

From the environmental viewpoint, living in host-houses in close proximity with nature and away from the busy roadside streets may be considered as a significant improvement. Not only the host-house communities will enjoy a better physical environment but the general city dwellers will also be saved from the various ill-effects of squatter settlements on the heart land of the city.

The proposed host-house communities can promote and maintain various activities on the water ways adding further dimensions to the dynamics of the city life. Some of these activities may have considerable economic potentials and provide new sources of work and earnings. The plan of water ways has also been open up earlier and cheaper possibilities for transportation of men and materials to and away from the heart of the city. The benefits from the view point of water logging and drainage problem of the city will be enormous compared to the cost involved which in any case may be found to be favourably comparable with the probable cost of other available options for solution of the problem. Moreover, the other available options are unlikely to have the wide range of great benefits the proposed option can bring about.

The present discussion has only attempted to point out a possibility so far as the lack of the urban sprawling problem in the capital city of Dhaka is concerned. On the face of it, the possibility looks like a viable and promising one. However, much more study and closer scrutiny of the various relevant issues must be undertaken before a clear, concise and comprehensive scheme can be drawn. Living with water can be a natural and highly effective option not only for the urban sprawlers but also for a section of the growing population of tomorrow if we want to preserve our scarce land for productive use which would be vital for our survival.

Discussion and Conclusion

Host-house communities are nothing new in the south and south-east Asian countries. A sizable population of these countries belonging to the urban poor classes is still living in host-house communities. In Bangladesh, the local gypsy communities known as the 'Badeys' live in country boats and travel in small groups along the network of waterways across the country in search of livelihood. Apart from the 'Badeys' there are also other who, because of the nature of their means of livelihood, live mostly in boats. This living in boats can be quite acceptable even desirable in the urban poor if the capital cost is within the limit of affordability and the locational advantages in relation to the places of work is secured.

Design decisions are made by clients, builders, architects and engineers and others who in most cases do not occupy the building. The design reflects the socio-cultural views of comfort, community etc. of the designer which are different from those shared by the users. The system has become like that the architect's real client (users) are no longer the legal clients. Hence they tend to work more in the benefit of the legal clients and feel no responsibility for those to whom they are ultimately responsible. By the very nature of their work the architects always stood closer to the rich than to the common man. This is considered to be one of the main reasons behind design failures in general level.

DEVELOPING INFORMATION FOR MORE RESPONSIVE ARCHITECTURAL DESIGNS

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Abstract

Traditionally designing was an one man act, and intuition played a vital role in decision making process. Design theories and methods were mostly associated with symbolic and aesthetic functions of the structural system or skin of the building. The emphasis was relatively less on the environment necessary for occupants to perform their activity satisfactorily. The inadequacy of architecturally designed projects in the context of users need and the architects general failure to understand importance of such need in the overall success of their projects have been felt increasingly. The paper will focus on the need for better understanding of the interaction of people and built-environment and the ways of improving such information to the benefit of the designers.

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Design problem has become so complex and diverse under the influence of rapid socio-economic, political, cultural and technical changes that it has gone simply beyond the scope of individual architect to grasp it totally. To avoid the complexity, the tendency among many architects is to design under the veil of creativity so that they can remain confined within the boundaries of their professional knowledge and judge every thing from their personal experience. In the western world since World War II, the realization of the limitation of design by intuition and personal experience appeared as a dominant force to change the established design process. Concept of team approach as an effective alternative was advocated by architects like Walter Gropius, Richard Neutra and others.

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Much experiments and studies have been carried out to improve the technical quality of building, and literature on them are readily available to aid the designer. On the other hand user information is limited. Studies and information whatever may be available are scattered and in most cases inaccessible to those who need them most. Building evaluation though a part of the design process, is seldom carried out. Moreover, there is little or no interest among the designers and client (legal) to spend time and resources to study users need.

Building codes and regulations do specify some design parameters relating to users need. However, the regulations are the response to the cumulative history of past design failures. The changes in building practice, health standards, social customs and technology which make many regulations obsolete or even counter effective are reflected in such regulations very slowly.

The notion that building form itself could have a major impact on design and its performance have been proved wrong from the repeated failures of socially complex projects like housing and hospitals designed by architects. If the underlying social problems are not addressed properly than any design otherwise creative may end in failure. So the importance of understanding users need in building design cannot be overemphasised.

The meaning of the terms 'user' and 'need' requires to be defined and understood clearly as they are loosely used more often. The term 'user' applies to occupants as well as those involved in construction, ownership, operation, maintenance etc. They can be classified as direct and indirect users. Direct users are those who reside, visit and work in the building. User may have diversified interest relating to the building and they are

sometimes mutually conflicting. The builder would be interested in market value of the building and pay more attention to the finish material while the occupant, more concerned with the use value of the building will look for effective useable space.

'Need' is a variable term. Complete satisfaction of need is not attainable as it happens that when one set of need is satisfied another set emerges. It has been demonstrated in Maslow's (1) conceptual model known as 'Need Hierarchy' (Fig. 1). Which shows need varies from physiological need to self-actualization through successive stages inbetween them. However, there is no definite order of movement between those stages.

