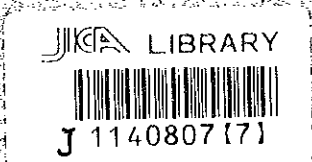


MINISTRY OF HEALTH
THE REPUBLIC OF KENYA

BASIC DESIGN STUDY REPORT
ON
THE PROJECT FOR REHABILITATION
OF
BUILDINGS AND EQUIPMENT OF COAST PROVINCIAL
GENERAL HOSPITAL
IN
THE REPUBLIC OF KENYA

OCTOBER, 1997



JAPAN INTERNATIONAL COOPERATION AGENCY
YAMASHITA SEKKEI INC.
INTERNATIONAL TECHNO CENTER CO., LTD

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PREFACE

In response to a request from the Government of the Republic of Kenya, the Government of Japan decided to conduct a basic design study on the Project for Rehabilitation of Buildings and Equipment of Coast Provincial General Hospital and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Kenya a study team from April 8 to May 12, 1997.

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

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

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

October, 1997



Kimio Fujita
President

Japan International Cooperation Agency

October, 1997


Letter of Transmittal

We are pleased to submit to you the basic design study report on the Project for Rehabilitation of Buildings and Equipment of Coast Provincial General Hospital in the Republic of Kenya.

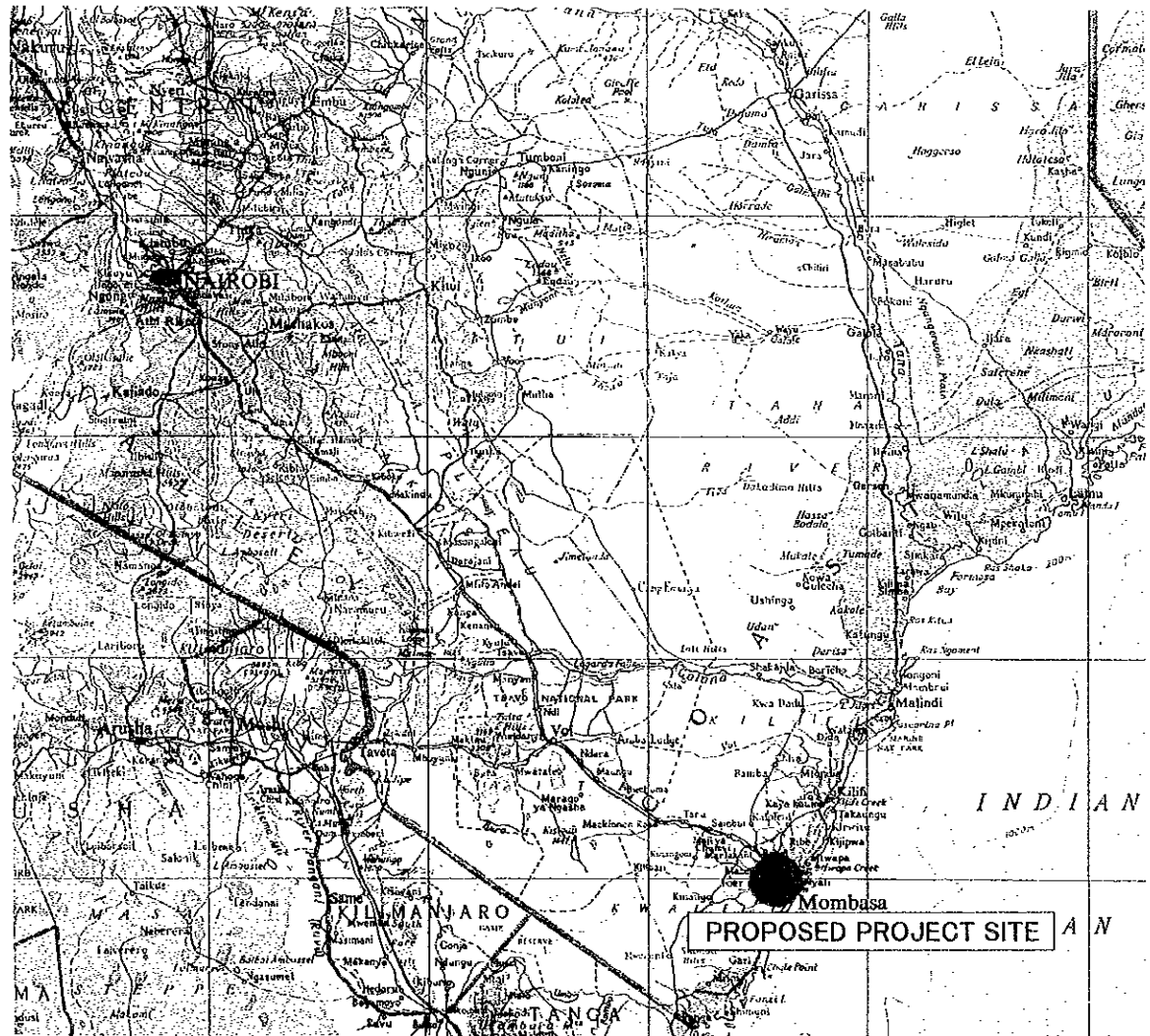
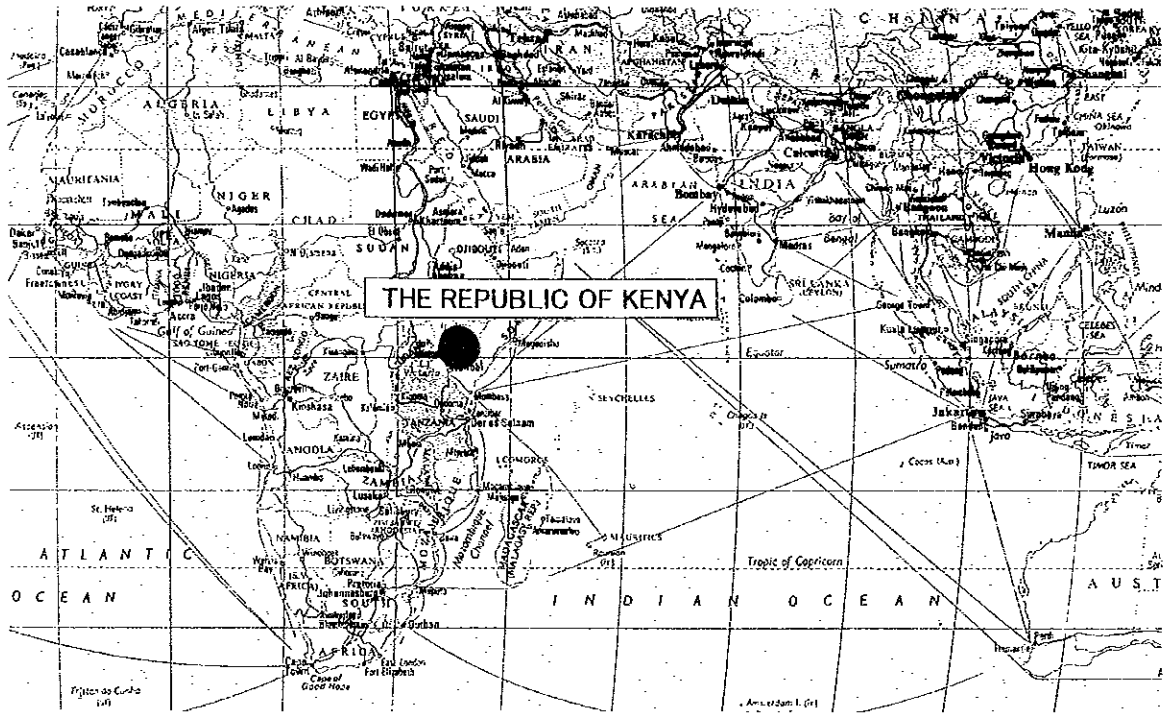
This study was conducted by the consortium of Yamashita Sekkei Inc. and International Techno Center Co., Ltd., under a contract to JICA, during the period from March 19, 1997 to November 21, 1997. In conducting the study, we have examined the feasibility and rationale of the project with due consideration to the present situation of Kenya and formulated the most appropriate basic design for the project under Japan's grant aid scheme.

Finally, we hope that this report will contribute to further promotion of the project.

