dermatological Unit   | Investigation and treatment of skin ailments and sexually transmitted diseases.  |
| 8.  | Paediatrics Unit  | Examination and medical treatment of sick children.  |
| 9.  | Ophthalmology Unit  | Operative and medical treatment of eye diseases.   |
| 10. | E.N.T. Unit   | Operative and medical treatment of ailments of the ear, nose and throat.   |
| 11. | Department of Obstetrics and Gynaecology                      |  |
| (a) | Obstetric Section   | Deals with childbirth, treatment of expectant and nursing mothers.   |
| (b) | Section of Gynaecology  | Treatment of abdominal (pelvic) ailments in women and diseases related to pregnancy.   |
| 12. | Family Welfare Centre   | Undertakes family planning activities.   |
| 13. | Neurosurgical Department                                      | Operative treatment of disorders of the nervous system.  |
| 14. | Dental Unit   | Treatment of all dental disorders.   |
| 15. | Other Units   | Include occupational therapy, physiotherapy, speech therapy.   |
| (d) | <i>Voluntary organisations associated with the Hospital:</i>  |  |
| 1.  | Kenyatta National Hospital League of Friends started in 1971. |  |
| 2.  | Hospital Chaplaincy of Kenya.                                 |  |

(e) **SUPPORTIVE SERVICES:**

1. *Maintenance:* Maintenance of all buildings within the Hospital compound is done by the Ministry of Works (KNH Maintenance Depot, through funds provided by M.O.W. and partly by the Ministry of Health.
2. *Security:* The hospital employs its own security staff but gets assistance from the local Police Station at Kilimani. It is hoped to have a police post within the compound. *All staff are required to be security conscious, to protect both government and personal property.*
3. *Supplies:*  
*General:* Practically all the hospital's supplies are obtained from the Ministry of Health's Central Medical Stores (for professional items) and the Ministry of Works Supplies Branch (for general user items e.g. soap, brooms, etc.) The Hospital does at times obtain non-scheduled items directly by special arrangements with the Central Medical Stores.
4. *Pharmacy:* A list of essential scheduled drugs and non-scheduled drugs is available. Doctors are urged to follow it when prescribing. Signatures should be clear and names printed on prescriptions and other official documents.
5. *Laundry and Tailoring:* This is a large and important department which undertakes all laundry work for the hospital. The tailoring section saves the hospital considerable sums annually in uniforms, sheets, repairs, etc.
6. *Transport:* The hospital operates a fleet of vehicles of different types including saloon cars, vans, lorries, pickups. However it is not possible to serve everyone satisfactorily. The hospital therefore urges all persons who are on night duties to make departmental arrangements in consultation with the administration regarding sleeping accommodation where these are indicated. This applies especially to doctors, dentists and clinical officers. During the day officers are required to share transport as much as possible whenever indicated.



**STAFF COMPLEMENT FOR HEALTH WORKERS  
IN K.N.H. DURING 1980**

(i) **TECHNICAL STAFF**

M.O.H.	Ministry of Health Staff	M.O.	Medical Officers
S.H.O.	Senior House Officer	P.O.	Pharmaceutical Officers
C.O.	Clinical Officers	D.O.	Dental Officers
UNIV.	University Staff		

DIVISION	SPECIALISTS		S.H.O.		H.O.	M.O./ D.O.	C.O./ P.O.
	MOH	UNIV.	MOH	UNIV.	MOH	MOH	
ANAESTHESIA	3	5	9	-	-	1	14
MEDICINE	4	27	26	4	16	15	12
DERMATOLOGY	4	-	4	-	-	-	-
OBSTETRICS/GYNAE	1	8	30	-	8	-	-
PAEDIATRICS	4	13	26	-	7	3	15
PATHOLOGY	1	9	9	-	-	-	-
MICROBIOLOGY	1	3	-	-	-	-	-
PSYCHIATRY	0	5	-	-	-	-	-
RADIOLOGY	4	4	11	-	-	-	-
RADIOTHERAPY	2	-	1	-	-	-	-
<b>SURGERY:</b>							
-GENERAL	5	12	19	5	11	2	-
-ORTHOAEDIC	3	6	-	-	-	-	-
-CARDIOTHORACIC	1	1	-	-	-	-	-
-PLASTIC	2	1	-	-	-	-	-
-NEUROSURGERY	1	2	-	-	-	-	-
-EYE	6	2	4	-	-	3	-
-E.N.T.	2	1	1	-	-	-	3
	46	99	140	5	42	21	66
DENTISTRY	1	7	-	-	22	17	8
PHARMACY	10	12	-	-	-	-	34
<b>NURSES:</b>							
-REGISTERED	327	-	-	-	-	-	-
-ENROLLED NURSES	345	-	-	-	-	-	-
OCCUPATIONAL THERAPISTS	20	-	-	-	-	-	-
PHYSIOTHERAPISTS	30	-	-	-	-	-	-
RADIOGRAPHERS	57	-	-	-	-	-	-
RADIOGRAPHIC FILM PROCESSORS	23	-	-	-	-	-	-
LAB. TECHNICIANS	44	-	-	-	-	-	-

(ii) OTHER TECHNICAL STAFF

	PRESENT NUMBER
(a) Public Health Officer	1
Public Health Technician	1
(b) EEG Technicians	1
(c) Medical Social Workers	6
(d) Medical Engineering Technologists/Technicians	9
(e) ECG Technicians	3
(f) Cardiovascular Perfusionist	1
(g) Nutritionists	2
(h) Nutrition Field Workers	10
(i) Family Health Field Educators	15

(iii) NON TECHNICAL STAFF

(a) Hospital Secretaries	9
(b) Personnel Officer & Assistants	2+1=3
(c) Accountants and Assistants	2 + 1 = 3
(d) Personal Secretaries	1
(e) Medical Secretaries	3
(f) Shorthand Typists	6
(g) Copy Typists	13
(h) Clerical Officers	126
(i) Mortuary Superintendent & Attendants	1 + 10 = 11
(j) Drivers	45
(k) Artisans	31
(l) Cooks	15
(m) Telephone Supervisors & Operators	1 + 25 = 26
(n) Security Officer/Watchmen	69
(o) Subordinate Staff	855
(p) Supplies Officers & Storemen	36
(q) Domestic (Sup. & Supervisors)	11
(r) Ministry of Works & Boilers	170 + 7 = 177
(s) Tailors & Launderers	29 + 1 = 30
(t) Catering Officers	5
(u) Cateresses	7
(v) Medical Records Officers	8
(w) Medical Records Technicians	13

**SUMMARY:**

**TOTAL Number of Staff in Kenyatta National Hospital—2973**

			%	%
(i) <i>Technical:</i>	Doctors:	353	-	11.9
	Nurses:	672	-	22.6
	Dentists:	55	-	1.8
	Pharmacists:	56	-	1.9
	Clinical Officers:	66	-	2.2
	Radiographers, etc.	80	-	2.7
	Lab. technologist, etc.	89	-	3.0
	Other technical staff	99	-	3.3
				49.4
(ii) <i>Non-Technical Staff</i> (KNH)		1326	-	44.6
	Maintenance (MOW)			
	Staff	177	-	6.0
		<u>2973</u>	-	<u>100.0</u>

**FINANCE:**

Gross operating expenses for KNH for 1980 were calculated at approximately K. Shs. 100,000,000/-. This excludes funds managed from headquarters and exceeds allocations of several other ministries.

The annual budget of K.N.H. is approved by the Ministry of Health and ultimately by the Treasury. The hospital administration is responsible for application of funds and for keeping within the budget. Medical School facilities excluding buildings are funded by the Ministry of Education through the University Administration. All the buildings are maintained by the Ministry of Works KNH Maintenance Unit.

*Capital Expenditure:*

Funds are provided by the Ministry of Health for new buildings. For expenditure on instruments recommended by the Drugs and Equipment Sub-committee, funds are granted directly from the appropriate section of the budget. The administration shares out these funds according to priorities agreed by the departments.

*Cost of Treatment:*

The number of patients admitted in 1979 was 53223. During that year the Hospital treated 693763 patients. *Note:* Cost of treatment per patient per day is approximately K. Sh. 154/-. Other details are shown in the accompanying table.

TABLE

Wards	Admissions	Patient Days	Average Length of stay	Total Cost K. Shs.
General	13374	290204	21.8	3357/-
Acute Gynae	7516	24811	3.3	508/-
Adult Observation Ward	5458	46407	8.3	1278/-
Paediatric Obs. Ward	8824	26500	5.3	816/-
Recovery Ward	2375	16601	7.0	1078/-
Infectious Diseases Hospital (Kabete) Orthopaedic and Dental Unit	1920	39723	22.4	3450/-
Maternity Unit (Mothers)	6015	29055	5.0	
Babies	4918	29055	5.0	
All Wards Combined	53223	657036	13.1	2017/-

#### STAFF REGULATIONS:

(a) *Code of Regulations:*

All Ministry of Health employees are governed by the Civil Service Code of Regulations, whereas University employees observe the University Staff Code of Regulation.

In case of doubt the appropriate personnel officers should be consulted. Official correspondence to the Ministry of Health or to the University should always be made through the Director or Dean as the case may be.

Professional staff are required to have relevant certificates of registration, e.g. from the Medical Practitioners and Dentists Board or the Nurses and Midwives Council, etc. All staff are expected to possess letters of appointment to the hospital. They are expected to abide by the hospital's rules and discipline.

(b) *Practical Information:*

- (i) *Uniforms:* All medical personnel should wear white overcoats, nurses appropriate uniforms and other personnel, the relevant uniforms provided to them. These uniforms should be clean, at all times. Staff should wear identity name plates on their coats or uniforms.

- (ii) *Procedures for Management of Massive Accidents and Medical Emergencies:*  
An emergency plan has been drawn up for the hospital. The Plan has been distributed to all departments. All employees are required to know the plan and their own places when a state of emergency is declared.
- (iii) *Fire Drill:*  
Staff should be conversant with the fire drill.
- (iv) *Routine for Notification of change of names, New address, etc.*  
Changes of names, addresses, telephones, should be notified to the administration without delay.
- (v) *Notice of Injury:*  
An employee who is injured during working hours should fill in a notice or injury form within 24 hours of the accident. Forms are available from the Personnel Office. This also applies to students of the Medical Training Centre.

## ETHICS AND ATTITUDES:

### *General:*

It is the duty and responsibility of every member of staff to maintain a helpful, friendly and proper conduct towards patients. *The key words in this context are cheerfulness, understanding, friendliness, calmness, politeness and good humour. The golden rule applicable here is to behave towards others as you yourself would like them to behave towards you.*

Consideration for the patient must always take precedence over personal interests. Co-operation and congenial working relationship between staff and departments and between departments and administration are of great importance in achieving the objectives of the hospital.

