

Chapter 1

Introduction

Residents' satisfaction is an indication of people's response to the environment they live in. Here *environment* refers not only to the physical setting, such as dwelling units, housing developments, and neighbourhoods, but also to the social and economic dimensions of such settings (Francescato, 1998). Considering the complexities of issues involved in trying to assess residents' satisfaction, it is felt that to effectively tackle it, a multidisciplinary approach is a requirement.

Most of the developing countries like India are passing through a phase of rapid urbanisation. With a decadal urban growth rate of 31% (1981-91), many of the large cities in India are reeling under the pressure of urbanisation, and, consequently, there is a massive urban housing shortage. Government interventions into this aspect have been mostly confined to centralised housing supply schemes, but the measurement of residents' behavioural reactions to their *environment* has not yet received its due importance.

Overwhelmed with the problem of housing shortage, the government has emphasised very much on building large number of houses in the public housing system. But, in the process the quality of such housing has suffered. Residents often express their displeasure

over the quality of public housing they are provided with. This thesis addresses the issue of residents' satisfaction in public housing and attempts to formulate guidelines for future public housing schemes.

1.1 Nature of the Housing Problem

There has been a growing concern all over the world on the issue of housing shortage in the developing countries. Though predominantly rural, India has one of the largest urban populations in the world. The cities are under tremendous pressure due to added population resulting from migration as well as the natural growth factor. Consequently, shelter problem is one of the biggest urban problems.

The Eighth Five Year Plan of India (Planning Commission, 1992-97) estimated the urban housing shortage figure to be 9.6 million units in 1991, which was projected to rise to 14.3 million units in 2001. The Eighth Five Year Plan also estimated that to provide 'Housing for All,' an investment of Rs. 97,530.00 crores (1 crore is 10 million) would be required (Mehta & Mehta, 1994, pp. 19-20). The physical magnitude of the shortage is so vast that the government's exchequer cannot, by any means, meet the entire deficit. Such shortage being true for almost all the developing countries, the General Assembly of the UN declared 1987 as the International Year of Shelter for the Homeless (IYSH). The United Nation's Centre for Human Settlements (UNCHS) developed the global shelter strategy (GSS) with a target aim of providing shelter to all by 2000.

A study conducted by the National Commission on Urbanisation in India (NCU, 1988) reveals that 45% of the urban population is living in just single room houses, with an average of 5 persons in a room. In 1981, nearly 37% were without electricity and about

66% were without a latrine. This indicates one area of residents' lack of satisfaction in housing.

1.2 Changing Scenario in Housing Supply

The urban housing stock in India was 14.1 million in 1961, which increased to 18.5 million in 1971 and to 28 million in 1981 (NCU, 1988).

A qualitative idea of the urban housing stock can be given from the observations of the National Commission on Urbanisation (NCU, 1988). It stated that in 1981, the age of 21% of the structures was more than 40 years, while 10% were more than 60 years old, and most of these 10% structures required extensive repairs. The investments in housing by both the public and private sectors in the Five Year Plans are shown in Table 1.1.

Table 1.1 Investment in Housing in the Five Year Plans

Plan Period	Investment in Housing (million Rs.)			
	Public	Private	Total	As % of total Plan outlay
1 st	2500	9000	11500	34.0
2 nd	3000	10000	13000	19.0
3 rd	4250	11250	15500	15.0
4 th	6250	21750	28000	12.0
5 th	10440	36360	46800	10.0
6 th	14910	115000	129910	07.5
7 th	28580	290000	318580	09.0
8 th	--	--	--	10.0

It is evident from Table 1.1 that investment in housing as a percentage of total outlay has suffered a set back in the successive Five Year Plans.

Table 1.2 below presents the demand and supply scenario of housing during the Seventh Five Year Plan (1985-90).

Table 1.2 Demand and Supply of Housing in Seventh Five Year Plan

	1981 (millions)	1986 (millions)	1991 (millions)	2001 (millions)
Urban population	160	192	230	326
Urban households	32	38	46	65
Incremental households	0	6	8	19
Formal Incremental shelter supply				
High	0	4.8	6.6	15.6
Low	0	4.6	6.2	14.6
Slum Households (incremental)				
High	0	1.4	1.8	4.4
Low	0	1.2	1.4	3.4
Total Slum Households				
High	8.0	9.4	11.2	15.6
Low	6.4	7.2	8.6	12.0

The NCU (1988) had conducted a study to determine the affordable capital for housing by different income groups. The findings are presented in Table 1.3.

