
Housing and Space Standards: Human needs and regional factors

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Introduction

A shelter provides people with functional, social and spiritual needs. The life of an individual and family unfolds in the space within the shelter. Any attempt at formulating housing and space standards should start by recognising the quality of space that have to be provided in the family home to satisfy these needs.

This paper attempts to define housing and space standards in a regional context. It takes into consideration the nature of human needs and examines how these needs are influenced by social and regional factors. The paper indicates the importance of socio-cultural factors in the formulation of housing and space standards. Since the economic ability of the people is also one of the main determining factors for achieving the standards, suggestions are made to adopt a flexible as well as comprehensive approach towards formulation of space standards in Bangladesh.

Space standards

Space standards for dwellings for any particular society may be defined as a measure of acceptable intensity of dwelling occupation in the context of cultural, social, climatic, economic and technological conditions prevailing in that society. They establish a relationship between people and the amount of space they occupy¹. Various authorities on space standards are of the opinion that they are only one of the many indices of measuring housing quality and not an end in themselves. They indicate the amount of space available to a person or family, but by themselves do not reflect the exact conditions. Living conditions, in fact, will be affected by the way these spaces are arranged within the dwelling for different activities.

Space standards are expressed in a number of forms and units of measurement. In the western countries they usually connote the size of floor space and of the number of rooms in the dwelling in relation to the

number of occupants in order to ensure a certain degree of privacy and comfort in family living as well as to maintain health requirements. The trend in the formulation of contemporary standards is towards amenity and a broader concept of human requirements and health. The units usually adopted to reflect this concept of space standards are 'floor space per person' or 'number of persons per room'. Space standards according to this concept tend to rise with national wealth, they are far higher in the developed countries than the developing ones although household sizes in the developed countries are invariably smaller.

Atkinson is of the opinion that if for social and economic reasons the so-called floor space rate has to be lowered (compared to the western standards), then this lack of indoor space can be compensated for by ensuring a reasonable private outdoor space². He extends his support for Stevens in his introduction of the concept of total living space, which includes all the spaces available on all floors of the dwelling and the open spaces within the curtilage of a housing plot or a group of housing plots³. In the case of a country like Bangladesh, where many household activities can and do take place in open spaces inside as well as around the dwelling during at least some part of the year, the concept of total living space rate may provide a more useful basis for design of dwellings.

The nature of human needs

Design of housing is one of the most difficult tasks in the field of architecture. A proper understanding of the nature of human needs is of crucial importance in the formulation of housing and space standards. The thresholds and coefficients of these needs may vary from one society to another as a function of the economic data and the different ways of life. The range of temperatures for example to which man can adapt is too wide to offer any guidance as to optimum thermal conditions on which a standard might be

based. It is possible to construct a comfort scale for thermal conditions, but even here it is not possible to reach a universal agreement among different societies as to what constitutes a reasonable temperature. It is interesting to note the range of temperature at which office workers in different countries said they feel comfortable. It ranges from 18° to 38°C, the response being affected by local climatic conditions, dress and expectations. So it appears that even in straightforward physical matters, needs are influenced by social and regional factors.

Again, if we consider the human needs in terms of public health, then it is also found that the range is very wide. During the early part of this century, maximum occupancy of dwellings in Britain was set at two persons per room considering the oxygen consumption of an individual and measured rate of air exchange in a room of normal size. Regulation of space standards in most of the western countries is still partly influenced by the concept of overcrowding and its possible association with ill health. Places, like Hong Kong however with densities up to 5000 persons per hectare or 8 persons per room have not given rise to epidemics. Of course, there is still the question of whether high densities have other detrimental effects on human behaviour or mental health⁴.

So, it seems that human needs with reference to housing and space standards are directly related to social and regional factors. A useful approach for formulation of such standards is to look at the way space is socially defined, patterns of living, concept of privacy and other socio-cultural traits

Socio-cultural factors

A house-form, according to Rapoport, is the consequence of a whole range of socio-cultural factors seen in their broadest terms⁵. Societies differ in their definitions of concepts such as privacy and density and their response to these concepts.