### *Attitudes to Economy;*

The hospital operates within a tight financial budget. Funds allocated for the hospital have to be spent carefully through that financial year. All members of staff are urged to observe great care in using hospital supplies where savings can be made. *Waste of supplies is highly discouraged. The most effective form of saving can be made at the point of consumption.*

Co-operation with outside agencies such as the Nairobi City Council health units, private hospitals, provincial government hospitals and

mission hospitals should be pursued in order to enable the hospital to achieve its penultimate objectives i.e. better patient care.

*Keep your Hospital Clean:*

This slogan has been circulated to every corner of the Hospital and members of staff are urged to help keep their areas of work clean. *A high standard of cleanliness is an essential factor in a hospital environment due to the consequent high risk of infection. Therefore, let us all work together to keep our hospital exceedingly clean!*

*Professional and Official Secrecy:*

The pledge of secrecy is made in the patient's interest to ensure that personal matters relating to sickness and state of health remain confidential. Provisions of the Official Secrets Act must also be observed.

Professional secrecy also entails that special circumstances shall be disclosed only to employers who need to know them in connection with their employees work.

Breach of professional secrecy and Official Secrets Act may be punishable. Official information covering patients and hospital matters is only given on the Director's authority.

## FACILITIES FOR HOSPITAL STAFF

*Day Nurseries:*

The Hospital operates two day nurseries for children of members of staff. One is situated in KNH, (Anderson Hall) in Kabati Estate and the other at Kabete Orthopaedic Unit. Application forms are available from the Welfare Officer.

*Canteen and Shop:*

There is a canteen for meals and a shop in the Administration Block for all personnel. A Senior Staff Common room serves meals and light refreshments. A Junior staff Common Room will soon be available. These common rooms are only open to bonafide members of staff who identify themselves. Moderate fees are charged for these services.

*Post Office:*

The Hospital post office is situated in the Administration Block and operates within normal working hours. Private post box rentals are available.

*Welfare Funds:*

These funds are used to assist hospital personnel having Welfare/Social problems, and to hold special parties for staff, whenever such are indicated.

*Anderson Hall—Recreation:*

A number of games, such as volley ball, draughts, lawn tennis and darts are organised by the Estate Council after duty.

A television set has also been provided.

*Sports:*

There are facilities for playing football, tennis, volley ball, hockey and athletics, in the sports ground opposite the Medical Students hostel.

*Library:*

There are two good medical libraries in the Medical School and the National Public Health Laboratories. There is nearby, about 1 Km. away on Haile Selassie Avenue, opposite the Nairobi Club, a general library operated by the Kenya National Library services.

*Banking:*

There are no commercial banks except the Post Office Savings Bank.

*Parking:*

A few areas have been reserved for staff cars. All members of staff who own cars are advised to apply for relevant car stickers to enable them to enter the KNH compound with minimum delay. Staff are requested to observe provisions of the Highway Code and thereby assist the administration.

*Identity Cards:*

Because of the large population of persons moving within KNH it is essential that all persons who have official business in KNH identify themselves. Therefore all students and staff are advised to have with them the relevant identity cards and wear Identification Name Plaques to avoid any unnecessary inconveniences.

*Telephone:*

All telephones are provided by the Kenya Posts & Telecommunications Corporation upon application, to the Corporation. Internal telephone extensions should be used with discretion to avoid overloading the telephone exchange. Bleeps have been issued to departments for use by doctors and other workers who may be urgently required. Please check with the Telephone Supervisor if in doubt regarding usage.

*Electricity:*

This is provided by the East African Power & Lighting Co. There is a standby generator for theatre use only. It is planned to expand the power of the generator so that it may serve more essential and key areas. Everyone is requested to save energy, conserve electricity and turn off lights and other appliances which are not in use.

*Water:*

This is provided by the City Council of Nairobi. There are plans to provide more and bigger storage tanks to cater for the frequent emergencies which arise. All taps should be turned off when not in use to save this scarce resource.



**TEACHING, TRAINING, CONTINUING EDUCATION  
UNIVERSITY OF NAIROBI  
FACULTY OF MEDICINE**

**HISTORICAL BACKGROUND:**

Kenyatta National Hospital is the teaching hospital for the Faculty of Medicine of the University of Nairobi. Pre-clinical departments are situated at Chiromo campus and the Department of Dental Surgery is opposite the Nairobi Hospital.

The Faculty of Medicine of the University of Nairobi was established in June 1968 with an intake of 27 students for the five year MB. ChB. course. Prior to this, teaching of small groups of Makerere Medical School clinical students had been conducted at the Kenyatta National Hospital since 1965. Training of nurse teachers started in 1969.

The establishment of the Faculty of Medicine in Nairobi was undertaken with substantial assistance from the governments of the United Kingdom, Canada, Italy, Australia the Netherlands and the World Health Organisation.

At that early stage, the main focus was that the faculty should produce medical practitioners and nurse teachers for the development of Kenya's national Health services. It was envisaged that together with the training of other health workers by the Medical Training Centre the faculty should aim at creating a truly integrated National Health Sciences Education Programme. Kenyatta National Hospital was to be the main teaching hospital.

**PROGRESS**

After the graduation of the first group of 16 doctors in 1972 which coincided with that of the third nurse-teacher diplomates, it became clear that introduction of other training programmes was urgently required for the development of health services. Thus postgraduate programmes for specialists were introduced in all major clinical departments, with a view to producing specialists for the Ministry of Health and the academic staff of the faculty. Dental and Pharmacy training were started in 1974.

**CURRENT SITUATION:**

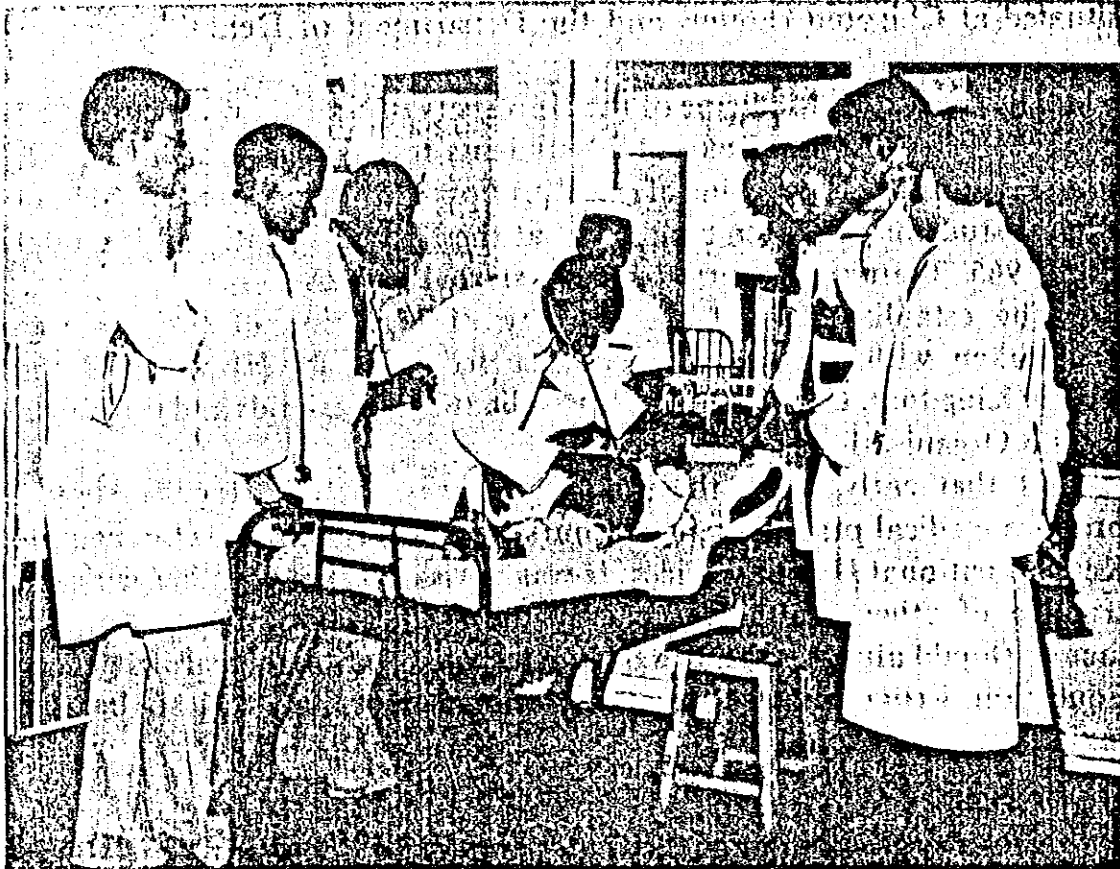
The Faculty of Medicine enjoys a cordial working, and planning relationship with the hospital administration and the Ministry of Health.

There are now the following teaching departments in the faculty:

Medicine, Surgery, Orthopaedic, Pharmacy, Dentistry Psychiatry, Obstetrics and Gynaecology, Paediatrics, Medical Physiology, Human

Anatomy, Biochemistry, Human Pathology, Medical Microbiology, Diagnostic Radiology, Advanced Nursing, Community Health.

There are about 200 members of the academic staff out of an establishment of 250, and about 780 undergraduates and postgraduates.



*A Ward Round and Bedside Teaching in Progress*

**COURSES:**

The following courses are offered:-

<i>Undergraduate</i>	<i>Intake per year (approx)</i>	
MB. ChB.	100	5 year course
B.D.S.	25	4 year course
B. Pharm.	30	4 year course

BSc. (Anatomy)	3 year course
Diploma Advanced Nursing 25	2 year course

**Postgraduate Training:**

- (a) Specialist (Master of Medicine) 3 year courses in: Medicine, Surgery, Paediatrics, Obstetrics and Gynaecology, Diagnostic Radiology, Community Health, Ophthalmology, Anaesthesia.
- (b) There are also facilities for MSc., PhD and MD, by research.

Approximately 10% of our students, both undergraduates and postgraduates are from outside Kenya, mainly African countries which do not have relevant training programmes.

**NUMBERS OF GRADUATES OF THE FACULTY OF MEDICINE 1968 - 1980**

MB.ChB	496	B. Pharmacy	79	M. Med. in various fields	84
B.D.S.	69	Advanced Nursing	122	MSc.	10
PhD.	12				
MD	3				

**RESEARCH:**

This is currently hampered by inadequacy of resources. Nevertheless a number of clinical and basic research projects are being undertaken, e.g. on traditional medicine and medicinal plants. Drug quality control testing on a limited scale has been established in the Department of Pharmacy.

**AFFILIATED INSTITUTIONS:**

The Faculty of Medicine and the Kenyatta National Hospital has formal and professional affiliation with a number of research and medical institutions within and outside Kenya. There are many joint research programmes with various divisions of the Kenya Medical Research Institute.

**FUTURE:**

The curricula for MB.ChB, BDS and B.Pharm. training are currently under review in order to meet the development requirements of the national health services. There are plans to extend clinical training to provincial and possibly certain district hospitals, and to establish a system of continuing medical education for all health workers. A BSc. programme in nursing is planned to replace the diploma course.