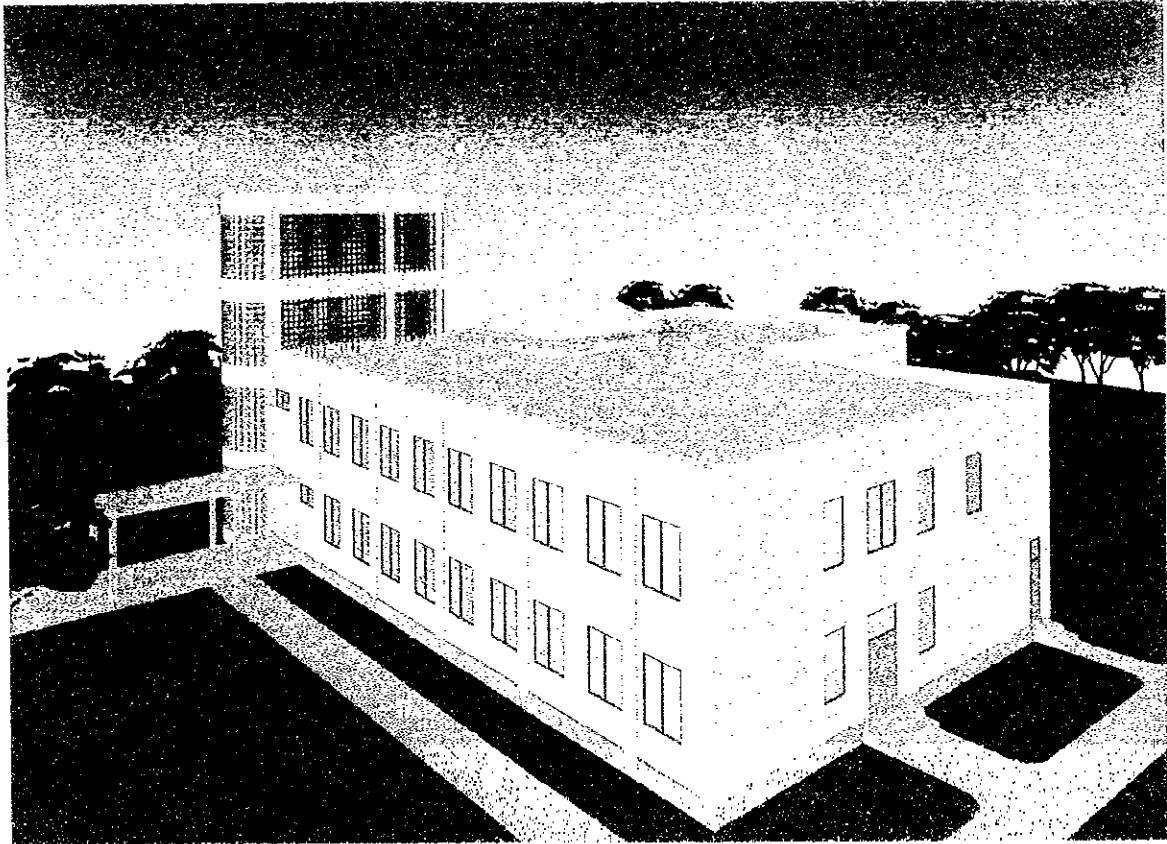
Very truly yours,



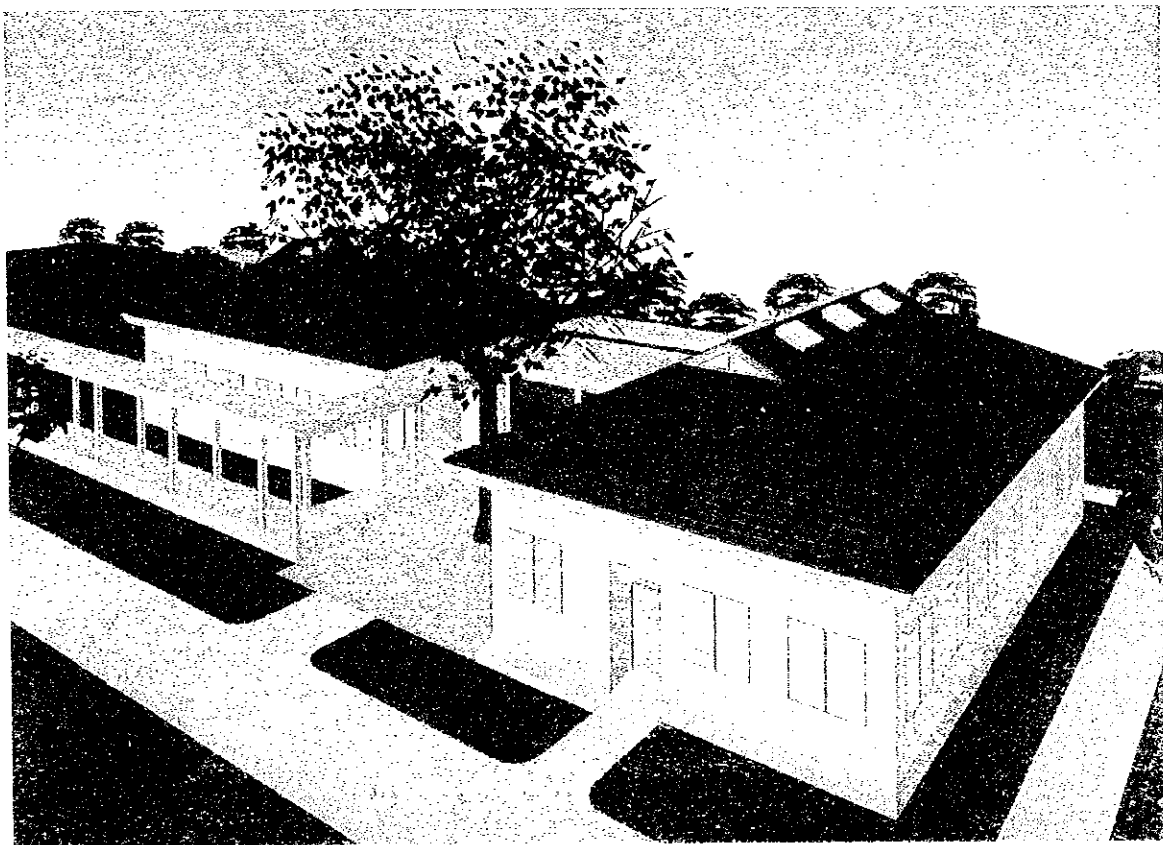
Fumio Arai
Project manager,
Basic design study team on
The Project for Rehabilitation of
Buildings and Equipment of Coast
Provincial General Hospital
in the Republic of Kenya
The consortium of
Yamashita Sekkei Inc. and