Table 1.3 Affordable Capital for Housing

Income group (Rs. pm)	% of income for shelter	Affordable capital (Rs.)	% of households (HH)	Cumulative % of HH
Up to 400	10	2,724	12.33	12.33
401-600	11	4,995	17.32	29.65
601-800	12	7,628	16.02	45.67
801-1000	15	12,981	13.68	59.35
1001-1250	18	19,471	10.47	69.82
1251-1500	20	26,442	7.07	76.89
1501-2000	22	39,333	8.43	85.82
2001-3000	25	63,852	7.84	93.16
3001-4000	30	107,271	3.70	96.63
4001+	30	175,137	3.37	100

The assumptions made by NCU to find the affordable capital for housing were that housing finance was available at 12% interest per annum and that the repayment period was 15 years. NCU also assumed that the incremental shelter requirement was around 1.6 million houses per year. With the mean affordable capital being around Rs. 32,000 per

unit, the total annual resource requirement was calculated to be around Rs. 51,200 millions.

According to the National Buildings Organisation (NBO), the minimum area required for a house is around 15 Sq. m., which would cost Rs. 18,000 for constructing a house at the 1988 price. This showed that 60% of the households could not afford this bare minimum house.

NBO suggested an additional cost of developing land at the rate of Rs. 150-200 per Sq. m. of net area. The shelter cost (not including the land cost) then rises to Rs. 20,000. Minimum urban land cost was assumed to be around Rs. 60-100 per Sq. m. depending upon the city size and the location. This eliminated the possibility of the lowest 10% of households to own a plot, indicating that they would be forced to squat, and that around 40% of the households might afford a serviced plot but no superstructure.

1.3 The Relevance of Residents' Satisfaction

The physical magnitude of housing shortage is so vast that the government's exchequer cannot, by any means, meet the entire deficit, as already expressed. This, coupled with very low affordability of the mass, raises the question: How much stress is to be given to residents' housing satisfaction? The vast mismatch between the demand and the supply of housing has always been uppermost in the minds of the public authorities in our country. As a result, the main focus has been towards narrowing the demand-supply gap overlooking the housing quality and the residents' satisfaction.

It is felt that stress has to be given to providing residents' satisfaction in housing. It is necessary to acknowledge the importance of the consumers' needs and pay them due recognition. People should be able to derive satisfaction from the housing provided to them. It is not fair to assume that our fellow countrymen deserve substandard housing, only because the shortage figure is so overwhelming. According to Burgess (Burgess, 1982, 1985), what the developing countries need is not substandard housing, nor can it be assumed that the standards need to be relaxed according to income groups, rather, the standards of the highest order are needed, a set of provisions that apply equally to all. Burgess also feels that the real eyesores in our societies are the grotesque display of housing of a limited affluent segment, amidst appalling poverty.

The issue of whether citizens should have a right to decent Shelter, similar to Education and Health Care, was heatedly debated at the Second UN Conference on Human Settlements (Habitat II) held in Istanbul in 1996. Both the U.S. and the European Union agreed that the governments had an obligation to ensure, protect and promote this right. (Howenstine and Roistacher, 1998).

It is often expressed that user's satisfaction is too vast, too vague and too subjective an issue. People have also wondered if it is possible to do an objective study of this aspect. In several developed countries post-occupancy evaluation (P.O.E.) has been done to measure the level of satisfaction of the residents (Spreckelmeyer, 1998). But no such systematic study has yet been done in India. Several theorists have also put forward various theories on housing satisfaction. However, few attempts have been undertaken to assimilate all the theories and approaches and codify them to evolve concrete guidelines for application to housing. This, one feels, is an area of research gap.

1.4 Scope and Objectives of the Study

Scope of the study

The study presented in the thesis considers only urban public housing schemes, because the public authorities have the mandate to comply with the building regulations, standards of health and sanitation, zoning regulations, planning controls, use of appropriate building materials, and also checking externalities like health hazards. The private developers are usually more interested in maximising their profits and often give low priority to benefits that will accrue to the residents. Private sector housing is left outside the scope of the study also because it is possible to have greater access to public housing records. Because of India's vastness and diversity, only urban considerations have been taken up for the study. Moreover, it is felt that the problem of satisfaction is more pronounced in urban housing in India.