A number of diploma programmes at the Medical Training Centre (MTC) are being accepted by the University of Nairobi for the award of certificates. Thus, with co-ordination, the Faculty of Medicine, the Kenyatta National Hospital and other affiliated institutions, and the MTC, are beginning to form an integrated National Health Sciences Education System. The guidelines for this are maximal utilisation of the available resources, appreciation of trends in medicine and introduction of appropriate innovations to meet the health needs of the country.

**MINISTRY OF HEALTH:  
MEDICAL TRAINING CENTRE**

The Medical Training Centre consists of the following Faculties and departments:-

1. *Clinical Medicine.* This includes Registered Clinical Officers general courses and others in Ear, Nose and Throat, Ophthalmic, Paediatrics, Orthopaedics, Tuberculosis and Leprosy and Medical Records Technicians Course.
2. *Education Development and Research.*
3. *Environmental Health Science.* This includes Environmental Health Officers course, Health Technicians course, Meat and other Foods course and Health Education course.
4. *Medical Laboratory Technology.* This includes Medical Laboratory Technology course, Entomological Field Laboratory Technician course and Medical Laboratory Technician course.
5. *Nursing.* This includes General Nursing, Midwifery, Public Health Nursing, Psychiatric Nursing, Intensive Care Nursing and Theatre Technicians course.
6. *Physical Medicine.* This includes Physiotherapy, Dental Technology, Orthopaedic Technology.
7. *Occupational Therapy.*
8. *Pharmacy.*
9. *Radiography.* This includes Radiographer Diagnostic course and Film Processors' Course.

HISTORICAL BACKGROUND AND DEVELOPMENT:

During the first World War, there was on-the-job training in Pharmacy and dressing of wounds. This marked the beginning of some form of training of Government Health workers.

*Pharmacy.* In 1927, African Compounders commenced formal training. They were recruited at KAPE (Kenya African Preliminary Examination) level. In 1933 Compounders were recruited at KJSE level. In 1968, the syllabus of this cadre was broadened and the candidates trained hence qualify as Pharmaceutical Technologists.

*Nursing.* In 1929, Grade II Dresser Course for Nurses was started. Candidates recruited had attempted KAPE but had not been successful. In 1952, Kenya Registered Nursing Course started. Initially general Nursing was taught. Obstetrics and Public Health Nursing were included later. Candidates are recruited at Kenya Certificate of Education (KCE)

standard of education. In 1959, the 2 years Dresser Course was stopped and instead Enrolled Nursing Course of 3 years, later 2½ years, started. In 1966, Enrolled Community Nurse Course started. This course covers General Nursing, Midwifery and Public Health Nursing.

In 1963, Registered Midwifery Course started at Ngara Hospital later transferring to Kenyatta National Hospital, Medical Training Centre, Nairobi, in December, 1965. Male Nurses are also recruited into the training.

In 1972, Registered Public Health Nursing course started. Other Nursing courses that have come into being are Intensive Care Nursing and Theatre Technicians course.

*Clinical Officers Course:* In 1928, Hospital Assistants Course started. It covered partly Nursing and partly Medicine. It stopped in 1959. In 1956, Medical Assistants Course started but stopped in 1958 before the first class of candidates qualified. It re-commenced in April, 1969 as Registered Clinical Officers' Course at Machakos Kenya Israel School, later moving to Nakuru and Nairobi.

*Environmental Health Officers' Course:* In 1933, Public Health Inspectors' Course started, followed by Health Assistants Course. In 1947, Health Inspectors course commenced at Medical Training Depot later moving to Jeans School, Kabete. It was brought back to Medical Training Centre, Nairobi, in 1957.

*Radiography:* In 1951, Assistant Radiographer Course was started at Kisumu to cater for Kenya, Uganda and Tanzania (Tanganyika and Zanzibar). Candidates with Kenya Junior School Examination level of education were recruited. In 1956, the School of Radiography was transferred to Nairobi. Later candidates with E.A.C.E. (O'level) were recruited. Film Processors Course, earlier known as Dark-room Technicians Course, was started.

*Medical Laboratory Technology:* On-the-job training for Laboratory workers was started. Towards the end of the Second World War, a 4 years Course for Medical Laboratory Assistants recruiting candidates with K.A.S.S.E. level of education commenced. In 1958, candidates with E.A.C.E ('O' level) were recruited into training and qualified as Medical Laboratory Technologists.

*Physical Medicine:* This includes Physiotherapy, Dental Technology and Orthopaedic Technology. Physiotherapy started as Orthopaedic

Assistants Course in 1943. Dental Technology commenced Training in 1968 while Orthopaedic Technology commenced in 1972.

*Occupational Therapy:* Commenced training in 1968.

*Education Development and Research:* This course started in March, 1979. It trains trainers of trainees. Teaching Methodology and principles of Administration are taught.

#### FUTURE:

Some programmes have reached saturation point and can therefore not expand locally in Nairobi to absorb more candidates. They just have to spread to the Provinces from Nairobi. There will be phase V of building expansion of Medical Training Centre to cater for those disciplines and areas which at the moment lack adequate accommodation.

#### RELATIONSHIP WITH KENYATTA NATIONAL HOSPITAL:

Medical Training Centre uses Kenyatta National Hospital for practical Training. Concerted efforts between staff of Medical Training Centre and Kenyatta National Hospital ensure that quality, knowledge and skills are gained by the students who on qualifying render health services for the entire Republic of Kenya. Some of the teaching programmes would be discontinued if Kenyatta National Hospital training facilities were not available.

APPENDIX (i)

CONSULTANT SERVICES:  
PATIENTS SEEN BY APPOINTMENT ONLY

PAEDIATRIC CONSULTANT CLINICS

Monday	8.15 a.m. - 12.45 p.m.	Haematology (Paediatric & Adult)
Tuesday	2.00 p.m. - 4.30 p.m.	Paediatric Neurology
Wednesday	8.15 a.m. - 12.00 noon	General Medicine and Skin
Thursday	2.00 p.m. - 4.30 p.m.	General Medicine
Friday	2.00 p.m. - 4.30 p.m.	Cardiology

*Paediatric Demonstration Unit:*

Monday	8.15 a.m. - 12.00 noon	Child Welfare Clinic Kwashiorkor Clinic
	2.00 p.m. - 4.30 p.m.	Child Welfare Clinic
Tuesday	8.15 a.m. - 12.00 noon	Child Welfare Clinic
	2.00 p.m. - 4.30 p.m.	Child Welfare Clinic
Wednesday	8.15 a.m. - 12.00 noon	Child Welfare Clinic Kwashiorkor Clinic
	2.00 p.m. - 4.30 p.m.	Child Welfare Clinic
Thursday	8.15 a.m. - 12.00 noon	Child Welfare Clinic
	2.00 p.m. - 4.30 p.m.	Giving immunizations in the wards
Friday	8.15 a.m. - 12.00 noon	Same as morning Child Welfare Clinic Kwashiorkor Clinic
	2.00 p.m. - 4.30 p.m.	Child Welfare Clinic

MEDICAL CONSULTANT CLINICS:

Monday	8.15 a.m. - 12.00 noon	Neurology Skin
	2.00 p.m. - 4.30 p.m.	Skin
Tuesday	8.15 a.m. - 12.00 noon	Cardiac
	2.00 p.m. - 4.30 p.m.	General Medicine
Wednesday	8.15 a.m. - 12.00 noon	General Medicine
	2.00 p.m. - 4.30 p.m.	Parasitology
Thursday	8.15 a.m. - 12.00 noon	General Medicine
	2.00 p.m. - 4.30 p.m.	General Medicine
Friday	8.15 a.m. - 12.00 noon	Diabetic Skin
	2.00 p.m. - 4.30 p.m.	Skin Chest Clinic

SURGICAL CONSULTANT CLINIC:

Monday	8.15 a.m. - 12.00 noon	General Surgery Cardio-thoracic Surgery Thyroid Fracture
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	2.00 p.m. - 4.30 p.m.	Staff Clinic General Surgery Neurosurgery Staff Clinic
Tuesday	8.15 - 12.00 noon	Urology Fracture Staff Clinic
	2.00 p.m. - 4.30 p.m.	General Surgery
Wednesday	8.15 a.m. - 12.30 p.m.	Psychiatry Fracture Staff Clinic
	2.00 p.m. - 4.30 p.m.	General Surgery
Thursday	8.15 a.m. - 12.00 noon	Fracture General Surgery Special Liver
	8.15 a.m. - 12.00 noon	Fracture Staff Clinic
Friday	8.15 a.m. - 12.00 noon	General Surgery Renal Clinic
	2.00 p.m. - 4.30 p.m.	Paediatric Surgery
Saturday	8.15 a.m. - 12.00 noon	Staff Clinic

#### OBSTETRICS AND GYNAECOLOGY CLINICS:

Monday	8.15 a.m. - 12.45 p.m.	Obstetric Booking
	2.00 p.m. - 4.30 p.m.	Gynaecology Infertility
Tuesday	8.15 a.m. - 12.00 noon	Obstetrics (Antenatal)
	2.00 p.m. - 4.30 p.m.	Gynaecology
Wednesday	8.15 a.m. - 12.30 p.m.	Obstetrics (Antenatal)
	2.00 p.m. - 4.30 p.m.	Gynaecology
Thursday	8.15 a.m. - 12.00 noon	Obstetrics (Antenatal)
	2.00 p.m. - 4.30 p.m.	Gynaecology
Friday	8.15 a.m. - 12.30 p.m.	Obstetrics (Postnatal)
		Gynaecology (Family Planning)

#### EAR, NOSE, THROAT CONSULTANT CLINICS:

Monday	8.15 a.m. - 12.45 p.m.	E.N.T. General
	2.00 p.m. - 4.30 p.m.	Audiology
Tuesday	8.15 a.m. - 12.30 p.m.	E.N.T.
	2.00 p.m. - 4.30 p.m.	Audiology
Wednesday	8.15 a.m. - 12.45 p.m.	Audiology
	2.00 p.m. - 4.30 p.m.	E.N.T.
		Audiology
Thursday	8.15 a.m. - 12.30 p.m.	Audiology
	2.00 p.m. - 4.30 p.m.	Audiology
	8.15 a.m. - 12.00 noon	(every 2nd Friday/ Month) E.N.T./ Cancer Clinic.

EYE CONSULTANT CLINIC:

Monday	8.15 a.m. - 12.00 noon	Eye Refraction
Tuesday	8.15 a.m. - 12.45 p.m. 8.15 a.m. - 11.00 a.m.	Eye Refraction
Wednesday	8.15 a.m. - 12.45 p.m. 2.00 p.m. - 4.00 p.m.	Eye Refraction
Thursday	8.15 a.m. - 12.00 noon 2.00 p.m. - 4.00 p.m.	Compensation Clinic Refraction
Friday	8.15 a.m. - 12.00 noon 2.00 p.m. - 4.00 p.m.	Eye Refraction

SPECIALISED DIAGNOSTIC SERVICES PROVIDED:

1. *ELECTROENCEPHALOGRAPHY & ECHOENCEPHALOGRAPHY* for diagnosis of brain diseases.
2. *CARDIAC CATHETERISATION, ECHOCARDIOGRAM & PHONOCARDIOGRAM.* these are available for investigation and diagnosis of heart diseases.
3. *ULTRASOUND:* These facilities are in use in various departments e.g. Obstetrics, Cardiac, Neurology, etc.
4. *HEARING TEST:* are performed in the Speech therapy clinic.
5. *RADIOISOTOPE:* studies of various types are undertaken in the department of Nuclear Medicine as an aid in the diagnosis of more difficult problems.
6. *IMMUNOLOGY:* this department although part of the Division of Laboratory medicine is a fast developing one and is contributing greatly to the elucidation of immune related disorders.