International Techno Center Co., Ltd.



SITE LOCATION MAP



MATERNITY BUILDING



KITCHEN/LAUNDRY BUILDING

COAST PROVINCIAL GENERAL HOSPITAL PERSPECTIVE

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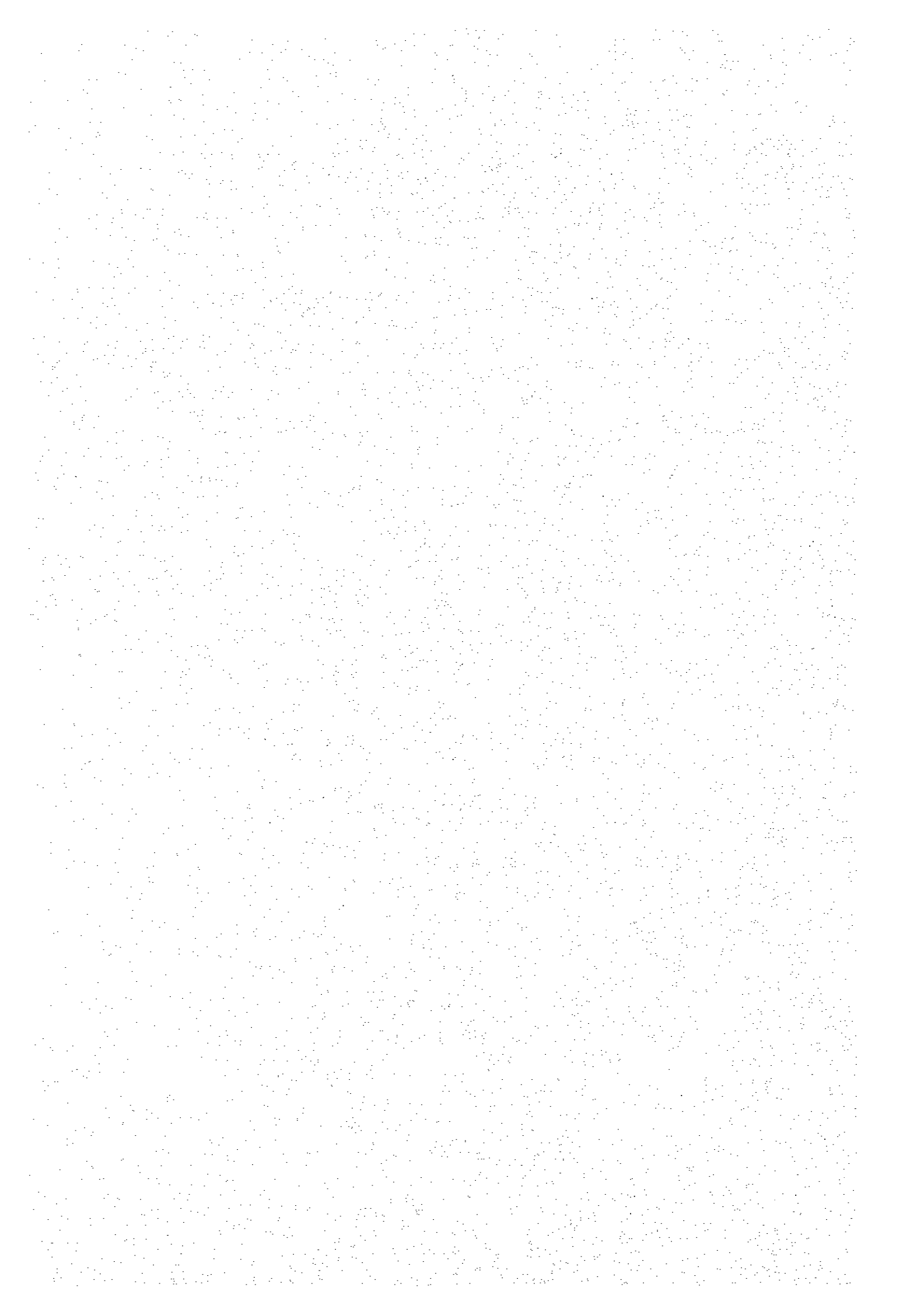
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CHAPTER 1. BACKGROUND OF THE PROJECT