Rapoport has cited the example of the Yagua from the Amazon valley who achieve privacy involving a social convention of someone being 'absent' or 'invisible' by turning his face away from the centre of the house⁶. He will not be disturbed by anyone no matter how urgent be the need. On the other hand, even in an Arab tent a curtain separates the private family space to which the women can retreat when males from outside the family circle visit the tent⁷. This wide range of variations means that standards to be formulated for different societies will vary in concept, magnitude and terminologies.

One particular factor that has affected the living pattern of a Bengali family is the concept of dwelling unit as an undivided structure, at least in rural areas.

A typical village house is a group of undivided structures where the concept of 'room' is unknown. The separate structures are built to meet social and functional requirements such as separation of sexes, accommodation of more people as the family grows and to cater for ancillary services such as cooking. All these structures are used for more than one activity.

Influence of this rural tradition is also observed in the urban areas. Multi-use of spaces in a Bangladesh house, as such, cannot be termed as only a function of over-crowding; it is rather a socio-cultural attitude towards space⁸.

The relative ease with which different functions can be accommodated in the same space has been made possible by the practice of having less furniture in a Bangladesh house, which again is an effect of socio-cultural patterns related to some major activities. For example, the traditional way of having meals is by sitting on a mat spread on the floor, which eliminates the use of furniture like dining table and chairs. Sleeping on the floor is also the usual practice. The requirement for these functions is a free floor space in an area which is sufficiently private and climatically comfortable

The position of women and the attitude towards privacy also affect the use of family space in a home. In Bangladesh, even though seclusion of women is not as vigorously practised as in some other Muslim countries, it is the usual practice to maintain the privacy of women of the family from male visitors and passers-by. This necessitates, in traditional rural houses, a broad division of different spaces in the home, a formal zone and an informal zone. The separation is clearly identifiable by the location of different zones. The informal zone is a courtyard with three or four different structures including the kitchen, facing into it for privacy, while the formal zone consists of another separate structure with its entrance facing away from the informal zone or inner house.

Approach towards formulation of housing and space for Bangladesh

The foregoing discussions show that space requirements in dwellings — both quantitatively and qualitatively are not only affected by functional needs but by other social and regional factors. Different social and climatic situations may require the same activity to be performed in altogether different spaces.

The socio-cultural attitude of Bengali people towards space within and around the house provides an opportunity for producing reasonably modest solution, the most favourable being the multi-use of space. The majority of household activities in

Bangladesh, and for that matter in most tropical countries, require no specific space for their pursuit. The same space accommodates different activities at different hours of the day and different seasons of the year. So, living spaces here should be tailored to accommodate different functions at different times. This calls for prescribing overall space requirements instead of making specific space recommendations for specific functions (except, of course, for cooking and personal hygiene facilities). These spaces may be broadly defined as Habitable Roofed Spaces for Multi-use and should be provided both in the form of enclosed (i.e. room) and semi-enclosed (i.e. verandah) spaces. They have to be designed to accommodate different functions with least possible inconvenience. Apart from climatic comforts, these spaces will have to fulfil the following major design requirements.

- a) It should be possible to divide these spaces into at least two separate areas for sleeping at night by adults of different sexes.
- b) It should be possible to divide them for formal and informal use.
- c) The spaces should be neutral in terms of form to allow the variety of uses to be made of them.
- d) There should be scope for possible future expansion.

The requirement of roofed habitable spaces is found to be less at any other time of the day than what is required for sleeping at night. So, overall requirement for these spaces may be calculated on the basis of night functions.

Apart from socio-cultural factors, housing and space standards are also a function of the economic data of the country. If the standards are assessed in relation to family, social and functional requirements only (even when a multi-use of spaces is prescribed), then a vast majority of the people will not be able to achieve the standards⁹. Such people or a family may be provided with a plot to start with, and be allowed to build a dwelling to a standard lower than what is considered socio-culturally and functionally acceptable; the dwelling can be raised to the acceptable standards with the improvement of the family's economic conditions¹⁰. The user may also be allowed to choose from a range of different construction standards that satisfy minimum health and safety requirements.

Standards, as such, cannot be absolute. They vary with changing family and society needs. Standards, once formulated, have to be reviewed from time to time. A recommended set of standards can only be used as a guideline for formulation of policies and programmes to suit the needs of various economic and social sub-groups in a particular society.