**APPENDIX (ii)**  
**PATIENT ATTENDANCES—1979**

**OUT-PATIENT:**

	NEW	OLD	TOTAL
<i>General Out-Patient Clinics</i>			
Paediatric	94597	59539	154136
Adult (Male)	45861	38144	84005
Adult (Female)	50516	36041	86557
Eye	23375	14393	37770
E.N.T.	3455	7094	10541
Civil Servants (GP)	1911	8331	10242
Staff Clinic	—	—	5036
<b>TOTAL</b>	<b><u>219715</u></b>	<b><u>163544</u></b>	<b><u>388295</u></b>

**CASUALTY:**

Accidents & Emergencies	<u>145355</u>	<u>39210</u>	<u>184565</u>
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**CONSULTANT CLINICS:**

	NEW	OLD	TOTAL
Paediatric	2288	14929	17217
Medical	6043	39038	45081
E.N.T.	4232	12135	16367
Obs./Gynae.	13233	39587	42820
Eye	1416	5287	6703
Surgical (general)	5377	18550	23927
Fracture	3963	10024	13987
Others	1669	4949	6618
<b>TOTAL</b>	<b><u>38221</u></b>	<b><u>134499</u></b>	<b><u>172620</u></b>

**OTHER CLINICS:**

Radiotherapy	645	13391	14036
Child Welfare Clinic	10434	15180	25614
Kwashiorkor Clinic	776	1790	2566
Immunisations given	63286	17068	80354
I.D.H. TB Clinic	<u>621</u>	<u>441</u>	<u>1062</u>

**Physiotherapy Dept.**

Total No. of treatments	207141
Out patients	24809

*Other Out-Patient Activities:*

	NEW	OLD	TOTAL
Electroencephalograms	-	-	597
Electrocardiograms	-	-	3854
Cardiac Catheterisation	-	-	197
Hearing Aids	340	656	996
X rays done			75725

Occupational Therapy:

Wards	-	-	1065
Out-patients	-	-	1034
I.D.H.	-	-	432
Orthopaedic	-	-	415
Paediatric Clinic	-	-	775
<b>TOTAL</b>	-	-	<u>3721</u>

IN-PATIENTS:

ADMISSIONS

KNH Paediatric War.Js	1609
Paediatric Observation Wards	8824
Medicine	2839
Adult Observation Wards	5458
Surgical Wards	5182
Recovery Wards	2375
Obstetrics-Maternity (mothers)	6015
Births	4918
Gynaecology Wards	8090
I.C.U.	129
E.N.T. wards	1001
Eye Wards	1073
Radiotherapy	339
Amenity Ward	628
I.D.H Wards	2823
Orthopaedic & Dental (Kabete)	1920
<b>TOTAL</b>	<u>53223</u>

KENYA MEDICAL RESEARCH INSTITUTE

AGENDA FOR THE MEETING WITH THE VISITING MISSION FROM JAPAN ON  
TECHNICAL CO-OPERATION TO BE HELD ON WEDNESDAY, 8TH AUGUST 1984  
AT 9 : 00 A.M. IN THE BOARD ROOM, KEMRI HEADQUARTERS.

1. Preliminaries

TO WELCOME : The Director, KEMRI, to welcome the Visiting Mission formally  
to the Institute.

2. Background of KEMRI

TO NOTE : Information on the background of KEMRI as indicated in the  
following attached papers : -

Paper 1 : Historical background of KEMRI

Paper 2

(a) & (b) : Organisational structure of KEMRI

Paper 3 : Staffing position of KEMRI during the current financial year.

Paper 4 : Recurrent budget of KEMRI during the 1984/85 financial year

(a) & (b) : and the record of receipts in respect of external account for  
the last two years.

Utilization of the current KEMRI facilities.

3. Areas of Research

TO DISCUSS : The proposed areas of research as shown in the following  
attached papers.

Paper 5 : The Control of Viral Hepatitis

Paper 6 : Rabies - Virus Investigation

Paper 7 : Diarrhoeas Research

Paper 8 : Vaccines in use in Kenya to Institute.

4. Any other Business

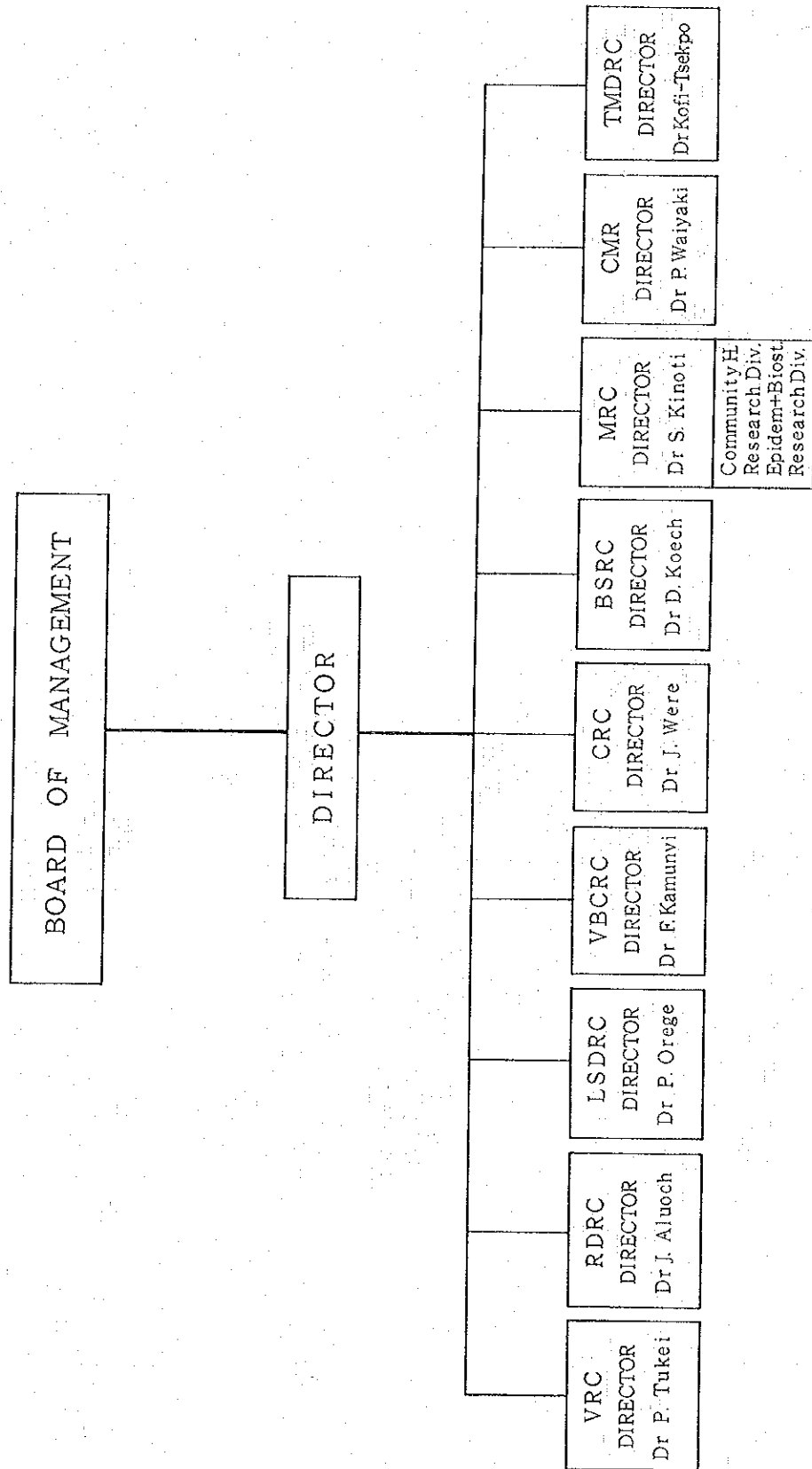
HISTORICAL BACKGROUND OF KEMRI

The Kenya Medical Research Institute (KEMRI) was established in 1979 by the Science and Technology (Amendment) Act of that year with the primary objective of defining, planning and conducting biomedical research geared towards improving the efficiency of the national health care delivery system. The establishment of KEMRI which is one of the five specialised research institutes in the country came at a time Kenya was formulating a national science policy which has laid down the research priorities in the various areas of development.

During the time of the East African Community medical research in Kenya was mainly the responsibility of the East African Medical Research Council which functioned under the auspices of the Community. During that time medical research was based in seven research centres which were scattered widely in the three East African countries. Two of those centres, namely, the East African Tuberculosis Investigation Centre (Nairobi) and the East African Leprosy Research Centre (Alupe) were located in Kenya. On the establishment of the Kenya Medical Research Institute, these two centres were incorporated into the Institute. At the same time three other centres, namely, the Clinical Research Centre, the Malaria and other Protozoal Diseases Research Centre (Kisumu) and the Virus Research Centre were created as part of the new Institute. Recently there has been mutual agreement between the Kenya and the Netherlands Governments to incorporate the Medical Research Centre (ex - Dutch Medical Research Centre) as part of the Kenya Medical Research Institute.