CHAPTER 1 BACKGROUND OF THE PROJECT

1-1 Background of the Project

The Government of Kenya has been placing particular emphasis on the improvement of the quality of health care services since 1963 when the country achieved independence. As a result, as shown in Table 1-1, there was marked improvement in the country's health indicators between 1963 and 1991. At the same time, "1995 Statistical Abstract" shows that the country's population increased about 2.5 times from 8,636,263 in 1962 to 21,252,861 in 1989.

Table 1-1 Health Indicators

Item	1963	1991
Life expectancy at birth	40 years	60 years
Infant mortality rate	126/1000	74/1000
Under -5 Mortality Rate (U5MR)	211/1000	104/1000
Crude death rate	20	12

(Source : DEVELOPMENT PLAN 1994-1996)

Table 1-2 No. of Medical Facilities/Physicians

Item	1963	1992
Dispensary	400	1,564
Health centre	160	289
Hospital	148	268
No. of beds	6,708	34,000
No. of licensed physicians	339	3,550

(Source : DEVELOPMENT PLAN 1994-1996)

As far as the budget of the Health Sector is concerned, personnel expenses account for about 70 percent of the central government's total health budget, the remaining 30 percent being appropriated for the operation, maintenance and management of the medical institutions. For this reason, it cannot be

said that the medical institutions' facilities and equipment are managed, maintained or renewed satisfactorily. The medical institutions' facilities and equipment have mostly become superannuated or used up, which has led to a continuing decline in the quality of the country's health care services.

In an effort to improve such a situation, the Government of Kenya adopted in 1989 the benefit principle to apply to public medical institutions excepting dispensaries and has since implemented a policy to have both outpatients and inpatients pay for health care services (cost sharing policy). As a result, it became possible for most of the country's medical facilities to use part of their incomes, including medical fees and payments from the National Health Insurance Fund, for the improvement of the quality of their health care services at their own discretion.

Furthermore, the Government of Kenya is in the process of promoting decentralization in the field of health care, as well as the reorganization of the country's health insurance system. As a concrete measure to promote decentralization, the central government has directed local medical institutions to begin operating on a self-sustenance basis.

Coast Provincial General Hospital, for which this project is to be implemented, is making preparations for beginning to operate as an autonomous institution as a pilot hospital in Coast Province within five years.

