

UNIVERSITY OF NAIROBI

P.O. BOX 30197 NAIROBI KENYA TELEPHONE 27441 EXT. 212 TELEGRAMS VARSITY

DESIGN AND CONSTRUCTION MANUAL FOR RURAL NEDICAL BUILDINGS

FIRST DRAFT
Dec. 31st 1974

Philip Mein, Research Fellow, HRDU
In Collaboration With
Thomas Jorgenson, Consultant Surgeon, AMRF

INTRODUCTION

The purpose of this manual is to provide design, construction and cost guidelines for doctors and medical administrators in rural areas who are involved in the building, extension or improvement of medical facilities. It is primarily intended to be used where the services of a building professional are not available but may also be useful in the briefing of an architect or for making preliminary proposals for future building and fund raising.

The manual covers the full range of activities and decision making from inception to completion of the building process, but is not a building manual in that it assumes the construction work will be undertaken by a local contractor.

HOUSING RESEARCH AND DEVELOPMENT UNIT UNIVERSITY OF NAIROBI

CONTENTS

CHAPTER 1 - PROJECT PLANNING

- 1.1 Assessing the Problem
- 1.2 The Buildings Required
- 1.3 Estimating the Cost
- 1.4 Organising the Project
- 1.5 Selecting a Site

CHAPTER 2 - SITE PLANNING

- 2.1 Layout of Buildings
- 2.2 Design Considerations
- 2.3 Building Types
- 2.4 The Master Plan

CHAPTER 3 - BUILDING DESIGN

- 3.1 The Design Module
- 3.2 Out-Patients and Medical Services
- 3.3 Surgical Department
- 3.4 The Nursing Unit
- 3.5 Obstetric Unit
- 3.6 Ancilliary Services
- 3.7 Housing

CHAPTER 4 - BUILDING CONSTRUCTION

- 4.1 Building Type
- 4.2 Materials
- 4.3 Construction
- 4.4 Maintenance and Improvement
- 4.5 Labour and Self-Help
- 4.6 Climate
- 4.7 Constructional Prototypes

HOUSING RESEARCH AND DEVELOPMENT UNIT UNIVERSITY OF NAIROBI

CHAPTER 5 - BUILDING SERVICES

- . 5.1 Water Supply
 - 5.2 Waste Disposal

CHAPTER 6 - CONTRACT PLANNING

- 6.1 Contract Documents
- 6.2 Tendering
- 6.3 Approvals
- 6.4 Site Supervision
- 6.5 Completion and Handover

APPENDICES

AMRF/HRDU

SECTION 1 - PROJECT PLANNING - FIRST DRAFT (Feb. 1st '74)

Before any thought can be given to the design and construction of new buildings, a number of information gathering tasks must be performed. This chapter deals with necessary processes from the assessment of what is required to the selection and evaluation of a building site.

1.1 ASSESSING THE PROBLEM:

Any solution benefits from a thoughtful statement of the problem; the problem in this case may seem obvious but it is useful to write down the answer to the basic question: What are the health needs of the people in this area? Such a statement will define the main aims and help to ensure that they are not lost sight of through the lengthy procedures to come.

Further action may well be necessary, particularly the implementation of a population and health survey of the surrounding area. This can have several advantages; the first and obvious one is that a picture of the number and type of prospective patients to be expected at the new hospital can be built up. Secondly, some future trends may be guessed at, and thirdly the human contact involved in making such a survey can be the first step in interesting people in their own health, thus making the eventual setting up of the hospital an easier proposition. General health information can be found by examining people in a random sample of areas and from any medical personnel already working in the area. Population statistics and trends can be found from the Kenya Population Census. 1

The importance of involving local people cannot be stressed too highly, firstly in a real sense they are the clients and as such are in the best position to know their own requirements. Secondly, early community involvement should ease many later problems such as the finding of a site, the supply of local materials and labour for building. Besides local information, the Ministry of Health and possibly some voluntary agencies might have plans affecting the area. If this is the case, then all efforts must be coordinated.

A word should also be said on obtaining professional help. The services of an architect are invaluable for any building project; not only will it ensure a better quality of design tailored to the specific situation, but also an architect's experience in dealing with the administrative and contractual aspects will smooth the progress of the job and take a load from the shoulders of the medical staff. Having said that, it is unlikely that architectural services will be available locally, unless through some volunteer agency, and advice from a distance looses much of its value. Architects' fees are not high for the services offered but may be a factor where money is short.

The next step is to form a planning team which will encourage involvement and minimise the possibility of serious omissions. The team should be small but represent any or all of the following that may be available: medical or administrative staff who will work in the new building, leaders of the local population, and architectural or engineering consultants. The first job of the planning team will be to decide and write down the precise aims of the project whether it be care, education, training, research, etc. The second and equally important job is