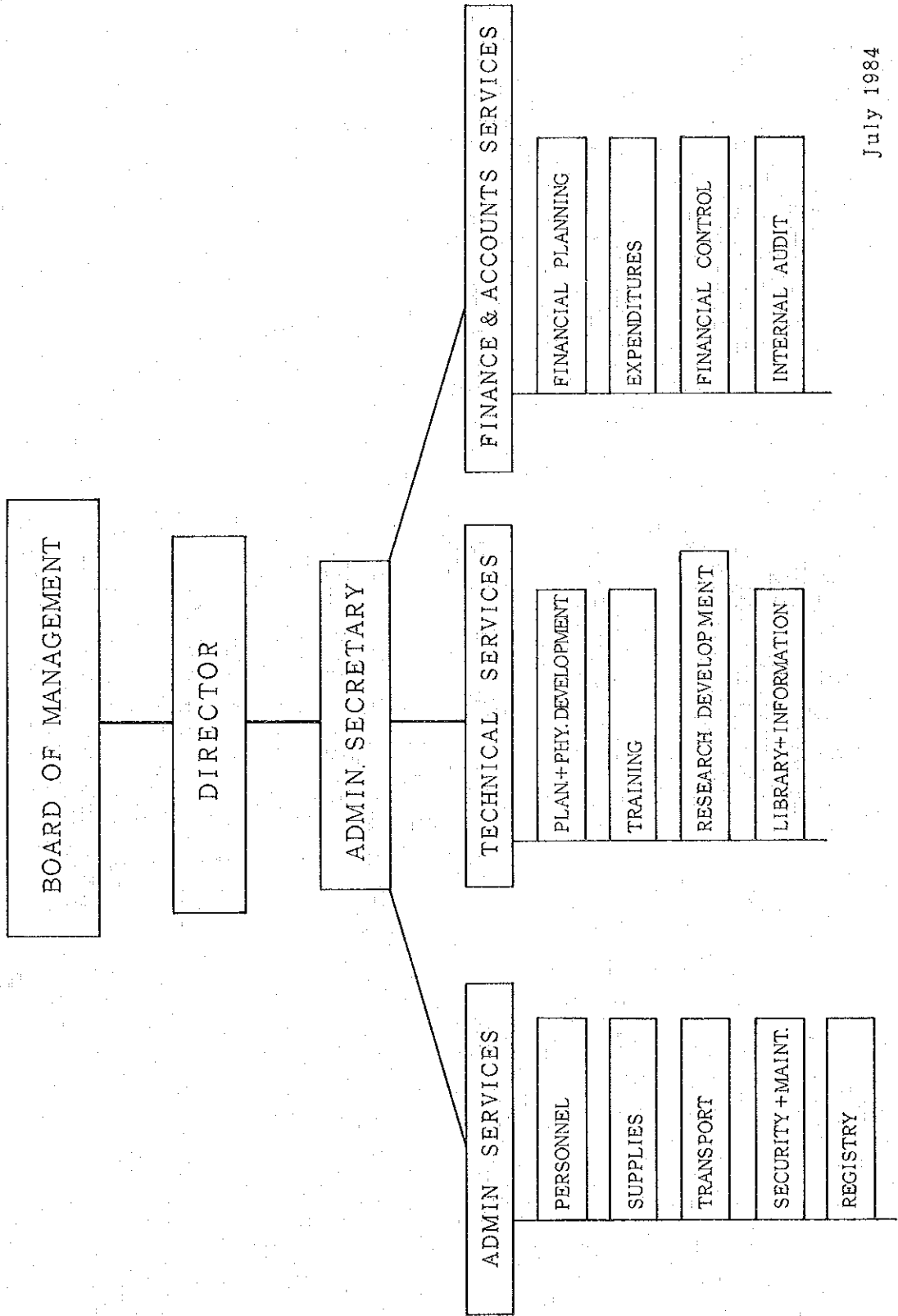
Since its inception, the Kenya Medical Research Institute has continued to grow both in terms of physical infrastructure and the diversity of research programmes undertaken in the Institute. In line with this growth the Institute's Board of Management has recently approved the restructuring of the Institute into 9 centres so as to facilitate greater involvement of the Institute in all areas of immediate relevance in improving the efficiency of the national health care delivery system. The present centres of the Institute are the Leprosy and Skin Diseases Research Centre (formerly Alupe Leprosy Research Centre), the Respiratory Diseases Research Centre (formerly Kenya Tuberculosis Investigation Centre), the Vector Biology Research Centre (formerly Malaria and Other Protozoal Diseases Research Centre), Clinical Research Centre, Virus Research Centre, Center for Microbiology Research, Biomedical Sciences Research Centre, Traditional Medicines and Drugs Research Centre and the Medical Research Centre with its two divisions of Community Health and Epidemiology and Biostatistics.

ORGANIZATION OF KENYA MEDICAL RESEARCH INSTITUTE



July 1984

ORGANIZATION OF KENYA MEDICAL RESEARCH INSTITUTE SECRETARIAT



July 1984



KEMRI STAFFING POSITION : 1984/85

A. SCIENTIFIC PERSONNEL

<u>Category</u>	No.
1. Chief Research Officers	4
2. Principal Research Officers	5
3. Senior Research Officers	4
4. Research Officers	27
5. Assistant Research Officers	27
Grand Total	67

B. SUPPORTIVE TECHNICAL PERSONNEL

<u>Category</u>	No.
1. Chief Laboratory Technologists	4
2. Senior Laboratory Technologists	8
3. Technologists I, II, III,	43
4. Laboratory Technicians	6
5. Registered Public Health Nurse	1
6. Registered Clinical Officer	1
7. Electronic Engineer	1
8. Artisans	3
9. Librarians	2
Grand Total	69

C. ADMINISTRATIVE AND ALLIED SUPPORTIVE PERSONNEL

<u>Category</u>	No.
1. Administrative Officers/Assistants	12
2. Accountants/Assistants	7
3. Supplies Officers/Assistants	6
4. Storeman	1
5. Senior Clerical Officers	6
6. Clerical Officers	42
7. Personal Secretaries & Shorthand Typists	17
8. Copy Typists	11
Grand Total	102

D. SURORDINATE STAFF

<u>Category</u>	No.
1. Auxilliary Staff	150
2. Drivers	41
Grand Total	191

資料 9

BUDGET FOR 1984/85 - RECURRENT

	<u>K£</u>
Personal Cost	1,132,000
Operational Cost	346,000
Others	<u>83,619</u>
Total	1,561,619

NOTE:

Others - include telephone and Postal Expenses, Electricity, Water and Conservancy, Office Equipment, Insurance, Miscellaneous, Training and maintenance of Buildings.

RECEIPTS IN RESPECT OF EXTERNAL ACCOUNT FOR THE  
LAST TWO YEARS

	<u>CENTRE</u>	<u>DATE RECEIVED</u>		<u>AMOUNT</u>
( 1 )	C. R. C.	11.8.1982	KShs.	437,818.50
( 2 )	"	30.11.82	KShs.	154,873.85
( 3 )	"	7.1.83	KShs.	420,630.70
( 4 )	"	15.3.83	KShs.	31,944.00
( 5 )	"	12.4.83	KShs.	134,925.25
( 6 )	"	31.3.83	KShs.	1,106,780.40
( 7 )	"	26.8.83	KShs.	92,000.00
( 8 )	"	11.10.83	KShs.	324,533.80
( 9 )	V. R. C.	11.10.83	KShs.	788,635.45
(10)	C. R. C.	24.10.83	KShs.	876,678.00
(11)	"	14.12.83	KShs.	140,350.00
(12)	"	9.2.84	KShs.	500,465.25
(13)	V. R. C.	28.2.84	KShs.	14.65
(14)	C. R. C.	25.4.84	KShs.	150,626.60
(15)	"	2.5.84	KShs.	358,547.45
(16)	"	4.5.84	KShs.	94,368.00
(17)	"	16.5.84	KShs.	477,422.15
(18)	Traditional Medicine	27.6.84	KShs.	50,000.00
(19)	M. R. C.	7.84	KShs.	345,724.90
(20)	Centre for Mic.- biology	27.7.84	KShs.	63,269.25
(21)	C. R. C.	7.84	KShs.	70,119.85
			KShs.	<u>6,619,728.05</u>

※ JICA 供与分は、物品のみであるためと金額不明のため List には載っていない。

KENYA-JAPAN TECHNICAL CO-OPERATION IN MEDICAL RESEARCH

A. THE PROJECT PROPOSED

I. THE CONTROL OF VIRAL HEPATITIS

The background information on the public Health importance viral Hepatitis in Kenya is included in the original document.

B. THE ACTIVITIES PROPOSED OR STUDIES PROPOSED

I. Strengthening one National Viral Hepatitis Diagnostic Capabilities.

This would enable viral Hepatitis A, viral Hepatitis B, viral Hepatitis NANB and Delta Agent to be diagnosed.

The Aim is to : -

- (1) To establish simpler 3rd generation and cheaper methodologies such as ELISA to cover all markers.
- (2) Extend these methodology to Provincial and selected District Hospitals and Blood Banks.

This is seen as the top priority activity that will enable other studies to be mounted at less expense

II. To attempt to define modes of transmission of viral

Hepatitis B in different communities in Kenya. The role of following practices and epidemiological situations will be investigated.

- (a) The role of biting anthropods particularly mosquitoes and bedbugs.
- (b) The role of mass circumcissions, therapeutic markings
- (c) The role of carrier mothers and family contacts
- (d) The role of carrier patients
- (e) The rold of carrier spouses.

These are indepth studies that have not been carried out in Kenya.

This is priority No. 2 in terms of Hepatitis investigations.

III. PROJECT TO : A PILOT CONTROL VIRAL HEPATITIS B TRANSMISSION IN A COMMUNITY BY VACCINATION :

A suitable stable community preperably a rural one would be prepered.

In this community children bor will be vaccinated three times using the newly developed Hepatitis B vaccine.

Other studies within this community would involve vaccination using different schedules.

Surveillance will be maintained for the occurance of Hepatitis B in ections in these children by observing the development of Anti-HBc Antibody. Special surveillance will be maintained on children born to families with carriers of Hepatitis B.

This study is rated priority No. 3.

KENYA-JAPAN TECHNICAL CO-OPERATION  
IN MEDICAL RESEARCH

A. PROJECT : RABIES - VIRUS INVESTIGATION

The background information on the importance of Rabies in Kenya is contained in the main proposal document.

B. ACTIVITIES OR STUDIES PROPOSED

1. TO ESTABLISH DIAGNOSTIC CAPABILITY IN KENYA FOR HUMAN RABIES

The diagnosis of a clinical case of Human Rabies is not a major priority under this proposal.

The establishment of capability to demonstrate solid immunity in those who are at risk or those who undergo post exposure prophylaxis is a major concern.

2. TO ESTABLISH A NATION WIDE SURVEILLANCE SYSTEM FOR HUMAN RABIES

This will enable the M. O. H. to identify areas where the highest risks exist and hence formulate a National policy or vaccination against rabies.

TECHNICAL COOPERATION WITH JAPAN: KEMRI PROJECT  
RESEARCH ON DIARRHOEA

1. Bacteriology

- (a) E.coli to study the mechanism by which enteropathogenic E. coli cause diarrhoea. To study the role of enteroinvasive E.coli in causing diarrhoea in both children and adults.
- (b) Vibrio cholerae and cholerae-like organisms. To study the ecology and biochemistry of cholerae organisms. To study in detail antibiotic resistance of cholerae vibrios.
- (c) Campylobacter: To study incidence of campylobacter in an area with many domestic animals. To study antibody production to different strains of campylobacter, and to find out whether campylobacter causes abortions in humans.
- (d) Anaerobic bacilli: To determine the role of these organisms in causing both adult and childhood diarrhoeas.

2. Virology:

- (a) Rotavirus: To serotype rotavirus isolates and be able to determine the role of the newly discovered rotaviruses in causing diarrhoeas.

- (b) Adenoviruses and the small viruses: To determine the role of these viruses in diarrhoea.

3. Parasitology:

- (a) E.Listolytica and G.lambliia. To determine their role in causing diarrhoea in a community - children and adults.
- (b) Malaria: To carry out a case control study to delineate whether or not malarial infection alone can cause diarrhoea.