The study does not consider the lowest and the highest income groups of people as it is felt that these situations in India are so unique that separate studies are required to be conducted for them.

Objectives of the study

- To identify and measure the physical, social, economic and psychological factors which influence the residents' satisfaction in urban public housing in India.
- To identify the constraints and problems in present public housing systems.

- To investigate the effectiveness of existing institutional housing finance mechanism.
- To examine how units in public housing may be made climate-balanced to achieve greater satisfaction of the residents.
- To develop future guidelines for effective urban public housing in India.

1.5 The Methodology

The methodology adopted for the study and the sequence in which the various steps were undertaken is shown in the Methodology Tree (Fig. 1.1)

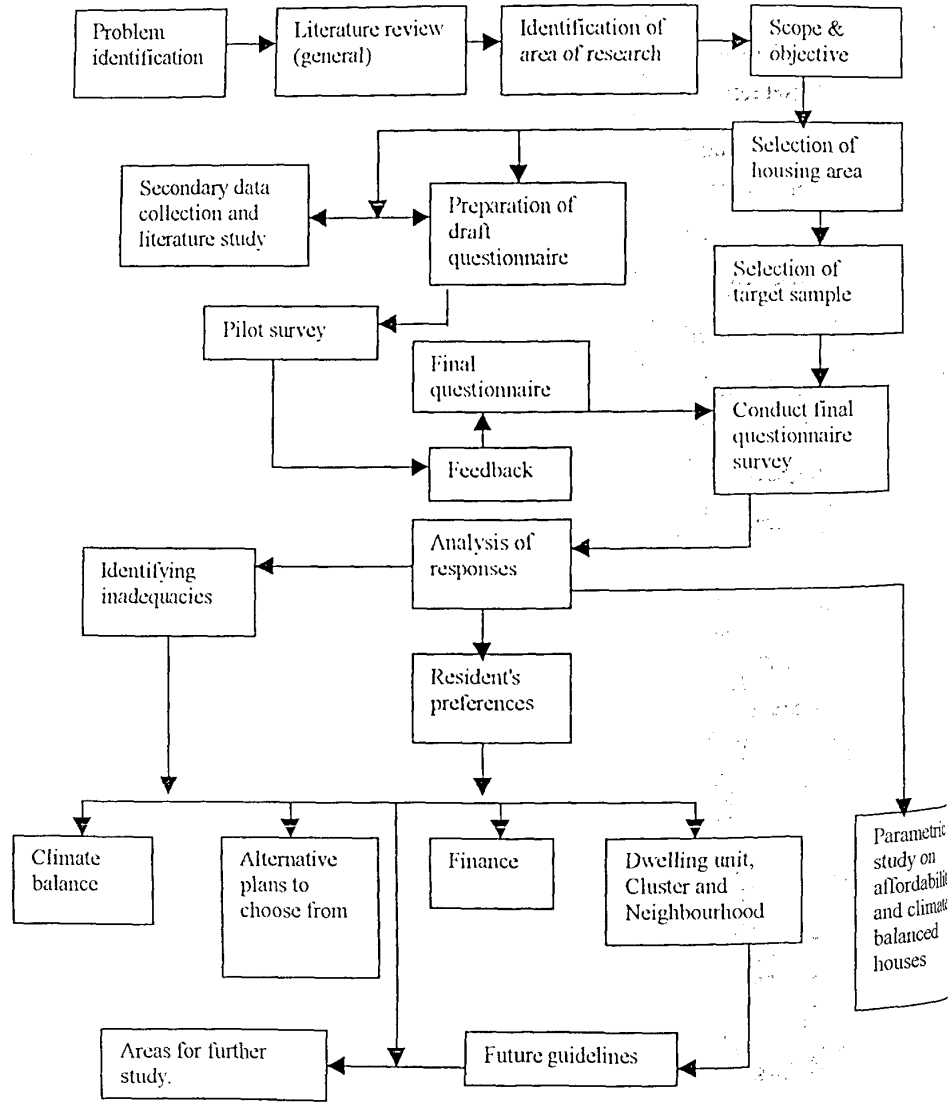


Fig.1.1 Methodology Tree

This thesis attempts to evaluate residents' satisfaction in public housing and tries to form future guidelines for the same. At the outset, an exposure is made of the background literature on housing satisfaction and of how different theories on satisfaction have been developed. A statement of various approaches, which were adopted by researchers to measure residents' satisfaction, follows this. Next, as a part of the case studies, a questionnaire survey and analysis of responses is presented. Based on the findings of primary data and analysis of the responses a set of simulation exercises was carried out to investigate into the problems of affordability in public housing and the relevance of climate-balanced houses. The affordability research adopted Wakely Charts (Wakely, et al. 1976) to evaluate the affordability of the target groups. The research on climate-balanced houses used traditional tools like the Mahoney Tables (Koenigsburger, 1974) to evolve some design guidelines and also undertook parametric studies using a modern computer program, Derob Lth, (Kvist, 1996). These exercises led to a set of recommendations on building layout, orientation, materials and planning. Finally, a set of recommendations for future public housing programmes were proposed with identification of areas for further study.

1.6 Chapter-wise Outlines

Chapter 1 gives a statement of the problem describing the importance and motivation of the work, sets the scope and objectives of the study reported in the thesis, and presents the organisation of the study.

Chapter 2 presents a survey of literature related to housing satisfaction. This includes among others, the following:

Residents' actual need identification in housing (Hersey and Blanchard, 1992). Satisfaction research by Morris and Winter (1978). Concept of existential needs (Brett, 1976) and Maslow's needs hierarchy (Maslow, 1954). Market vis-à-vis the use values of housing (Burgess, 1982). Theories on residents' satisfaction (Thomas and Znaniecki, 1927), (Shaneveldt, 1966), and others. Scales to measure residents' satisfaction (Yockey, 1976), (Harris, 1976) and (Morris, 1976). Research on satisfaction and residential mobility (Speare, 1974). Satisfaction in residential blocks (Wong, 1974), (Gan, 1974) (Haber, 1977), (Appleyard and Fishman, 1977), (Cooper, 1977). Research on Post occupancy evaluations, (Sprecklmeyer, 1998), (Francescato, et al. 1989), and others.