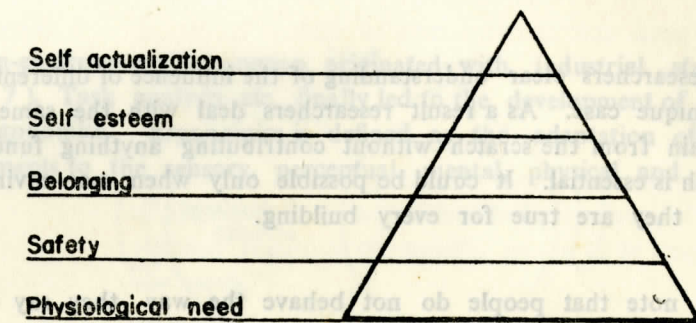


FIG 1. HIERARCHY OF NEEDS (MASLOW)

In today's architectural design, a major issue is to find ways to develop user information. However, architects' attempt to find sociologists' assistance in this field turned into a disappointment. Social scientists long neglected the problems of how people respond under the multi-dimensional effect of complex environment as their goal of work were different. Whereas, the architects conditioned to design a more technically perfect building, are yet to understand how to apply sociologists' findings to improve their designs. The connective link between these two disciplines is that, one develops behavioral information and the other uses them. Nevertheless, in other respect they are entirely different, one is a professional body, the other is a learned body, one is interested in product and the other is interested in process, one looks for objective solution to a problem and the other studies the problem subjectively. Sociologists are better in describing the activities and organizations that already exist than they are in proposing or forecasting the consequences of new organizations proposed by the architects. So it is the architects who should be interested in developing man-environment information for their own purpose. Behavioral scientists with their long experience in the study of behavior of man and its influences can be a valuable guide to lead the architects to develop such materials. Therefore, the architects should acquaint themselves with various research methodologies available in social science.

Pattern of life and behavior is largely controlled by man-made environment. As the architects are directly concerned with the shaping of the man-made environment, it is the field of their primary importance. Various approaches are possible to study the influence of building on its occupants. Among them, System Analytic Approach, Task Analysis, Time Budget Study and Performance Approach (2) can be applied as required by the nature of the problem. There are two research approaches—Analytical and Multivariate. In real world every problem is influenced by multi-dimensional forces. So things cannot be examined one at a time as it is done in Analytical Research. Multivariate procedure allows study of the problem in its complex reality. R. G. Barker's (3) theoretical model suggests to study human behavior in a realistic setting with all its complexities. He classified environment in two ways: 1. Psychological environment — the world as it is perceived by a person and 2. Ecological environment — the real life setting within which people behave.

However, lack of researchers clear understanding of the influence of different variables makes every problem a unique case. As a result researchers deal with the same kind of problem over and over again from the scratch without contributing anything fundamental. Hence progressive research is essential. It could be possible only when man-environment variables are defined so that they are true for every building.

It is important to note that people do not behave the way they say they do. When the research has to depend on their statement, check and balance is necessary through research control. Questionnaire survey offers considerable control and other controls may be enforced through careful selection and training of the surveyors. Errors are inevitable in research process. Research goal is not to eliminate error completely but to keep them to a level of minimum influence. Every researcher makes some assumptions and these assumptions taken together forms a conceptual theoretical model.

Information and data collection may be carried out in various ways depending on the type of the problem. Commonly used procedures are observation, Simulation, Interview, Semantic Differential, Diary Method and Unobstrusive Method (4). A research is made for analysis and interpretation of data collected. This analytic phase of research often proves more costly than the actual data collection. Hence data collection requires to be carefully planned so that they can be purposefully used.

Scale of observation is another factor to be determined properly for appropriate problem analysis. The Scale can be classified as follows:

1. Macro scale — The City
2. Intermediate scale — The community & Neighbourhood
3. Typical scale — Building & Building groups
4. Close scale — Within home and Work

Categorization of information in terms of scale helps to organize diversified information and data in a manageable form.

Architect Amos Rapoport (5) has emphasised the impact of cultural differences in shaping environment and argued against the concept of universal standardization of needs advocated by Le Corbusier. In Le Corbusier's (6) term 'All men have the same organism, the same functions. All men have the same needs.' Nevertheless, it has been proved that differences in background and experience can exercise considerable influence on the way people respond to their environment. For example the concept of over crowding varies from culture to culture. In one culture it is considered a physical problem and in another a psychological problem. Hence, the success of built-environment depends to a great extent on the understanding of the past history of the users.

Research on man-environment interaction originated with industrial studies. Time and motion studies (7), Task analysis etc. finally led to the development of a new branch of studies called Ergonomics. Ergonomics is defined as the adaptation of human task and working environments to the sensory, perceptual, mental, physical and other attributes of human beings.