4. Clinical:

- (a) Management of diarrhoea in children who are malnourished. (Balanced studies)
- (b) Drug trial for diarrhoea treatment.
- (c) Home remedien and dietary practices for diarrhoea disease
- (c) Studies on bloody diarrhoeas -
  - aetiology
  - Presentation
  - Treatment

5. Transmission patterns and determinants for Acute Diarrhoea Diseases (Community based).

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DR. S.N. KINOTI

7/8/84.

JICA/KEMRI

PARASITOLOGY PROJECT

SCHISTOSOMIASIS HAEMATOBIIUM

- i) Buffer zone for the on-going Bilharzia Control Project.
- ii) New Project---Comparison with the on-going project.

Purpose:

- i) Creation of a buffer zone to check down the influence that a community would have in the success of the Bilharzia control measures employed in an adjoining community
- ii) Epidemiological investigation to assess the distribution and the intensity of the infection in a community, after which the control measures will be taken

Objectives

- i) Epidemiology
- ii) Control trials
- iii) Immunology

EPIDEMIOLOGY

- i) Prevalence
- ii) Intensity
- iii) Incidence



Epidemiology...

B...Snail Survey in the natural water

- i) Snail population
- ii) Snail Infection rate

C. Cercarial density in the contaminated water

D. Human contact with the contaminated water.

CONTROL

- i) Chemotherapy...treat with metrifonate.
- ii) Health education.
- iii) Community participation.

IMMUNOLOGY

- I) Study the possibilities of acquiring resistance to reinfection.
- ii) Antibody tests during and after the epidemiology and control surveys using (a) Enzyme-linked immunosorbent test (ELISA) (b) Countercurrent immunoelectrophoresis (CIE)...
- iii) Study of the cellular immune response in different age groups.

Health education and community participation will be very important for the success of the control measures employed. Chemotherapy is necessary both for the reduction of the disease and for checking down the transmission rate. This will be necessary also for the creation of a buffer zone for the on-going project.

Immunological studies will be necessary during and after the epidemiological and control surveys in order to determine the effectiveness of the control measures and to observe the presence or absence of the antibodies before and after treatment, and for the study of the possibilities of acquiring resistance to reinfection.

*Ngethe Muboko*

JICA/KEMRI

IMMUNIZATIONS

- 1) OBJECTIVES: Reduction in morbidity, mortality and disability. Through increased immunization coverage and effective immunization.
  
- 2) AREAS: KEPI (EPI):
  - Diseases
  - Tuberculosis
  - Measles
  - Poliomyelitis
  - Diphtheria
  - Tetanus
  - Pertussis
  
- 3) STUDIES:
  - EPIDEMIOLOGY
  - OPERATIONAL STUDIES
  - IMMUNOLOGY
  - STRATEGIES:
    - availability of vaccines
    - distribution
    - storage
  - : - morbidity and mortality
  - : - seroepidemiology
  - : - immunization schedule
  - : - effectiveness of immunization (i.e.) evaluative studies.

#### 4. AREAS OF POSSIBLE APPLIED RESEARCH

A programme of this magnitude poses a number of problems both in regard to technical issues, management, service delivery and delivery strategies. In order to throw light on these problems it may be necessary that they are looked upon in an organized fashion. The following are possible examples of applied research, but the list is far from exhaustive.

- (a) A prospective study to determine the different epidemiological patterns of rural and urban measles. This study should aim at answering the question of early vaccination and revaccination of urban children.
- (b) Every second year a small study should be performed to ascertain the attack rate of measles. This study should monitor the anticipated decline of the attack rate as a consequence of the acquired immunity.
- (c) Disease patterns among nomadic children in northern Kenya in order to establish immunization priorities.
- (d) A survey of young school children for flaccid paralysis in urban and rural schools to determine the magnitude of previous incidence of paralytic polio with their sequelae.
- (e) A study to determine the sero-types of the causative organism of whooping cough in Kenya.
- (g) A retrospective study of neonatal tetanus in children born from unvaccinated mothers.
- (h) Evaluation of immunization strategies.
- (i) Measles serological studies in children.
- (j) DPT seroepidemiology in Kenyan children.
- (k) Seroconversion and comparison of OPV and IPV in Kenyan children.

VACCINES IN USE IN KENYA.

AUGUST, 1984

A: IN KEPI (1984)

<u>Vaccine</u>	<u>Quantity/Yr</u>	<u>Source</u>	<u>Cost</u>
1. Polio	3.6 Million doses	Unicef	Kshs. 900.000
2. Measles	1.6 " "	Italy	Kshs. 1.4 Million
3. D. P. T.	3.0 " "	Germany	Kshs. 900.000/-
4. T. T.	3.0 " "	Germany	Kshs. 600.000/-
5. B. C. G.	2.2 " "	Denmark	Kshs. 1.6 Million
<b>Total</b>	<b>13.4 " "</b>		<b>Kshs. 5.4 Million</b>

B: OTHERS (PER YEAR)

1. Yellow fever	12,000 doses/yr	Wellcome Lab. U. K	Kshs. 400.000/-
2. Rabies Vaccine	12,000 " "	France	Kshs. 2.2 Million
3. Typhoid vaccine	150,000 "	Locally manufactured.	
4. Cholera "	variable "		
5. Tuberculine	240,000 " "	Denmark	

C: KEPI VACCINE FORECASTS 1983/84 DOSES/YR

<u>Vaccine</u>	<u>Measles</u>	<u>B. C. G.</u>	<u>POLIO</u>	<u>T. T.</u>	<u>D. P. T.</u>
1983	1.2 million	1.8 million	3 million	2.2 million	2.55 million
1984	1.6 million	2.2 million	3.6 million	3 million	3 million

D: NATIONAL IMMUNISATION COVERAGE AVERAGES 40% NON.

RANGE OF IMPORTED VACCINES - 1983

Type of vaccine	No. of Doses	Place(s) of origin
Measles	1,200,000	R.I.T. Smith Kline Belgium
Polio	3,000,000	I.I.V. (Institut of (Immunology & Virology) Beograd-Yugoslavia
B.C.G.	1,800,000	S.S.I. (Swiss serum Institut)
T.T. (Tetanus Toxoid)	2,200,000	Behring Institut German Swiss Serum Institut
D.P.T.	2,500,000	Behring Institut & Swiss S.I.
Rabies	12,000 x 1ml	Institut Merieux France
Yellow Fever	6,000  6,000	Institut Pasteur, Commonwealth Laboratories - Australia  Wellcome Research Laboratories
Typhoid	-	Locally
Cholera	-	locally

## 業 務 報 告 書

佐藤 淳 夫

Kenya (KEMRI) からの要請をうけて、旧 KEMRI-project の寄生虫部門の follow-up-team が本年 6 月 26 日～10 月 11 日 (108 日間) の日程で派遣される事になった。小生は、その Team leader として出張したが、XI International Congress for Tropical Medicine of Malaria (9 月 16 日～22 日, Calgary, Canada) (第 11 回熱帯医学マラリア会議) に出席の予定を決定していたので、小生のみ期間を短縮し (6 月 26 日～9 月 12 日 ; 79 日間) 、他のチームメンバー (Dr. 野田・鹿大及び Dr. 佐藤・長大熱研) 2 名は所定の期間を出張することとなった。

本 Follow-up-team の主要な用務を要約すれば、

- 1) 旧 KEMRI-project の最終段階で、疫学調査を実施に来た Kwale 地区の Muachinga 村の全住民駆虫作業 (住血吸虫症にたいし Metrifonate 使用) (1984 年 1～3 月に実施) を行ったので、この治療効果 (投薬による直接効果としての除転率、虫卵排出減少率等) を検するための住民検尿を行い、駆除後の疫学的資料を整備する。
- 2) 旧 KEMRI-project で長期間継続実施し、更に終了後も現地のフィールドワーカーによって、特別に継続観察されている Water contact study, Snail survey 等の成績の確認・指導をする他、疫学相の解明のための Cercariometry の技法の確立を行う。
- 3) 旧 KEMRI-project の最終段階に近く、安全水供給事業が実施 (1984 年 3 月) された。muachinga 村でも水道水供給が行われ、5ヶ所の給水 KIOSK 施設と Bath Room (シャワー・小学校) が設置された。その使用状況及び住血吸虫の撲滅面での効果についての追跡調査。

以上の如くであるが、本 Follow-up の特殊な用件として

- 1) 我々の派遣期間中に 8 月 4 日～8 月 11 日の日程で、新 KEMRI-project についての JICA-mission (団長 : 佐々木教授) による視察協議が行われる事が定っていた。

我々 Follow-up-team は旧 KEMRI-project と新 KEMRI-project との中間に位置する立場上、8 月 4 日・5 日両日にわたって、Ramisi 周辺及び Kwale 地区の現地案内説明を行い、住血吸虫症の疫学調査・対策の進行状況及び Kwale 地区の安全水供給事業の現況等の理解を得るのに努めた。

又、Team leader の小生は、Nairobi での JICA-Mission の全日程に Observer として参加した。

- 2) 会計検査院からの派遣官による会計監査があり、8 月 7 日に KEMRI-Japanese Laboratory (CDRCP) 及び KEMRI の新築建物 (7 月 23 日に第一期工事分が Kenya 側に引渡された) について行われたので、之に関係者として立合う様要請を受けた。

の 2 点がある。

本 Follow-up-team の作業は現在継続して 10 月 9 日まで行われているので、個々の調査結果については、Dr. 野田、Dr. 佐藤の帰国時点 (10 月 11 日の予定) でまとめて報告する事にしたい。

従って、本報告では現在までに得ている結果の概観的なものと、JICA-mission の視察に立合った事からの感想を中心として報告する。

(1) KEMRI Japanese Laboratory (CRCP) ……現在 Center for Microbiology Research (CMR) と改称

旧 KEMRI-project が終了した時点 (1984年 3月) で、全てが KEMRI 側に引渡された。それまでの経験から、その後の保守・監理・運用がスムーズに行くか否か、甚だ不安視されていた。

今回到着してみて Labo 全体がよく整備されており、且夫々の部門 (細菌 virus, 寄生虫) が、それぞれの調査テーマを持って活発に活動している様子が伺った。後になって Nairobi University (Faculty of Medicine) から Prof. Nzanzi を、又 VRC (Virus Research Center) から Dr. Mutanda を当 CMR へ移籍配置して、一層の活動力の増加をはかっている事を示す動きも知る事が出来た。

又、今回の Follow-up の作業日程を協議するにあたって、既に提供した日産パトロールの使用を又 Counterpart 及び運転手の人件費 (出張手当, 旅費) とガソリン代を KEMRI 側で負担する事を申し出てくれた (旧 KEMRI-project 中には考へられぬ現象) 事等々、我々との対応にも KEMRI の機能強化の様子が実感として伝わって来た。