Coast Provincial General Hospital is one of the country's eight provincial hospitals and ranks second after Kenyatta National Hospital in scale. The hospital is playing a pivotal role in health care in the province, serving as a tertiary medical institution and a place for training medical professionals as well. However, its facilities and equipment have become so superannuated that it is unable to provide health care services required of a tertiary medical institution. The hospital also finds it difficult even

to maintain the present level of health services.

1-2 Details of the Request

The details of the request of the Government of Kenya, which were discussed and confirmed during the preliminary survey, include the improvement of the facilities which it was decided during the preliminary survey to consider in the stage of basic design study (the maternity block and the mortuary). Shown below is the outline of the requested items of equipment and facilities.

1-2-1 Equipment

The requested items of equipment cover almost all the departments of the hospital, namely, the hospital management department, the health care service department and the central service department. The following table gives an outline of the requested items of equipment.

Department	Equipment
1. Administration	Typewriter, Personal Computer, Photocopier, etc/ Total No. of Items: 16 Q'ty: 38
2. Hospital Maintenance Unit	Tester, Oscilloscope, Drill (manual), Revolving Machine, Tool Set, etc. Total No. of Items: 16 Q'ty: 38
3. Rehabilitation	Therapy Unit (Ultrasound, Short-Wave), Traction Unit, Walker, Wheelchair, Stick, etc. Total No. of Items: 98 Q'ty: 206
4. Public Health	Typewriter, Refrigerator, etc. Total No. of Items: 16 Q'ty: 38
5. Workshop (Orthopaedics)	Hand Drill, Saw, Grander, Worktable, etc. Total No. of Items: 19 Q'ty: 38
6. Ward	Beds, Trolley (general, medicine, linen, food), Stretcher, Examination light, Sphygmomanometer, Suction unit, etc. Total No. of Items: 297 Q'ty: 6,997
7. Laboratory	Blood cell counter, Blood gas analyzer, Electrolyte analyzer, Spectorphotometer, pHmeter, Electronic balance, Incubator, Hot air sterilizer, Automatic tissue processor, etc. Total No. of Items: 37 Q'ty: 73
8. Mortuary	Autopsy light, Autopsy table, Trolley, Complete post mortem set, etc. Total No. of Items: 9 Q'ty: 42

9. Pharmacy	Electronic balance, Filter press, Water distiller, Homogenizer, etc. Total No. of Items: 49 Q'ty: 247
10. Operating Theatre	Operating table, Operating light, Anesthesia apparatus, Patient monitor, Electrosurgical unit, Operating Instruments set, etc. Total No. of Items: 175 Q'ty: 542
11. ICU	Patient monitor, Infusion pump, Ventilator, Beds, etc. Total No. of Items: 38 Q'ty: 289
12. CSSD	Autoclave, Trolley (linen, instrument), Instruments tray, etc. Total No. of Items: 53 Q'ty: 977
13. Outpatient (Dental, ENT, Eye, Pediatric Unit)	Dental chair, Scalar machine, Ceramic machine, Dental instruments set, etc. ENT unit, Antral wash-out set, Nasal speculum, Aural syringe, Audiometer, etc. Slit lamp, Trial lens set, Wall chart, Ophthalmoscope, etc. Diagnostic set, Stethoscope, Suction unit, etc. Total No. of Items: 131 Q'ty: 3,024
14. X-ray	General X-ray unit, Ultrasound unit, Automatic Film processor, Cassette and Screen, etc. Total No. of Items: 32 Q'ty: 179

Total No. of Items of All Departments: 992 Total Q'ty: 12,710

1-2-2 Facilities

It was decided to include the improvement of the maternity block and the mortuary, which was to be considered during the basic design study, in this project as a result of analysis and examination of the information regarding the hospital situation and in light of the Government of Kenya's repeated strong request for it. Summarized below are the results of the discussion and confirmation at the time of explanation of the draft basic design on the Project in Kenya.

(1) Construction of New Facilities

- 1) Maternity (delivery/operation) Block
- 2) Toilet & Shower Block
- 3) Kitchen & Laundry Block

(2) Renovation of the Existing Facilities

- 1) Existing Maternity Department facility
(delivery/operation)
- 2) Mortuary
- 3) Existing Ward Toilets/Shower rooms
- 4) Ventilating/air conditioning equipment for the Operating Department,
the ICU, the Central Sterile Supplies Department, the Radiology
Department
- 5) Interior furnishings, security grilles, ventilating/air conditioning
equipment for the Clinical Laboratories
- 6) Oxygen supply piping