Chapter 3 dwells on the residents' satisfaction in their housing complexes at different levels like an unit level, its cluster level and the neighbourhood level, through a questionnaire survey, field checking and recording.

Chapter 4 presents an analysis of the collected data indicating occupant's preferences at the unit level, cluster level and the neighbourhood level, their likes and dislikes, and problems currently faced, tests the adequacy of the sample size, and examines the significance of response differences in different housing areas.

Chapter 5 examines the scenario of housing finance, identifies the inadequacy and lacunae in the current institutional finance systems, attempts to quantify the affordability limits of different income groups, and strives to infer on the changes required in the system of institutional finance for housing.

Chapter 6 presents the relation of resident's satisfaction with climate-balanced houses, undertakes parametric studies, explores the possibility of higher satisfaction through

selected change of materials and substitutes, and examines the effect of change of indoor climatological parameters on the satisfaction sought by the residents.

Chapter 7 presents the conclusion of the study. Issues touched at the unit level are: physical synthesis, materials, anthropometrics, microclimate, finance, and identity. Those at the cluster level include common facilities, privacy and security, and cluster level identity. At the neighbourhood level, it includes community facilities, users' views on provisions and preferred size of indoor spaces, semi-indoor spaces, shared facilities, preference on housing type, features liked best and liked the least in housing, preferred distance to work and community facilities, and the neighbourhood level identity. The chapter outlines a set of policy guidelines, evolved from the study, to effectively ensure residents' satisfaction. It initiates concepts of bridging the gap between producers and consumers of housing through provision of alternative layouts by public authorities for prospective clients to choose from and more flexibility in internal space organisation. It also proposes enhanced participation of future users at the design stage, scope for reconstruction/modifications (transformations) within guided parameters, and partially built housing units as a starter house concept. It gives a set of guidelines to make institutional finance schemes more effective and acceptable to people. It also proposes conduction of systematic post-occupancy evaluations to constantly get feedback from the residents to guide future public housing schemes.

The chapter concludes with a statement of limitations of the study and the scope for further research.