尚、KEMRI の新建物の完成引渡しを機に、KEMRI 組織は従来の 7 部門から 10 部門に拡充改組されている。

(2) Follow-up の現地作業について

(A) Follow-up 作業の設定・進行にあたって

(i) 前項にも多少ふれたが、CMR 内の寄生虫部門 (Chief: Mr. Muhoho 以下 4 名) の整備状況は良好で、ほとんど全ての用具・消耗品 (旧 KEMRI-project で提供したもの) は、そのまま使用可能状態であり、又現地へ同行・共同作業を行う Counterpart の派遣計画も自発的に決定してくれたので、準備は極めてスムーズに進行し、最初に Nairobi で必要と考えていた準備のための日数を大巾に短縮する事が出来た。

(ii) KEMRI Director Prof Mugambi から関係する諸機関に対して PMO, PHO, DVBD (Nairobi, Mombasa, Kwale, Kinango); Medical Officer (Kinango district Hospital); DC (Kwale); DO (Kinango); Chief (Kinango); Head Master (N' Gonzini Primary School) 等への書簡をもらいうけて、夫々に手交して、調査目的を説明し、順調に現地 (Kwale 地区) での設営を進行させる事が出来た。

かくして、7月16日から小学校の検尿が開始出来、7月19日には Muachinga 村での部落集会 (Baraza) を開き、Chief (Kinango), DO (Kinango), PHO (Kinango) 等の出席を得て、住民全体への主旨の徹底を計り、7月23日から住民の検尿活動に入る事が出来た。

(iii) Muachinga 村には現地作業員 (フィールド・ワーカー、現地住民から選んで、JICA-Nairobi Office の特別の計らいで願い上げられている。chief 以下 3 名) が置かれているが、旧 KEMRI-project の終了 (1984年 3月) 以降も引きつづき機能を保有して、所定の観察作業 (water-contact, Snail survey 等々) を正確に実施しており、今回の村民検尿にも、広報活動 (各戸訪問)、住民識別等々に大いに働いてくれた。

有能なフィールド・ワーカーを得られるか否かは、此の種の現地調査の成否 (能率・正確度等々) を左右する重要な因子であり、今後共に本フィールドを活用する (第二次 Follow-up 及び



新 KEMRI-project で) ならば, その確保 (現在の人々の継続雇用) が重要と考えられる。

現状は1985年3月までの雇用条件となっており, その後が心配である。特に配慮が願わしいものとする。

(B) 今回の尿検査による住血吸虫の駆除効果について

目的の項に述べた如く, 住血吸虫保有者についての metrifonate の直接駆除効果 (投薬3ヶ月後の時点) を判定する事が, その目的の一つとなっているが, フィルター法 (nucleo-filter 法) によって虫卵数を算定する方式を採用しているため, 虫卵の計測は現地で行い得ない (作業日程の関係, 及び現地 DVBD に電気がない等々) ので, 日本へ持ち帰り算定して結果を出す計画である。

血尿患者数は前回 (駆除前) より激減しており, (小学生も住民も //), 駆除効果が高い事を印象付けるものであった。

(C) 安全水の使用状況

Muachinga 村内5ヶ所の水栓 (KIOSK) はよく利用されている様で, 飲料水, 炊事用のみならず, 洗濯にも使用されている。水道水が供給されてからの住民の水利用の実態の変動を把握する事は, かなり困難ではあるが, 各水栓での水道水の使用量等から推定し得るのではと考えている。

現在比較的的自然水の豊富な時期 (7~9月) での水道水利用が多い事は, 渇水期 (12~3月) には, 尚利用が多くなる事が想像される。有効な事業であったと判断される。

一方, 我々寄生虫部門としては, 住血吸虫感染の立場から, 水道水の有効性を実証する様に位置付けられているが, むづかしい問題である。元々, 安全水供給は細菌 Virus による伝染病対策として価値高く位置付けざるべきもので, その面からの有効性の立証が必須である。残念乍ら, その立証システムは設定されていない。寄生虫部門としては, 今後の観察の中で, この問題に少しでも解答を出す様に工夫はするが, 間接的なものでしかなく疑問の点が多い。村民の水利用の動態変化としての観察結果は得られる事を考えている。

(D) その他の Kwale 地区での観察について

Water contact, Snail survey については4月以降のデータを入手して整理中である。

又, 今回特に Cercariometry を重視して実施しているが, 直接に水系の危険度を示す指標として有効なものと考えられるので, 一般的に広く利用可能な方式の確立をめざしている。且貝からのセルカリアの游出状況を, 本法を用いて観察する技法についても検討を続行中である。

(3) 会計検査に立合って

小生の Kenya 滞在中に JICA 事業についての会計検査 (会計検査院による) があり, 8月7日に Japanese Laboratory (CDRCP) 及び KEMRI の新築建物の検査が行われた。小生に立合い方の依頼があったので, 伊藤医療協力課長と共に検査に立合い, 主として旧 KEMRI-project についての学術的意味合いについての説明を行った。

検査に立合って, この種の医療援助についての検査官の理解がある事を強く感ずると共に, 検査官の業務が極めて多忙であり, 現地での日程に余裕があく, 各地を飛び歩く御苦労を痛感した。

#### (4) 新 KEMRI-project, JICA+mission について

Mission の一行 4 名全員には、8 月 4 日(土) Nairobi 着、そのまま Mombasa へ直行頂いた。8 月 4 日の午後には Ramisi 周辺の視察、8 月 5 日(日)には Kwale 地区の住血吸虫対策事業の行われている地域について、現地説明を行った。遠路の疲労を気使ったが、全員熱心に我々の説明を聞いて頂き、又旧 KEMRI での進行と、現 Follow-up (第一次) 及び明年同時期に企画が進められている第 2 次 Follow-up の意味を御理解頂く事が出来たものと考えている。

又、我々の側から此の種の Field work を行うために配慮すべき①基本的事項 (装備・施設・人件費・事業費・その他……) ②現地行政機構、③現地医療・衛生行政機構、④ Kenya 側研究者の系列、その教育機構、及び現 KEMRI の構成員の内容……等々、旧 KEMRI-project での蓄積した経験をお伝えする事が出来た積りである。

8 月 6 日(月)から Nairobi での KEMRI 側との打合せ協議が開かれた。会談協議は終始なごやかな雰囲気が進められた。Kenya 側からは、新築 KEMRI 研究室を活用しての、Virology, Bacteriology, Parasitology 関係の膨大な希望が述べられた。Kenya の現状として諸問題の山積に対しての援助を求める気持はよく理解出来るが、一方 mission 側としては JICA 事業としての限界があり、又派遣研究者の制限があり、又、日本における研究の動向の推移もあって、問題点をしぼり考慮せざるを得ないとする説明を行ったこともよく理解出来た。

これを踏まえて、次回の実施調査 mission の準備に入る事になったのも順当な手続といえる。

本 mission は、団長の佐々木教授の人柄によるものが大きかったとは云え、諸先生方も熱心に、苦勞をいとわず Kenya の現状、旧 KEMRI-project の成果を把握する努力をされた事が印象的であり、又最終反省会として、各先生方が述べられた内容には、極めて重要なポイントが指摘されていた。こうした理解が、本委員会で、新 KEMRI-project に反映・実現されて、具体的な推進があり両国にとって、又従事する専門家にとって、真に有効な Project が発足する事を期待している。

#### (5) 第二次 Follow-up について

今回の第一次 Follow-up では、投薬直後の駆除効果を主体として企画されたが、このあと引続いて①駆虫効果の維持が長期間期待されるか? ②駆虫による中間宿主貝への感染動態の変化? …………… 感染減少が予想される。③再感染のスピードは? 等々、投薬駆除後の疫学相の変化を観察する事が、今後の駆除対策の指針を得る上で是非必要である事は云うをまたない。

この点は KEMRI 側もよく理解しており、継続観察を熱望している。即ち、日本政府、JICA に対して第二次 Follow-up 専門家派遣についての要請を行う事を言明している。

我々第一次 Follow-up-team としては、之等の状況をふまえて、明年同時期頃に (1985 年 6~9 月) 第二次 Follow-up が行われる事を想定し、Kenya, KEMRI 側の受入れ態勢の整備とその確認 (用具・物資の保管・保守、自動車の使用等) を行い、了解を求める努力を続けている。

今回の第一次 Follow-up は旧 KEMRI-project 終了後、日尚浅く、比較的スムーズに進行させる事が可能であったのは幸であった。而し、明年の第二次では今後一ケ年近くの空白があり、その現地作業がスムーズに進むための条件設定 (日本側 Kenya 側の両者)、或は派遣グループに対する特別の配慮 (携行品・特に消耗品、自動車等の装備品について) が必要である事を痛感している。

(昭和59年6月)

月日	曜日	内 容
6月24日	日	鹿児島→東京(羽田)(ANN 15:20 →16:50)・東興ホテル泊
25日	月	JICA にて Pasport, Airchicket 滞在費・業務費受取, 業務上の事務手続その他の打合せ: 持参用品・用具買付
26日	火	用品・用具の買付; 東京→バスセンター→成田; 成田発 BA-006 (747) 21:00発→
27日	水	→Anchorege → London (6:30着)→ Ariel Hotel 休息→ London BA-055 (747) 19:45発→
28日	木	→ Nairobi 着 (6:05); JICA Nairobi Office, 日本大使館挨拶・follow up 調査の説明 ; KEMRI 訪問
29日	金	KEMRI にて Prof. Mugambi と会い, follow-up の日程予定の協議
30日	土	- 休 日 -

(昭和59年7月)

月日	曜日	内 容
7月1日	日	- 休 日 -
2日	月	- 休 日 - (Ramadan 明け)
3日	火	KEMRI にて調査打合せ, 1次-3次調査計画の骨子固まる
4日	水	IRLAD (Dr. 蛭海) 訪問; KEMRI 新築現場見学
5日	木	KEMRI にて調査打合せ; DVBD, Mr. Ouma 面会
6日	金	KEMRI にて調査準備; Dr. Siongo 氏 (DCDC), Dr. Koech (DVBD) 面会, JICA Office へ 経過報告
7日	土	現地 (Kwale) 出発準備
8日	日	KEMRI-Japanese Labo に集合 9:00発→ Voi → Mombassa → Kwale 着 (18:00), Tononcka Hotel へ
9日	月	調査準備: Kinango Location Chief, Kinango District Hospital 等訪問
10日	火	" : Mombassa にて PHO (Dr. Oyoo), DVBD・Mr. Karanja 等訪問, 各個配布の コピー作成
11日	水	" : Kinango へ, 20日に予定した Baraza (部落集会) の細かい打合せ
12日	木	調査準備: Muachinga 周辺の小学校の位置・地形の確認・器材整備
13日	金	" : 器材整備
14日	土	- 休 日 -
15日	日	- 休 日 -
16日	月	Muachinga: Ngonzini 小学校 検尿
17日	火	" ; New-KEMRI 視察団の Kwale 地区視察の決定を知る。
18日	水	" ; Mombassa へ Ramisi 見学の打合せ.....上記準備
19日	木	" ; 明日の Baraza の打合せに Kinango へ
20日	金	Muachinga, Baraza (部落集会) 開催; Ramisi 安全水供給事業の現地見学下見
21日	土	- 休 日 -
22日	日	- 休 日 -