Conclusion

Architects in their professional lives are compelled to make decision on immediate problems. Design decisions are made on insufficient information. The client seldom provides detail information and architects in general are found to be reluctant to collect such information as they believe more information would only complicate the design process and limit their creative ability. Architects feel that their responsibility ends with the completion of the project and they remain indifferent to post-occupancy problems. Whereas the ultimate success of the building depends on its performance, the degree of satisfaction of its users and the purpose it fulfils. A socially concious architect should always work with a sound brief having adequate user-information so as to achieve a more responsive design. He should take initiative to develop such information when they are not available.

Man-environment information can be developed as a part of the design process, Post-occupancy evaluation, which is generally neglected is indeed extremely important in realizing users need. According to architect T. A. Markus (8), science and building design have much in common as far as relationship between variables, prediction and testing are concerned. Architectural programming is a process in which designer approaches a solution through different stages of analysis, synthesis and appraisal. This allows the new ideas to be tested, recognised, reassessed before application. Every building at the end can be

used to test a research hypothesis. In this regard post-occupancy evaluation can be valuable in testing the validity of the basis of decision making or to check the hypothesis. Hence a team work is considered useful as a method of integrating ideas and concepts of architects and behavioral scientists. Architects and social scientists can play a complementary role in shaping the built-environment, where the end of one's activity will be the departure of the other (Fig. 2). Social scientist's study on a completed project could be a useful guide to the architects in preparation of a brief of a similar project. What is important to the architects is the quality and applicability of such information not the quantity. This requires careful analysis and classification of those information by the architects for their own purpose.

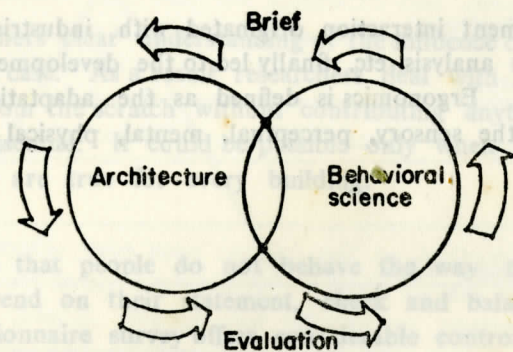


FIG 2. CONNECTIVE LINK BETWEEN ARCHITECT'S & BEHAVIORAL SCIENTIST'S SPHERE OF WORK

In our school due importance is not given to develop understanding of users need and the relevance of behavioral research to design. This reflects in the professional career of the architects where they try to explain everything from their personal experience and preferences. A change in curriculum to bring more awareness of the students about people and building interaction is essential.

Methods are the means of obtaining man-environment information. The development of appropriate method for observation, measurement and finally their refinement and standardization is considered essential. In order to generalize the results, the ultimate aim should be the development of universal model and procedures. As a major consumer of building user information architects have vital role in its development and refinement.

Notes and References :

1. Maslow A. H., 1954 : Motivation and personality, New York : Harper
2. System Analysis : An organized arrangement in which each component part respond in accordance with an overall design. It includes all equipment and personnel integrated in a manner to perform a function.
- Task Analysis : Task analysis is used to determine the psychological and physical factors essential to the adequate performance of a task.
- Time Budget study : A record is made of what a person has done during a specified period of time.
- Performance concept : An organized procedure or framework within which it is possible to state the desired attributes of material component or system in order to fulfil the requirement of the intended user without regard to the specific means to be employed in achieving the result.
3. Burker R. G., 1968 : Ecological psychology: Concepts and Methods for Studying the Environment of Human Behavior. Stanford Univ. Press.
4. Observation : Whatever is being observed in any form broadly called observation. It covers the characteristics and measurement of the environment, activities and the individual, whatever recorded by the experimenter.
- Simulation : The imitation of certain environmental and other conditions for purposes of training or experimentation.
- Semantic Differential : A method of measuring the subjective reaction to a concept or actual environment in which the person rates the concept on one or more bipolar scales.
- Diary Method : A method used in Man-environment studies where people maintain record of activities performed. Duration times and Frequencies are often critical.
- Unobtrusive Method : Methods of studying behavior which do not interfere with the normal environment in which the behavior occurs. The researcher observes without intruding into the scene.

5. Rapoport A., 1969 : House Form and Culture, Englewood, Cliffs, N. J. Prentice-Hall.
6. Corbusier Le, 1923 : Towards a New Architecture, (Trans. Etehells 1927) Architectural press, London.
7. Time and Motion Studies : A study involving the observation and analysis of movements in a task with an emphasis on the amount of time required to perform the task.
8. Markus T. A., 1967 : The role of building performance measurement and appraisal in design method. 'The Architects' Journal Information Library, Dec. 1967.

Time Budget study : A record is made of what a person has done during a specified period of time.

Performance concept : An organized procedure or framework within which it is possible to state the desired attributes of material component of system in order to fulfill the requirement of the intended user without regard to the specific means to be employed in achieving the result.

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Simulation : The imitation of certain environmental and other conditions for purposes of training or experimentation. The subject is placed in a simulated environment and is required to perform a task. The subject's response is recorded and compared with the response of a control group.

Diary Method : A method used in Man-environment studies where people maintain a record of activities performed. Duration, time and frequency are often critical. The researcher observes without intruding into the scene.