

1978/13

LECTURE: HOUSING AND COMMUNITY FACILITIES COURSE.

TOPIC: HOUSING TECHNOLOGY, MATERIALS SCIENCE.

Materials and labour requirements for housing development projects; local and imported building materials with cost implications.

HRDU LIBRARY COPY  
DO NOT REMOVE

AUTHOR: Peter A. Erkelens, Materials Engineer  
Housing Research and Development Unit,  
University of Nairobi, Kenya.

DATE: 15-4-1980.

*note*

0. Introduction.

1. The building industry and the national economy.

The building industry forms a main part of the Kenya Industry. The Economic Survey 1978 (1) see also appendix 1, shows that the total capital formation was for 1977 KShs. 7,773,8 million (KE 388.69 million) in current prices. The building and construction industry contributed in this year KE 185.88 million, which is 47.82 % of the total investments in 1977.

In 1977 the total added assets in the form of modern dwellings and non residential buildings was 22.65 % of the total investments. ---

Building costs can be subdivided into costs of materials, plant, equipment, labour, overhead, profit etc. Although not explicitly specified in general it can be said that for middle cost housing labour is 25 % of the total contract sum. Building materials 50 % and the remainder 25 % are for plant, equipment, overhead and profit. (2) Expenditure on building materials can be calculated at some 4-6 % of the GENERAL DOMESTIC PRODUCT (GDP). In 1977 the GDP was KShs 32404/- and therefore 4-6 % in KShs. 1296-1944 million. These figures indicate that, compared to the overall economy, the building industry is a very important component.

This lecture deals with housing technology and materials science. It will cover subjects like materials and labour requirements for housing development projects. Also local and imported building materials and its cost implications will be briefly discussed.

Building materials:

Assuming that not everyone is very familiar with building materials it is necessary to discuss briefly the various building materials to be used for housing projects. Secondly it may be interesting to study some aspects of new materials development in Kenya, mainly in order to reduce the importation of materials and to save foreign currency.

Thirdly there is the aspect of quality control and (design) standards that need to be considered.