

MFR
HRDU
1759

**SOCIAL ACCEPTABILITY OF LOCAL BUILDING MATERIALS
AND THEIR APPLICATIONS IN THE
CONSTRUCTION OF SHELTER BUILT-FORM**

Dr Paul Syagga

Housing Research & Development Unit
(HRDU)

University of Nairobi

HRDU LIBRARY COPY

NOT REMOVE

INTRODUCTION

The building materials industry though lacking a precise definition in many countries, represents an important group of industries whose outputs constitute the main inputs in the construction sector which take the form of civil engineering works, houses, and commercial and industrial buildings. The nature of the construction output will determine the type of production inputs required in terms of materials, plant and equipment as well as labour skills. In many countries the inputs are obtained predominantly from imported sources, which requires use of foreign exchange. Since the developing countries are short of foreign exchange, we must therefore be careful to minimise expenditure of hard currency. High dependence on imported construction inputs in the phase of inadequate foreign exchange is one major cause of low output in the construction industry. There is also the question of high construction costs arising from import duties paid for the materials. The above phenomena have affected particularly the provision of shelter in the developing countries which have high population growth rates, rapid urbanisation and low income per capita.

It is considered that to the extent possible each country should mobilise local resources in the provision of shelter-built form. Low cost housing solutions such as site and service programmes and settlement upgrading, most of which rely upon significant self-help efforts should be promoted. These solutions should consider how people house themselves under different socio-economic characteristics of each country, give priority to domestic production over imports of building materials and use more labour intensive technologies. It is considered here that concept of minimum standards in provision of shelter is irrelevant if it is inconsistent with housing affordable to the population. Planning and building standards for housing should be seen as measures of acceptability of shelter-built form in a given cultural, technological and economic setting. They should evolve and change with time rather than be imposed.

44
100
31
YA
2

Indigenous building materials exist but are not widely used in many developing countries mainly because in the eyes of the political elite, the administrator and the professional, they are not attractive for political display, and so they are dismissed as being of inferior quality. Since the use of the materials is not encouraged, they are therefore not produced in sufficient quantities. However, for various reasons, but mainly due to careful analysis, political sensitivity and interventions by some international agencies, many governments are promoting the use of indigenous building materials by both improving the traditional materials and developing relatively innovative materials. This paper proposes to examine the social acceptability and applications of some improved and innovative building materials in the construction of shelter-built form in the context of the experience gained through research and development in Kenya.

2. Planning Standards for Housing

Planning standards for housing are measures of acceptability of housing at a given place in a cultural setting. There are essentially three aspects of planning standards for housing which to a large extent affect the use of local building materials.

- (a) Building By-laws which refer to the actual design space standards, construction materials and techniques.
- (b) Planning By-Laws which refer to actual land use control, plot coverages, plot ratios, roads, footpaths, building lines, etc.
- (c) Health By-Laws which refer to the safety of the buildings, and their users with particular reference to ventilation, lighting, sanitation, drainage provision etc.

In many developing countries the standards set with respect to the above regulations are neat copies of the European garden-city schemes incorporating the values and images of the former colonial powers into a physical mode. Building methods and standards are therefore adopted from outside notwithstanding that they could be inappropriate climatically, socially and in many cases financially. It is more than two decades since some of the African countries became independent, yet for countries like Kenya, the building by-laws and regulations remain what they were in 1948. What people are at the moment constructing at the lowest cost bracket is what the standards should try to cater for, because this is what is going to be built, standards or no standards. The constant breaches of these standards are an example that in some cases the standards are well above what they need to be, and that governments impose essentially unworkable standards on the people.

The building by-laws in Kenya have not been revised since 1968 and are largely responsible for hindering the use of local building materials. For instance, by law 32(1) of the building code says:-

No person shall use or permit or cause to be used in the erection of a building any material which is not:-

- (a) of a suitable nature and quality for the purpose for which it is used;
- (b) adequately mixed or prepared; and
- (c) applied, used or fixed in a proper manner so as to perform the functions for which it is designed (GoK, 1970)

By-law 33 observes that unless the Council agrees, no second hand material shall be used on work to which the by-laws refer. The effect of these by-laws is that buildings in the urban areas in Kenya have to be built of conventional "durable building materials", connected to sewers and access roads, all to municipal standards. Any technological innovations or use of improved local materials cannot be approved by municipal authorities because they have no precedents, and presumably therefore of low quality. The scenario here is that lack of demand for local building materials negates against supply of such materials and therefore lack of need to formulate standards. It is therefore not necessarily so that,

The lack of standards and specifications for local building materials and, in general, the inability to promote such materials on a wide scale in Africa, are partly caused by the fact that the responsible agencies have no access to technical information (Report of the ARSO/CSC/ UNCHS workshop, Nairobi, March 1987).

~~It has more to do with the attitudes of the decision makers that have stifled~~ demand, and without which there is no need to search for the information.