23日	月	Muachinga 尿検査 : Field station (1)
24日	火	" : " (2)
25日	水	" : " (3)
26日	木	" : 小学校 (1)
27日	金	" : " (2) ; Kwale → Mombassa (19 : 00列車) → Nairobi へ
28日	土	→ (8 : 00) Nairobi 着 - 休 日 -
29日	日	- 休 日 -
30日	月	KEMRI 側及び JICA Office と JICA-mission の受入れ現地視察の準備打合せ
31日	火	KEMRI にて資料整理 Mission についての打合せ等

(昭和59年8月)

月日	曜日	内 容
8月1日	水	KEMRI にて資料整理 ; Welcome Institute, Dr. Hopwood 訪問
2日	木	DVBD, Dr. Koech, DCDC, Dr. Siongoku, Welcome Institute, Dr. Harrison 訪問
3日	金	KEMRI Japanese Labo (9 : 00発) → Mombassa 着 (16 : 30)
4日	土	Mission Mombassa 着 (11 : 00) → Ramisi 安全水供給事業視察
5日	日	Kwale 地区現地視察・意見交換
6日	月	Mombassa → Nairobi ; JICA, 日本大使館, KEMRI, 保健省訪問 ; KEMRI との予備会談
7日	火	会計検査院の調査 (KEMRI, Japanese Labo 及び KEMRI 新築-伊藤 課長と共に) 立合い, KEMRI 見学, Hospital
8日	水	Mission-KEMRI 会議
9日	木	Kiambu 地区状況視察 ; Mission-KEMRI 会議 (昼食 : 日本側招宴, 夕食 : KEMRI 側招宴)
10日	金	会議記録書署名 ; 日本大使館へ報告 ; Nakul 地区見学
11日	土	Nairobi National Park 見学 ; 日本側 Mission のマトメ反省会 ; Air Port 見送り (23 : 00発)
12日	日	- 休 日 - Nairobi → Mombassa へ (19 : 00発)
13日	月	→ Mombassa 着 (8 : 00), H. Q. に PMO (Dr. Oyoo), PHO (Mr. Omery), DVBD (Mr. Karanja) 訪問 → Kwale
14日	火	DVBD-Labo にて資料整理 ; 住民検尿 (Field Station) ; Prof. Mugambi 来訪打合せ
15日	水	住民検尿 (Ngonzini 小) ; 資料整理
16日	木	" ( " ) ; 資料整理
17日	金	" (Mailinane ) ; 資料整理
18日	土	- 休 日 -
19日	日	- 休 日 -
20日	月	Musanweni へアメリカチーム訪問視察, Vanga 村下見
21日	火	Vanga 村採血
22日	水	Muachinga 検尿 : 小学校
23日	木	" : Field station

New-KEMRI  
Mission に同行

8月24日	金	Muachinga 検尿 : Mailinane
25日	土	- 休 日 -
26日	日	- 休 日 -
27日	月	Kinango dumm ..... Cercariometry
28日	火	" ..... "
29日	水	Muachinga, site No. 6 ..... "
30日	木	Kinango dumm ..... Cercariometry : Mombassa (PMO, PHO, Chief of DVBD 訪問)
31日	金	Kinango dumm ..... " : Chief of Kinango 訪問

(昭和59年9月)

月日	曜日	内 容
9月1日	土	Kwale 発 (10:00) → Nairobi 着 (19:00)
2日	日	KEMRI-Japanese Laboratory にて資料整理
3日	月	" "
4日	火	" "
5日	水	日本大使館・JICA Nairobi Office 挨拶 : 資料整理
6日	木	DVBD (Dr. Koech) 挨拶 : "
7日	金	DCDC (Dr. Siogok) 挨拶 : "
8日	土	- 休 日 -
9日	日	- 休 日 -
10日	月	KEMRI-HQ (Director Mugambi) 挨拶 : 帰国準備
11日	火	Nairobi (01:05発) → Frankfurt (8:00着 - 12:50発) → Anchorage →
12日	水	→ 東京 (NRT-S) 14:40着 → 東京市内
13日	木	JICA 本部・帰着報告

THE PILOT STUDY OF SCHISTOSOMIASIS HAEMATOBIIUM  
IN KWALE DISTRICT

A longitudinal study of Schistosomiasis haematobium  
Occuring in Kwale District, Coast Province, Kenya

September 5, 1984

Follow-up Team for Communicable Diseases Research  
and Control Project ( parasitology Section )

Prof. Atsuo Sato

Dr. Shinichi Noda

Dr. Katsuyuki Sato

Of the several parasitic diseases found in Kenya, Schistosomiasis haematobium is one of the major public health problems. Schistosomiasis therefore was identified as the one of the research subjects for technical co-operation with Japan International Cooperation Agency (JICA) within the Communicable Diseases Research and Control Project.

The schistosomiasis programme started in 1981 with the objects of determination of the mode of transmission and a trial run of control of the disease. The epidemiological survey done over the past two years has so far yielded much new information on the mode of transmission of the disease in the study area, Mwachinga Village, Kwale District. The results of survey suggest that the children are potentially responsible for the transmission of the disease and the villagers are likely to get infection by bathing, washing and playing in the river especially in November, December and January. In the project, the treatment of patients by metrifonate and the safe water supply to the villagers were selected as the measure of control of the disease.

In February 1984, a trial run of control of the disease was started. The villager were treated with metrifonate. Safe water supply also started at the same time. Five safe water supply facilities (Water Kiosk) were constructed in the study area, and one shower shed was also constructed in the primary school. The infection of schistosomiasis is due to the contact with water infested with cercariae, the infective form of larvae of schistosomes.

Therefore as long as the villagers use the piped water, they would not get infection nor re-infection. This combined control method is promising and the first trial run in Kenya. It is therefore very necessary to carry out a follow-up study to evaluate the efficacy of the methods undertaken in the project. The Communicable Diseases Control and Research Project ended in March 1984, one month after the commencement of control procedure. JICA, however, provided the aid for the evaluation of the drug treatment against Schistosomiasis haematobium. We were dispatched to Kenya and carried out the follow-up study with Kenya research workers.

The population of study area is approximately 1200, and 813 villagers who consist of patients passing schistosome egg in the urine and children aged 5-15 years were selected for the treatment. The villagers were supposed to be treated with three doses of metrifonate (7.5mg/Kg body weight) at an intervals of more than 14 days. Of the 813 villagers, 413, 159 and 118 were treated with three doses, two doses and one dose respectively, and 123 were not treated. Urine samples were collected to evaluate the drug treatment from 776 villagers during the period of July-August 1984, about three months after the treatment. These samples are now in the process of observation and analysis, but it can be said that most of the patients given the drug have recovered from the disease. We already carried out preliminary examination. The number of eggs in the urine and color of the urine of pupils (class II and III) of the primary school were followed for 42 days after start of treatment.



Table 1 shows the individual egg counts in the urine and color of the urine before and after metrifonate therapy. It is clearly demonstrated that administration of metrifonate was followed by a considerable decrease in the number of egg and haematuria.

Since the villagers have been provided with piped water, we hope they would not have contact with the water infested with cercariae, the infective form of schistosome. The further follow-up study would certainly disclose a highly promising result that the people would not get infection nor re-infection.

Finally we would like to thank all of the Kenyan research workers and staff for their efforts and co-operation during this survey. Appreciation is also expressed to Embassy of Japan, JICA Headquarter and JICA Nairobi Office for their encouragement in carrying out the work and for the administrative and financial support which made this study possible.

Table 1 The individual egg counts and color of urine before and after metrifonate therapy. Treatments were carried out on the 15th February, 2nd and 15th March, 1984. The egg counts per hour was used to determine the intensity of infection, and color of urine was classified into red urine (R), pink urine (P) and yellow urine (Y).

Code	15/II	17/II	20/II	23/II	2/III	5/III	8/III	15/III	29/III
013-05	1554Y	748P	1702Y	591Y	6731Y	341Y	4775Y	406Y	280Y
030-05	6289R	26611P	4609Y	759P	1388Y	3410P	5118Y	581Y	64P
032-02	3119P	8522P	9342Y	2246Y	3700Y	4579Y	884P	458Y	96Y
035-04	5198R	14528P	-	152Y	292Y	-	933Y	1Y	46Y
056-04	2725P	1469P	2435P	82Y	222Y	577Y	323Y	50Y	2P
069-04	10680Y	32217Y	23041Y	6140Y	-	14631Y	36163Y	5242Y	773Y
083-05	21397R	10966R	18976P	2795Y	1810Y	7081P	6519Y	306Y	40Y
083-11	7235P	4749Y	19901Y	1167Y	1317Y	1333Y	145Y	257Y	23Y
102-04	7412Y	4332Y	11211Y	1918Y	7558Y	5389Y	4978Y	8701Y	1526Y
114-07	8136P	9122P	1210Y	1276Y	1145Y	1407Y	1663Y	202Y	2Y
118-10	13464R	23136R	7787Y	3116Y	13104R	6866Y	3083Y	486Y	116Y
134-06	11811Y	22569Y	7047Y	4174P	587Y	1734Y	664Y	133Y	12Y
135-06	1891Y	875Y	3966Y	1148Y	387Y	1832Y	1190Y	370Y	53Y
139-NR	2181Y	3002Y	-	160Y	-	714Y	-	1Y	0Y
140-05	2021P	33515R	20101P	4430Y	16146P	6720Y	9715P	2213Y	1036Y
145-12	3740P	5956Y	4272Y	233Y	2603Y	131Y	278Y	1160P	606Y
146-13	1408Y	500Y	625Y	252Y	253Y	31Y	76Y	5Y	7Y
152-08	1411Y	7137Y	4065Y	476Y	2600Y	3455Y	3571Y	5392Y	405Y
156-06	10362R	10868P	6739P	1105Y	-	194Y	272Y	164Y	2Y
159-05	1927P	3626P	13563Y	-	3722P	-	748Y	-	9Y
160-05	5311P	4463P	8798P	3008P	2497P	5158R	8001P	6418R	28Y
161-05	11759Y	3797Y	2992Y	42Y	185Y	164Y	368Y	17Y	0Y
173-04	7408P	4056R	10948Y	-	765Y	255Y	-	94Y	161Y
173-05	20008R	9600R	10812P	2065P	2031Y	1609Y	-	592Y	51Y
Ras-Mw	1620Y	1068Y	1880Y	173Y	2800Y	3258Y	3141Y	2191Y	170Y
Swa-A1	12095R	7939R	14693P	3801Y	15407P	7938P	12092P	9331R	1465R
Red Urine	7	6	0	0	2	1	0	2	1
Pink Urine	9	9	7	4	3	3	4	1	2
Yellow Urine	10	11	17	20	19	20	20	22	23
Total	26	26	24	24	23	24	24	25	26







JICA